Opportunity to Increase Affordable Housing at 10th and Wertland Street

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APP Report

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Disclaimer

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Honor Statement

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

Andrea Henriquez

Note. From *Wertland & 10th Streets Site Map*, University of Virginia, n.d.-a. https://prescouncil.president.virginia.edu/wertland-and-10th-streets-site-map

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Basic Definitions

Affordable Housing Unit: According to Charlottesville draft zoning codes, renters living in an affordable housing unit would not be cost-burdened and their income levels would be at or below 60% of the area median income
Comprehensive Plan: A non-legally binding document that establishes community development aims and aspirations.
Cost-burdened: Households that spend more than 30% of their disposable income on housing costs.
Density Bonus: A density bonus, an integral component of inclusionary zoning, provides for an increase in allowed units per acre through floor area ratio, height limits, or decreased parking minimums that would otherwise be forbidden.
Inclusionary Zoning (IZ): Zoning strategy that uses the economic benefits of growing real estate values to build affordable homes for low-income households. IZ programs often mandate new projects to set aside a particular percentage of new units for low-income households, or in-lieu fees for not building affordable units.
Multi-Family Development: A property that houses three or more separate households.
R-1 Zoning: It is a zoning ordinance that exclusively permits the development of single-family homes and is also known as single-family zoning.
Severely cost-burdened: Households that spend more than 50% of their disposable income on housing costs.
Zoning Code: A rule that governs how property or land in specified areas can be utilized. It is a component of the larger land use code.

Acronyms

AMI: Area Median Income
CAHF: Charlottesville Affordable Housing Fund
CM: Campus [zoning designation]
CX-5: Corridor Mixed Use 5 [zoning designation]
HUD: United States Department of Housing and Urban Development
LIHTC: Low-Income Housing Tax Credit
PHA: Piedmont Housing Authority
RFP: Request for Proposal
UVA: University of Virginia

Executive Summary

Charlottesville, Virginia, is in the grip of an affordable housing crisis, with an estimated 4,000 low-income housing units in short supply (Ting, 2022). In recent years, public support for government action has grown, and the city is now prioritizing affordable housing development through a zoning ordinance rewrite. The new zoning ordinance is intended to reverse previous inequitable housing policies that have historically prioritized single-family zoning, which is typically more expensive than multifamily housing. The University of Virginia has also committed to developing affordable housing through three ground lease agreements with potential developers, lowering the overall cost to developers by removing the cost of land. One site, the 2-acre land parcel at 10th and Wertland street, is in a predominantly Black neighborhood, necessitating caution on the part of developers and City officials, as any new development should not jeopardize the well-being of long-term residents in the 10th and Page neighborhood.

Common land practices for creating affordable housing include zoning, establishing land banks, and establishing community land trusts. As previously stated, Charlottesville is currently revising its zoning codes, and given the limited scope of this report on one development site, land banks or community land trusts are not viable policy options. As a result, this report evaluates three approaches to increasing the number of affordable housing units based on housing policy literature. These three policy alternatives will be evaluated based on their effectiveness (60%) in creating affordable housing units, timeline (20%) of months required from implementation to construction development, and administrative feasibility (20%) to determine how practical the alternative is for the City of Charlottesville and the developer. The policy alternatives are as follows:

1. Policy Alternative 1: Maintaining the status quo
2. Policy alternative 2: Modifying the zoning of the land parcel through a rezoning request to the City Council
3. Policy alternative 3: Modifying the zoning of the land parcel through a rezoning request to the City Council and utilizing the Charlottesville Affordable Housing Fund (CAHF)

This report recommends that The City of Charlottesville should increase the number of affordable rental units at the 10th and Wertland Street site by granting zoning changes and allocating funds from the Charlottesville Affordable Housing Fund. Alternative 3 is the most promising option due to its ability to create the most affordable housing units while lowering development costs. Finally, this report will conclude with discussions about other methods of incentivizing developers to build affordable housing, such as lowering parking minimums and utilizing federal and state housing subsidies.

Introduction

This section introduces the policy problem addressed in this research paper. It defines the problem statement and describes the project's orientation.

Problem Statement

Charlottesville is currently experiencing an affordable housing crisis, with an estimated shortage of 4,000 low-income housing units (Ting, 2022). Higher rental rates from the University of Virginia's (UVA) affluent student population have driven out lower-income residents who live near the university. To address these concerns, UVA has committed to developing affordable housing units through ground leases at three different locations. One of the development sites is a 2-acre parcel at 10th and Wertland, in a historically Black neighborhood. To build more affordable housing, the university and local partners must consider implementing effective regulatory and funding solutions for development firms interested in developing affordable housing at the 10th and Wertland site.

Project Orientation

A lack of affordable housing can have serious ramifications for the community, which is why local housing organizations play an important role in advocating for equitable solutions. For over thirty years, one non-profit organization, the Piedmont Housing Alliance, has been dedicated to assisting people in obtaining affordable housing in Charlottesville and surrounding areas. The Piedmont Housing Alliance's mission is to "create affordable housing opportunities and foster community through education, lending, and equitable development" (Piedmont Housing Alliance, n.d.). They achieve their objectives through community and property management, development and redevelopment, lending programs, and housing counseling (Piedmont Housing Alliance, n.d..).

The Piedmont Housing Alliance (PHA) is an important housing organization that the University of Virginia Foundation has identified as a potential developer for the ground lease at Wertland and 10th Street. As a result, either as the future developer at this site or as a housing policy advocate, PHA is interested in advocating for the best land use practices to create affordable rental units. As a result of its exploration of affordable housing opportunities at the Wertland site, the scope of this policy report fits into the overall goals of the Piedmont Housing Alliance.

Additionally, this report supports two important initiatives by the City of Charlottesville and the University of Virginia to expand affordable housing in Charlottesville. Charlottesville began updating its comprehensive plan and affordable housing plan in 2020, with the comprehensive plan required to be updated every five years (Horn, 2023). The affordable housing plan was approved by

the City Council in March 2021, and the comprehensive plan update was adopted in November 2021 (Cville Plans Together, n.d.-a). At the same time, the city has been rewriting its zoning ordinance, which was supposed to be adopted this spring but has been postponed due to delays.

In the case of the University of Virginia, President Jim Ryan announced in 2020 that the university would support the development of 1,000 to 1,500 affordable housing units in the city and Albemarle County by 2030 (Hester, 2020). The University is helping to achieve this goal by signing three long-term ground leases that take the cost of the land out of the developer's budget. UVA will not construct the units but will instead select third-party developers through a request for proposal, or RFP, sometime in the summer of 2023 (University of Virginia, n.d.-b).

Furthermore, while my initial plan was to investigate the effects of various types of density bonuses, members of Charlottesville's public works department pointed out that such an investigation would be particularly difficult because there is no system in place to quantify or cost these land use practices. As a result, methods for increasing density, such as lowering parking minimums, have been reduced to a general discussion, which will be touched on in the implementation section. Additionally, I chose to pivot to look at general ways of increasing density through local government interventions which led to my alternative selection. Furthermore, this report noticed the two zoning designations of the 10th and Wertland site as a potential area of concern and after reading the Piedmont Housing Alliances request for proposal and similar conclusions, this barrier to maximized density was solidified.

Finally, before delving into the history of Charlottesville's housing policy, it is important to note that the affordable housing crisis is extremely complex, and it cannot be treated as if it is easily solved. The city's modest population growth, limited housing supply, wealth disparities, and a history of inequitable housing policies, for example, all contribute to the problem (HR&A Advisors, 2021). As a result, the Wertland site almost serves as a case study for expanding affordable housing by observing the effects of increasing density through zoning changes and the use of local funds.

Background

This section provides an overview of Charlottesville's demographics, urban renewal and displacement, Charlottesville's zoning history, Charlottesville's modern-day housing context, and the current zoning ordinance rewrite. This will set the stage for the following section, which will examine the societal costs of a lack of affordable housing.

Charlottesville Demographics

Charlottesville, Virginia, has a land area of 10.24 square miles and is located in Albemarle County (City of Charlottesville, n.d.-a). Between 2009 and 2020, the city had a total growth rate of 14.9% (Tubbs, 2022a). Charlottesville now has a population of approximately 46,553 people and is somewhat diverse, with the majority of residents being white (69.7%), 18% being Black or African American, and 5.7% being Hispanic or Latino (United States Census Bureau, 2020). However, the Black population in Charlottesville has experienced the greatest demographic decline of 1.9 percentage points between 2010 and 2021 (USA Facts, 2022). This issue is more visible in the University's surrounding neighborhoods, such as the 10th and Page neighborhood.[1]

> *"[My neighborhood] was predominantly Black. People were more closely knit and generous with each other. Kids playing in the neighborhood. Now everyone keeps to themselves. People moving in from Connecticut and New York and locals moving [out]"*
> -Survey Respondent in 2016

Note. From "The Impact of Racism on Affordable Housing in Charlottesville," by the Charlottesville Low-Income Housing Coalition, 2020, p. 19.

Urban Renewal and Displacement

Following World War II, housing and urban concerns dominated the United States' domestic policy agenda, resulting in the passage of various infrastructure acts, beginning with the Housing Act in 1949 (Collins & Shester, 2013). The Housing Act of 1949, Title I, sought to revitalize American cities by allocating federal funds to local restoration projects (Collins & Shester, 2013). The United States Department of Housing and Urban Development (HUD) defines an urban renewal area as "a slum area or a blighted, deteriorated, or deteriorating area in the locality involved which the Secretary approves as appropriate for an urban renewal project" (United States Department of Housing and Urban Development (HUD), n.d.).

The widespread destruction of Black neighborhoods across the country was less of a result and more of a feature of urban renewal. When activist James Baldwin set out to film a documentary about racism in the United States and saw the effects of urban renewal, he stated that urban renewal meant "negro removal" (Cebul, 2020). The effects of urban renewal can still be felt today, and in Charlottesville, the term is frequently associated with the history of Vinegar Hill, a once economically and culturally rich Black community that was designated as a slum in the 1960s (Smith, 2017). The impact on this community pushed many of these residents further away from the town center, displacing families and dissolving the community (Smith,

[1] See Appendix for a map of the 10th and Page neighborhood.

2017). According to the most recent research from the University of Richmond's Renewing Inequality mapping project, 158 families were displaced in the Vinegar Hill community between 1961 and 1974, with 89% of residents being non-white and 11% being white (University of Richmond's Digital Scholarship Lab, n.d.).

History of Zoning in Charlottesville

According to O'Hare (2022), zoning is a set of local rules that govern what can and cannot be built on specific plots of land. The city's first zoning rule, enacted in 1929, designated predominantly Black communities as the only places suitable for commercial and industrial growth, forcing hundreds of residents to relocate (Nonko, 2019). Charlottesville later engaged in discriminatory zoning practices through single-family zoning plans, resulting in more segregated neighborhoods (Charlottesville Low-Income Housing Coalition, 2020; Robertson, 2021).

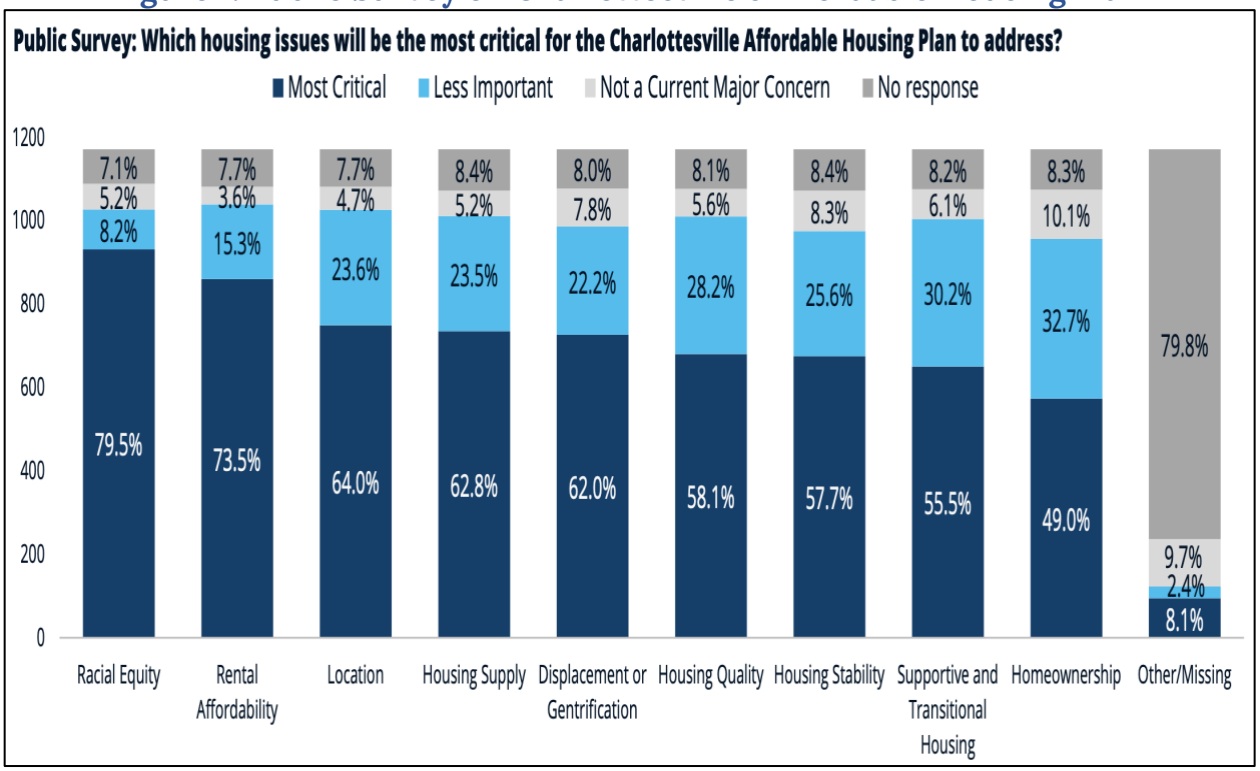
Today, the majority of Charlottesville is zoned "residential" and "low-density residential," meaning that any new housing plans must be single-family homes or duplexes (O'Hare, 2022). Single-family homes, or R1 zoning, is a practice that allows only a select few to accumulate property wealth while barring others from these desirable communities and forcing those outside the R1 zone to pay more for housing (Manville et al., 2019). Approximately 75% of residential land in the United States is zoned R1 (Arshad, 2021). Fortunately, Charlottesville has a lower rate than the rest of the country, but it still accounts for more than half of the city's land, at 55% (Nonko, 2019). As a result, Charlottesville's zoning policies have historically produced inequitable results, and they are long overdue for revision to reflect modern-day norms in a progressive community like Charlottesville.

Modern-day housing context in Charlottesville

Between 2010 and 2016, Charlottesville's population growth rate outpaced the statewide rate by 1.2 percentage points (Muldoon, 2017). Charlottesville was discovered to be Virginia's second-fastest-growing region in 2019, but the 2020 COVID-19 pandemic reversed this trend (*Charlottesville and Albemarle population raising*, 2020). Since then, Charlottesville's population has remained stable despite certain vulnerable residents leaving the city, which is often due to higher housing costs in the city, causing residents to relocate to more affordable surrounding counties (McKenzie, 2023). While there is nothing wrong with people moving to more affordable areas, low-income residents should not be forced to do so due to unlivable conditions. Furthermore, as discussed in the section on rental affordability below, this situation should not disproportionately affect Black residents.

According to the Charlottesville City Council, 2,700 renter households are severely cost-burdened, meaning they spend at least half of their monthly income on housing-related costs (HR&A Advisors, 2021). The Department of Housing and Urban Development considers any household paying more than 30% of its income to be cost-burdened (The Pew Charitable Trusts, 2018). 48% of renters in these severely cost-burdened households are Black (HR&A Advisors, 2021). In addition, 68% of renters who are considered cost-burdened are Black (HR&A Advisors, 2021).[2] Both the City Council and the residents are aware of the racial disparity. Cville Plans Together, a local initiative and group of housing stakeholders, is active in elevating community voices and has released survey response data that highlights the community's concerns below in Figure 1 (HR&A Advisors, 2021).

Figure 1: Public Survey on Charlottesville's Affordable Housing Plan



Note: This survey was encouraged by the Cville Plans Together team from mid-May to June 2020 and exemplifies respondents' desire for the City of Charlottesville to address racial equity and rental affordability with less emphasis on homeownership.
From "Charlottesville Affordable Housing Plan" by HR&A Advisors, 2021, p. 33.

The University of Virginia's role in fostering economic prosperity in the region is another aspect of Charlottesville's modern housing context. In 2019, the McKinsey

[2] These figures are not entirely accurate for discussing Charlottesville residents' rental affordability because they include student renters, but they do provide important insight into the magnitude of the problem (HR&A Advisors, 2021).

Global Institute released a report on job changes and work in the global economy, identifying niche cities such as Charlottesville as having "major research universities dominating the local economy" (Lund et al., 2019, p. 4). Lund et al. (2019) predict that as a result of big universities recruiting well-educated candidates, these cities have the potential for 11% employment growth between 2020 and 2030. This trend is arguably visible in Charlottesville, where the University of Virginia is the city's largest employer (Mitchell & O'Hare, 2022).

In many respects, Charlottesville's growing cost of living reflects the city's prosperous future. However, the advantages and consequences of growth in the economy have been disproportionately felt, with the Black population in Charlottesville typically bearing the brunt of the burden (Cameron & Kahrl, 2021). This effect is already observable in the 10th and Page neighborhood, where the construction of expensive flats along Main Street is driving up housing and rental prices in the surrounding area (Cameron & Kahrl, 2021). According to Cameron and Kahrl (2021), the proportion of Black residents in this neighborhood has decreased by 17 percentage points while the median rent has risen from $666 to $939 between 2010 and 2017. Unless and until affordable housing needs are adequately addressed, a changing city that is becoming wealthier will most likely contribute to the current displacement of low-income homeowners and others.

Figure 2: The Stark Contrast Between Student Apartments and Public Housing

Note. This first building is Charlottesville's oldest public housing community called the Haven and behind it, and looming over, are apartments predominantly rented by University of Virginia students. Photograph by Mike Kropf from Charlottesville Tomorrow. From "Charlottesville Low-Income Housing Coalition releases a report on the local housing crisis *before the city finalizes a new land use plan*" by O'Hare, 2021.

Looking Forward: The Rezoning Process

Charlottesville was one of five Virginia municipalities to receive state approval in 2020 to implement the inclusionary zoning policy in Virginia Article 7 code 15.2-2304 (*Title 15.2. counties, cities, and towns*). From February to April 2023, the City of Charlottesville released two zoning modules, with the third and final set to be released in May (Cville Plans Together, n.d.-b). The first draft zoning ordinance or module deals with zoning districts, the second with development standards, and the third with zoning administration (Cville Plans Together, n.d.-b). Following the release of the final module, the Charlottesville Planning Commission will advise the process and eventually recommend the final comprehensive plan with zoning ordinance updates to the City Council, which will vote on it (Cville Plans Together, n.d.-b). As a result, this topic is ripe, and the need for affordable housing is critical to keep in mind as the City of Charlottesville moves forward with its zoning ordinance rewrite.

Costs to Society

To comprehend the significance of a public policy change in affordable housing, one must consider the societal costs of a lack of affordable housing, which includes direct costs, indirect costs or externalities, and opportunity costs. The complete calculation methodology is included in the appendix.

Direct Costs

Direct costs are the out-of-pocket expenses incurred by society to address a problem. The median gross rent in Charlottesville City was $1,250 from 2017 to 2021 (United States Census Bureau, 2020). According to the modern-day housing context section, 2,700 renter households are considered severely cost-burdened (HR&A Advisors, 2021). 95% of severely low-income renters have an annual income of less than $35,000 (HR&A Advisors, 2021). Given that 30% of disposable income should be spent on housing, the affordable rent for this demographic would be around $875 per month. The monthly rent difference between the affordable median for severely cost-burdened renters and the market median rent is $375 more than what HUD considers affordable (The Pew Charitable Trusts, 2018).

This amounts to a direct cost of more than $12.15 million per year based on 2,700 renter households. Furthermore, to simplify calculations and avoid making incorrect assumptions about the average income of the 2,200 cost-burdened renters, this report only calculates the direct costs of severely cost-burdened renters, defined as those who pay at least half of their monthly income towards

housing.[3] The absence of cost-burdened renters from the calculation simply indicates that the direct costs are significantly higher.

Indirect Costs + Externalities

Indirect costs are out-of-pocket expenses incurred by society to maintain or perform a current function. People who live outside the city limits and commute into the city to work are an example of an indirect cost of a lack of affordable housing. The City of Charlottesville's *Comprehensive Housing Analysis and Policy Recommendation* (2016) discovered that 18,593 Charlottesville employees live 10 to more than 50 miles away from the city, accounting for 52% of all Charlottesville employees (City of Charlottesville, 2016). 74% of workers, however, live within 25 miles of the city. As a result, we will base our calculations on the 10-24 mile category, which has 9,175 employees, and a 17-mile one-way commute.[4]

According to the American Automobile Association (n.d.), the average price of gas in Charlottesville on April 7, 2023, was $3.43 per gallon. Assuming 260 workdays (University of Iowa, n.d.) and a car's average fuel efficiency of 24 miles per gallon (United States Department of Energy, n.d.), this works out to $4.86 per day for each person (Go Triangle, n.d.).[5] This amounts to out to about $1166 per worker per year.[6] Thus, in one year, the average cost of gas for this demographic of Charlotteville non-resident employees is roughly $10.69 million.[7]

Externalities are advantages or costs resulting from an activity that are not accounted for in the price of the good. There are numerous externalities caused by a lack of affordable housing. A lack of affordable housing, for example, may result in more evictions or other negative effects in the community, which can negatively impact the price structure of the land (Gabriel & Painter, 2020). This means that if Charlottesville is perceived as a less suitable city, it might experience an economic loss. Furthermore, the researchers discovered that "adverse congestion, pollution, public health, and like externalities have been associated with lack of adequate affordable housing supply within proximity of jobs" (Gabriel & Painter, 2020). These costs are harder to calculate but important to keep in mind.

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[3] Residents who are cost burdened may come from households earning less than $20,000, $20,000 to $35,000, $50,000 to $75,000, or $75,000 to $100,000. However, a sizable proportion of these renters fall into the bottom three income brackets (HR&A Advisors, 2021, p. 39).

[4] Calculations: 10+24/2=17

[5] This calculation was calculated through Go Triangle's, a mass transportation system, commute cost calculator (Go Triangle, n.d.).

[6] This calculation was calculated through Go Triangle's, a mass transportation system, commute cost calculator (Go Triangle, n.d.).

[7] This estimate makes a major assumption that Charlottesville non-resident employees travel because they cannot afford to live within the city. This is not true for all employees.

Opportunity Costs

The opportunity costs are those that society bears but are not directly paid for. Continuing with the previous example of an indirect cost, an opportunity cost of commuting to work every day is lost time that could have been spent working extra hours or spending money in the local economy. Given a one-way commute time of 27 minutes for U.S. workers (United States Census Bureau, 2021) and 260 working days, the average Charlotteville non-resident employee in this demographic loses 260 hours per year commuting, for a total of 2.38 million hours per year for all 9,175 workers.[8]

Total Costs

Outside of externalities, the total societal costs are as follows: approximately $22.84 million in direct and indirect costs,[9] as well as 2.38 million hours in annual opportunity costs for Charlottesville non-resident employees who commute.

> *"Charlottesville has a real opportunity to be a leader in racial justice for the whole country. Affordable housing would be a step towards achieving that. Additionally, it's the right thing to do. We should support the low-income members of our community and to the best of our ability."* -Survey respondent in 2016

Note. From "The Impact of Racism on Affordable Housing in Charlottesville," by the Charlottesville Low-Income Housing Coalition, 2020, p. 35.

Evidence on Land-Use Practices

Given that housing affordability has remained a major issue in the United States, there is a wealth of literature on the subject. In this literature review, we will focus on three common land-use policy options for addressing affordable housing: zoning, land banks, and community land trusts. Given the research report's limited scope, the zoning discussion will focus on the general effects of rezoning as they relate to the policy alternatives proposed later on. Furthermore, while land banks and community land trusts are popular land-use strategies for developing affordable housing, they are usually discussed in terms of homeownership rather than rent. As a result, because the literature focuses on homeownership, which is not the primary focus of this report, these two programs will be discussed in a

[8] A one-way commute being 27 minutes means that 54 minutes or roughly an hour a day is spent commuting. Calculation: 1 hour * 260 workdays = 260 hours per worker. The full calculations are in the appendix. This estimate makes the same assumption as the previous footnote.

[9] Direct costs are $12.15 million and indirect costs are $10.69 million. Calculation: $12.15 million + $10.69 million = $22.84 million.

broader and more general context. Furthermore, because Charlottesville City is already focused on implementing this local policy to create more affordable housing, the evidence in the land use practices section does not discuss the use of inclusionary zoning.

Rezoning

Zoning regulations govern and regulate development by defining the types of uses permitted on land parcels, such as residential and commercial, and determining the various forms that buildings can take, such as height and lot coverage requirements (Freemark et al., 2022). Rezoning is the process by which a land parcel changes from one zoning classification to another (Fairfax County, n.d.). Zoning classifications vary by jurisdiction and are denoted by letters (for example, R for residential or C for commercial) and numbers that designate allowed density (for example, R1 permits one residential dwelling while R2 permits two residential dwellings). As an example, changing the zoning from R1 to R3 could allow for the addition of two units, increasing density. In most cases, rezoning is a discretionary process that necessitates a public hearing and approval by local government officials through voting.

Empirical Evidence on the Effects on Demand, Supply of Housing, and Price of Rental Housing

Key Findings

1. Developers frequently request rezoning for land parcels, and local government officials are generally willing to approve the project, especially if the rezoning is advocated for by a local planning commission Fleischmann & Pierannunzi, 1990; Lo & Freemark, 2022)
2. Zoning changes have the potential to increase density, but this does not always translate into the creation of low-income rental units. Furthermore, in the absence of government subsidies, private sector development frequently emphasizes the higher-priced end of the housing market, resulting in little new rental housing available to low-income households (Aurand et al., 2021; Schuetz, 2023; Stacy et al., 2023)
3. Allowing for greater density can increase housing stock while slowing rental growth (Chiumenti & Sood, 2022; Horowitz & Canavan, 2023)

Demand

Lo and Freemark (2022) examine the impact of the public review process on the approval and denial of rezoning requests by construction companies by local government officials in Louisville, Kentucky, between 2010 and 2020. It was discovered that the legislative body approved 84% of the 592 rezoning requests. The researchers discovered that denied rezoning requests had significantly more

speakers opposed, 1.31 on average for approved and 8.59 for denied, as well as neighborhood demographics with higher shares of homeowners as approved requests had on average a neighborhood with 59% homeowners compared to denied having 68% (Lo & Freemark, 2022).

Furthermore, the authors conducted a review of the literature on seven different empirical studies of the outcomes of discretionary review processes, and all concluded that legislative officials approved significantly more applications than they denied (Lo & Freemark, 2022). The government's intention to respond to the needs of the private market, as well as significant preapproval processes, were two possible explanations for this trend. Some jurisdictions, such as Charlottesville, require a preliminary discussion with a planning commission before presenting it to the public (Lo & Freemark, 2022. According to Lo and Freemark (2022), only three of the 490 approved applications were not recommended by the planning commission. Likewise, Fleischmann and Pierannunzi (1990) discovered that the majority of the 2,290 rezoning applications filed in the Atlanta Metropolitan Statistical Area in 1984 were approved, indicating that a planning commission's recommendation can be a strong predictor of a local government's decision. Nonetheless, these two studies show that developers frequently request rezoning for land parcels, as well as local government officials' typical willingness to approve the project.

Supply

Stacy et al. (2023) examined a cross-city dataset of 180 zoning amendments in over 1,000 cities between 2000 and 2019 and found a statistically significant 0.8% increase in housing stock three to nine years after the zoning reform amendment was approved. However, the increase in housing stock was primarily for units at the top of the rent distribution, with no statistically significant evidence of lower-cost rentals becoming available as a result of the reforms (Stacy et al., 2023). Simultaneously, Stacy et al. (2023) discovered that regulations limiting allowed density were linked to higher median rents and a decrease in affordable middle-income units.

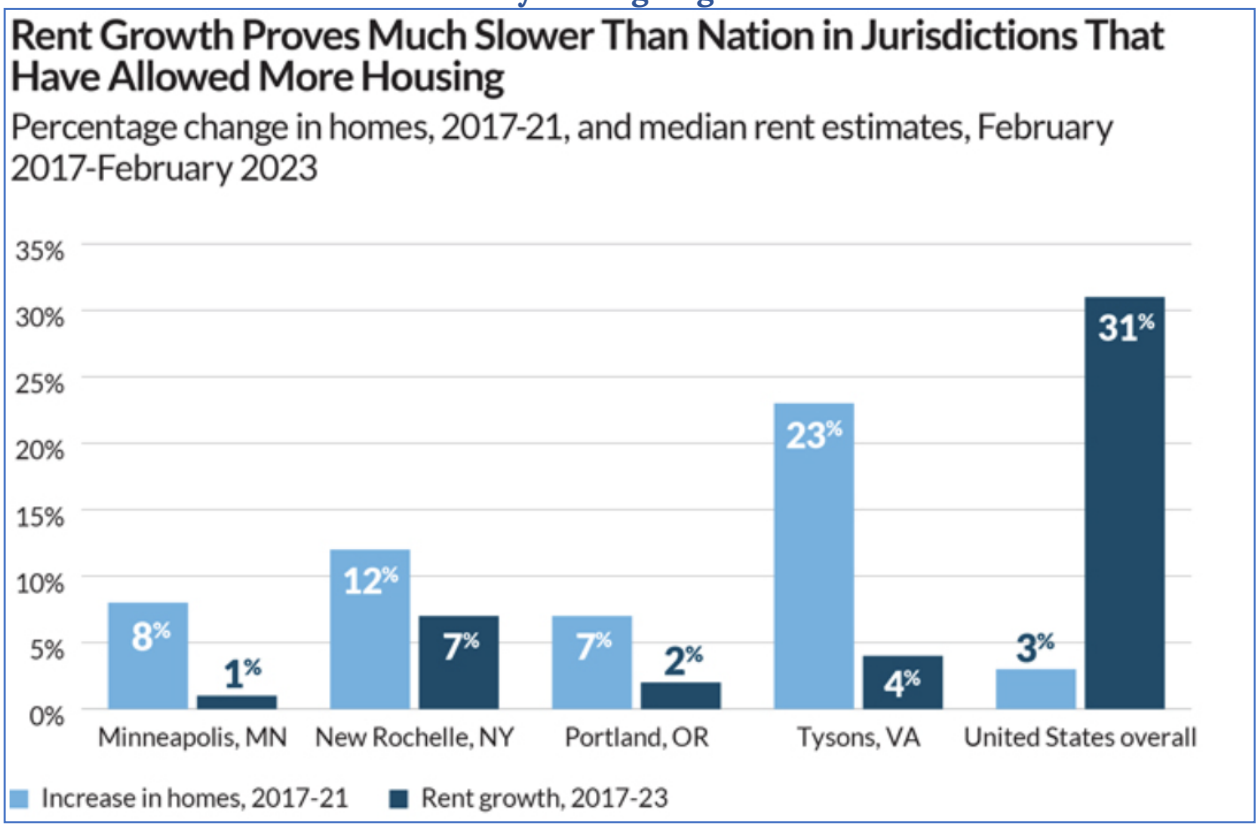
Schuetz (2009) conducted a regression analysis on the effects of zoning on the quantity and price of rental housing in Massachusetts and discovered that, when other variables were controlled for, a 1% increase in the number of multifamily lots was associated with a 0.6% increase in multifamily units authorized by building permits. At the same time, the National Low Income Housing Coalition finds that, in the absence of government subsidies, private market development frequently favors the higher-priced end of the housing market, resulting in little new rental housing affordable to low-income households (Aurand et al., 2021). These three studies demonstrate the importance of government subsidies to developers, as well

as the fact that rezoning may increase density but does not necessarily result in more affordable housing for low-income renters.

Price

According to Stacy et al. (2023), zoning changes resulted in a 43% increase in units affordable to families earning more than the national median in the short term and a 63% increase in the long run.. Chiumenti and Sood (2022) discovered that lowering maximum height restrictions and easing density restrictions were the "most fruitful policy reform for increasing supply and reducing multifamily rents" in their analysis of the Massachusetts Comprehensive Permit Act, which allows developers to challenge zoning regulations that could impede development. Finally, the Pew Research Center examined four jurisdictions that relaxed zoning regulations from 2017 to 2023 and discovered that loosening density allowed for more housing while slowing rental growth, which is the most important takeaway from this section (Horowitz & Canavan, 2023). The result of their data can be seen below in Figure 3.

Figure 3: Pew Research Center's Data on Rent Growth in Localities with Relaxed Density Zoning Regulations



Note. The figures are based on the American Community Survey data from the United States Census Bureau, and all locations are one-year estimates except for Tysons, which

has a five-year estimate. From “More Flexible Zoning Helps Contain Rising Rents,” Horowitz & Canavan, 2023.

Land Banks

Local governments, as public organizations, establish land banks to repurpose unoccupied or tax-delinquent lands that have been ignored by the open market (Alexander, 2015). Successful land banks must secure title to the property, dismiss any legal liens, and transfer properties to new owners (Alexander, 2015). According to the research, greater policy usage of land banks became popular following the 2007-2010 foreclosure crisis and as initiatives to repair low-value houses (Alexander, 2015; Lowe et al., 2022)

Empirical Evidence on the Effects on Demand, Supply of Housing, and Price of Rental Housing

Demand

According to Fitzpatrick IV and Whitaker (2014), homes with tax foreclosures from unpaid mortgages frequently remain vacant because local governments frequently lack the resources to maintain the properties and land. Furthermore, private development of tax-delinquent properties is generally effective only when the cost of land outweighs the cost of acquiring and destroying the property (Fitzpatrick IV & Whitaker, 2014). As a result, land banks frequently require additional funding from local governments, nonprofit organizations, or private entities proportionate to the severity of the vacuum that the land bank is expected to fill (Fitzpatrick IV & Whitaker, 2014).

This is evident in Michigan's 5/50 tax recapture provision, which allows land banks to recoup 50% of taxes on properties restored to the tax rolls for five years (Fitzpatrick IV & Whitaker, 2014). However, the 5/50 provision generated fewer revenues than expected, with the Genesee County Land Bank, established by the 1999 Delinquent Property Tax Foreclosure Act, receiving only 1% of funding from this tax recapture, with the majority of funds coming from federal subsidies (47%) (Fitzpatrick IV & Whitaker, 2014). As a result, there is a relatively high demand for the use of land banks to revitalize vacant properties, but this land-use practice frequently necessitates significant subsidies.

Supply + Price

Returning to the Genesee County Land Bank (GCLB), the land bank renovated 9 affordable rental apartments between 1999 and 2003 but did not develop any new supply of affordable rental units (Silva, 2010). Given that the majority of land trusts convert vacant residential properties into desirable market properties, there is a gap in the literature examining the effects of implementing a land bank program

and its implications on the production and pricing of affordable rental units. Land banks, however, are a less effective land-use strategy in a city like Charlottesville because they are frequently established in low-income housing areas (Local Housing Solutions, n.d.-a). Additionally, according to the Charlottesville Affordable Housing Report, Charlottesville City "has limited public lands available that could support new development…[and] does not have significant property for development or redevelopment" (HR&A Advisors, 2021, p. 125). However, if Charlottesville did want to create a land bank, it could look into strategies and methods employed by Virginia's three existing land bank authorities, which are in Richmond, Danville, and the City of Chesapeake (Center for Community Progress, n.d.).

Community Land Trusts

Community land trusts (CLTs) are non-profit organizations that own and develop property to promote homeownership. The CLT will have a ground lease, which means that the cost of the land will be deducted from the cost of purchasing a home for potential homeowners. The ground lease limits the transfer price of the home, which allows the subsidy to be passed down from one homeowner to the next. Furthermore, CLTs typically include the right to repurchase the property in the event of foreclosure (National Housing Conference, n.d.).

Empirical Evidence on the Effects on Demand, Supply of Housing, and Price of Rental Housing

Demand

According to the non-profit Grounded Solutions Network, the number of community land trusts in the nation doubled between 2003 and 2017, resulting in over 225 CLTs (Applegate, 2022). However, as with land banks, the long-term viability of this land use plan typically necessitates large subsidies, whether from government grants or private donations. Because monthly leasing agreements are significantly lower than the market cost of leases, CLT groups frequently face sustainability issues (Davis & Jacobus, 2008). In terms of private funding, the Lincoln Institute conducted a nationwide survey on CLT in 2006, and 50% of 119 respondents said they had received private donations (Davis & Jacobus 2008). As a result, community land trusts are a common land-use practice, but they can face sustainability issues.

Supply + Price

While community land trusts (CLTs) have become known for facilitating long-term low-cost homeownership, they can also supply low-cost rental units. In Vermont, for example, the Burlington Community Land Trust dedicates 57% of its housing stock to low-income rentals (Angotti, 2007). These tenants were defined as having a

median income of less than 50% of the region's median income, and many were single parents (Angotti, 2007, Nonetheless, a qualitative research analysis based on interviews with almost two dozen CLT staff members across the country discovered that CLTs will offer rental apartments when low-income households are unable to qualify for mortgages and CLT finance is available (Ciardullo, 2012). Thus, community land trusts can be used to create affordable rental housing, but this is typically only done when low-income residents in the community cannot afford mortgages and CLTs have strong funding.

The Piedmont Community Land Trust participates in a CLT initiative in Charlottesville, but its goal is to offer people homeownership, which is not the focus of this research (Center for New Economics, n.d.). Figure 4 shows a clear comparison of the differences between land banks and community land trusts.

Figure 4: Land Banks versus Community Land Trusts

	LAND BANKS	COMMUNITY LAND TRUSTS
Mission	Stabilize and revitalize VAD properties, guided by local community goals	Primarily, but not exclusively, supports local community goal of lasting affordability
Structure	Public entity (nonprofit or public authority) with limited governmental powers	Private nonprofit
Governance	Board defined by state statute or local ordinance, usually a mix of elected and public officials, professionals with relevant subject matter expertise, and community representatives	Tripartite board including CLT residents, community residents, and nonprofit and public representatives
Property Acquisition	Through special acquisition powers via state-enabling legislation (generally through tax or lien foreclosure, no eminent domain)	No special acquisition powers, although nonprofit status may allow for some preferred access
Tenure of Ownership	Generally short-term, but able to hold long-term	Perpetual ownership of the land
Property Disposition	Sell property in a diligent yet expedited manner for a flexible price to achieve the best outcome for the community	Sell structure only to an income-qualified buyer while land ownership remains with CLT

Note. From "Land Banks and Community Land Trusts," Graziani, 2021.

Conclusion

This literature review concentrated on three popular land-use methods for providing affordable housing: zoning (rezoning), land banks, and community land trusts. According to the zoning literature, rezoning is frequently a viable land-use strategy, especially when local planning commissions support and advocate for the project's approval (Lo & Freemark, 2022). In addition, zoning changes may not always result in more affordable housing units, necessitating government subsidies (Aurand et al., 2021). However, a recent zoning study shows that it has the potential to increase housing stock while decreasing rental growth costs (Horowitz & Canavan, 2023). Land banks and community land trusts, on the other hand, are land-use programs that provide affordable housing, typically to homeowners.

There is a growing body of literature on community land trusts that provide rental units (Angotti, 2007), but because Charlottesville's CLT focuses on homeownership, neither land banks nor CLTs will be considered as potential policy alternatives in this paper. As a result, the purpose of this paper is to look into the possibility of creating affordable rental units through zoning changes and available affordable housing funds. As a result, the section that follows will provide a brief overview of common funding programs used to reduce construction costs for developers in Virginia.

Common Funding Strategies for Developers in Virginia

According to the Joint Legislative Audit and Review Commission (2021), in 2020, developers of multifamily affordable housing projects that obtained Virginia Housing funding had a median of five distinct funding avenues. In Virginia, most affordable housing programs are supported by federal and state funds and are administered through Virginia Housing and Virginia agency Department of Housing and Community Development (DHCD). The Low Income Housing Tax Credit (28.8%), Public Housing (8.4%), and the United States Department of Agriculture's Rural Housing (7.1%) are the three most popular federal production subsidy programs that provide more than 1% of funding for affordable housing construction. Given that Charlottesville City is an urban locality and that the 10th and Wertland site is not a public housing development, we will only discuss the Low Income Housing Tax Credit (LIHTC). LIHTC remains the largest source of federal support for affordable housing, as it provides tax credits of 9% or 4% to developers in exchange for the development or rehabilitation of affordable housing. For example, a $1 million development project with a 9% tax credit would result in a $90,000 subsidy per year for ten years in Virginia. While LIHTC is a federal program, it is administered by the state through Virginia Housing (JLARCH, 2021).

JLARCH (2021) discovers that DHCD programs are never a project's primary source of funding, and they frequently act to close the financial gap through programs like the Affordable and Special Needs Housing (ASNH), which are grants from combined federal and state funding for low-income or special-need Virginians. In terms of state production subsidies, the primary program is Virginia Housing's Resource to Enable Community Housing (REACH), which are discretionary funds that can be used for rental housing through a loan subsidy program that reduces interest rates for Virginia Housing-funded developments. However, JLARCH concludes that this program does not provide substantial evidence of its impact on rental affordability because the evidence only shows produced units (JLARCH, 2021)

Selection of Policy Alternatives

The following section will discuss the three policy alternatives examined in this report. These alternatives were selected as a result of the literature on land-use practices as well as other considerations discussed below.

1. This report excluded land banks and community land trusts as a potential policy alternative given the limited scope of this research to the 10th and Wertland site would not allow for the implementation of a land bank or community land trust provided that the land is not vacant, and it belongs to the University of Virginia who has the aim of providing the land as a ground lease to the selected developer.

2. In *Basic Methods of Policy Analysis and* Planning, Patton et al. (2015) state that the status quo is a policy that merits consideration in effective policy analysis. This is because the status quo can serve as a baseline for comparison which is essential for any policy analysis. As a result, the first alternative in this report was purposefully chosen as the status quo.

3. Provided evidence from the key takeaways from the rezoning literature section, and the aim of this report which is to increase the stock of affordable rental units, the second alternative of modifying the zoning of the land parcel was chosen as it would provide a means for increasing density.

4. Finally, the third option of a zoning change combined with the use of the Charlottesville Housing Fund (CAHF) was chosen because of its commitment to building local affordable housing and its prevalence as a local funding tool over the last decade. HR&A Advisors (2021) discovers that common federal or state housing funding, such as LIHTC, is highly competitive and has limited funds because developers from all over the state apply for the same programs, requiring the City of Charlottesville to maintain its commitment to local funding. In fact, from 2018 to 2019, for every dollar spent by the City of Charlottesville on LIHTC initiatives, $3-$7 in public or private finance was obtained. Furthermore, the CAHF was the primary local funding source from 2010 to 2021 (City of Charlottesville, 2022).

Some background information is required before examining the opportunities for affordable housing development at the 10th and Wertland site. The Wertland site is currently zoned B-3 commercial and West Main West Corridor, which is a mixed-use district (Cville Plans Together, 2023). The proposed zoning rewrite designates the 10th and Wertland site as corridor mixed-use 5, allowing for 5-story tall buildings and campus (CM) which is described as a "mix of building types that serve

surrounding neighborhoods and produce activities that do not readily assimilate into other zoning districts" (Cville Plans Together, 2023). Figure 5 depicts the proposed zoning for the 10th and Wertland site.

Figure 5: Draft Zoning Map for 10th and Wertland Site[10]

Note. From "Draft Zoning Map and Other Related Data," Cville Plans Together, n.d.

Policy Alternatives

This report will examine three policy options in terms of the 10th and Wertland site: maintaining the status quo, modifying the zoning of the land parcel, and combining a zoning modification with the use of the Charlottesville Affordable Housing Fund (CAHF). The status quo will serve as the baseline for comparison, and all three alternatives are contingent on the zoning rewrite occurring, given that the City of Charlottesville adopted the 2021 Comprehensive Plan as well as the zoning rewrite process is in its final stages (Cville Plans Together, n.d.-a).

Policy Alternative 1: Maintaining the Status Quo

The 10th and Wertland Street site is proposed to be zoned CX-5, allowing for the development of additional multifamily units provided that any developed building could have up to five stories (Cville Plans Together, 2023). It is also proposed to have a Campus or CM zoning, which would mean that the new zoning ordinance would not apply to the area (Cville Plans Together, 2023). Both of these zoning distinctions have their requirements, which are listed in the appendix. This policy

[10] According to Charlottesville Open Data, a parking-exempt area does not have to follow zoning ordinance requirements. This area is represented by the red dotted line in Figure 5 (City of Charlottesville, 2018).

option suggests that UVA's selected developer makes no changes to the current zoning of the land granted through the ground lease, which would limit allowed density by forcing developers to plan around two different zoning requirements. The decision's trade-offs will be discussed in the findings section. Furthermore, given that only one module remains in the process before voting and approval by the City Council, this alternative, as well as the following, all assume the success of the zoning rewrite.

Policy Alternative 2: Modifying the Zoning of the Land Parcel to CX-5

In comparison to the status quo, the second policy option would propose modifying the zoning across the site to all CX-5. This would allow developers to build under a sole zoning code and have clear requirements for construction. This would also eliminate the need to rezone a portion of the university's Stacy Hall parcel at a later date.

Policy alternative 3: Re-Zoning to all CX-5 + Utilizing the Charlottesville Affordable Housing Fund (CAHF)

This policy alternative expands on policy alternative 2 by proposing the use of local funds through the Charlottesville Affordable Housing Fund (CAHF). The CAHF was adopted by the City in 2010 to boost the affordable housing supply to 15% of the total housing stock by 2025 (City of Charlottesville, n.d.-a). The goal of this fund is to explicitly target the establishment of new assisted affordable housing options or the preservation of existing affordable units for low to moderate-income households. The CAHF is scheduled to receive $1.5 million per year in the fiscal year 2024 budget (City of Charlottesville, n.d.-a). CAHF has given nearly $21 million to these projects to date, with the vast majority of financing coming from annual appropriations from the City's Capital Improvement Program (CIP) as well as additional contributions totaling about $1 million (City of Charlottesville, n.d.-b).

Criteria

Each alternative was given a score ranging from 1 to 3 points, with 3 indicating that it performed well in its criteria and 1 indicating that it performed poorly.
As a result, any alternative that scored closer to a perfect score of 3 performed better. The importance of each criterion to PHA's mission and the nature of the problem were also weighted into its score. For example, because the primary goal of this report is to create affordable rental housing units, effectiveness was the most heavily weighted criterion. Timeline and administrative feasibility, on the other hand, were given equal weight because they are both important factors in development and are inextricably linked. If administrative feasibility is low, the timeline will be extended, and vice versa. Given that the UVA Foundation is currently reviewing development proposals and the remaining steps are developer

selection before construction plans can begin, this report felt that timeline and administrative feasibility were important criteria to consider.

Effectiveness (60%) – Does this program lead to an increase in affordable housing units?

This criterion will directly address the policy option's ability to increase the production of affordable housing units. Annual impact assessments that examine the increase in affordable housing units as a result of zoning ordinance changes should be used to assess long-term effectiveness. Because this data does not yet exist in Charlottesville, efficacy will be assessed by consulting the rezoning literature and utilizing a case model provided by the Piedmont Housing Alliance. The preferred option should, ideally, increase the number of affordable housing units.

Each alternative will be assessed using the following scale:

- Highly effective (3): the alternative is projected to reliably increase affordable housing units
- Somewhat effective (2): the alternative is likely to increase affordable housing units
- Ineffective (1): the alternative will not likely increase affordable housing units

Timeline (20%) – How long would it take to implement this alternative?

This criterion refers to the timeline that the developer should expect for the City of Charlottesville to implement the alternative. This data was gathered through general market research as well as qualitative interviews with PHA, the Director of Design and Development for the University of Virginia Foundation, the Deputy City Manager for Operations, and the Deputy Director of Neighborhood Development Services (NDS).

Each alternative will be assessed using the following scale:

- Highly favorable (3): the alternative is projected to reliably be implemented in a 0-6 month time span, decreasing the possibility of delays on the construction timeline
- Somewhat favorable (2): the alternative is projected to reliably be implemented in a 6-12 month time span, possibly creating delays in the construction timeline
- Least favorable (1): the alternative is projected to reliably be implemented in 12+ months, likely causing delays in the construction timeline

Administrative Feasibility (20%) – How viable is this option for the developer?

This criterion refers to the feasibility of the policy option being implemented by both the developer and the City of Charlottesville. Administrative feasibility touches

on the administrative capabilities required by the developer when pursuing the policy option.

- Highly feasible (3): the alternative can be implemented relatively easily through the current goals of the City of Charlottesville and the developer
- Somewhat feasible (2): the alternative will require additional support or resources outside of the City of Charlottesville and the developer
- Unfeasible (1): the alternative will require significant additional support or resources outside of the City of Charlottesville and the developer

Rankings for Criteria

Effectiveness		Timeline	Administrative Feasibility
1	0-10 units	12+ months	Low
2	10-15 units	6-12 months	Medium
3	15-20 units	0-6 months	High

Findings

Introduction

According to the UVA Foundation, the three potential developers for the 10th Street and Wertland site recommended preliminary pricing for affordable rental units at 30-60 percent of the area median income or AMI. To simplify the calculations in this report, we will discuss the alternatives in terms of aiming for a 60% AMI, which the non-profit Housing Forward Virginia (n.d.) considers the low-income range. Additionally, given that the U.S. Census found that the average household size in Charlottesville was 2.28 people from 2017 to 2021 (United States. Census Bureau, n.d.), this report will concentrate on multi-family affordable units. This target means that the maximum monthly rent that is considered affordable under the U.S. Department of Housing and Urban Development for both the AMI and two-bedroom units is $1,416 a month (City of Charlottesville, 2023b). To summarize, the alternatives will all be based on the following:

- Target of 60% AMI;
- Focus on a rental two-bedroom unit;
- And a target rent of $1,416/month;

The following section evaluates three options for constructing affordable housing at the Wertland site: maintaining the status quo, modifying the land parcel's zoning, and combining zoning modification with utilizing the Charlottesville Affordable Housing Fund (CAHF).

Alternative 1: Status Quo – Maintaining the current zoning proposal

Effectiveness (60%)
According to the UVA Foundation, current developer proposals for the 2-acre parcel zoned CX-5 and CM range from 85 to 129 units as of March 2023. CX-5, or corridor mixed-use 5, and CM, or campus, have the same overall height limit of 5 stories without a special permit (City of Charlottesville, 2023a). The minimum ground story height and maximum street-facing entry spacing differ between CM and CX-5 for the main street (Tubbs, 2023a). All differences in requirements between the two zoning designations render determining the exact development size difficult.

However, we recognize that the status quo, particularly in the absence of a special permit, will not result in the maximum allowed density of housing units. As a result, we will assume that the status quo's density barrier will produce 85 units. At this level, the Piedmont Housing Alliance has provided estimates for the most cost-effective model of housing construction at the site. The 85 units will be built on 97,817 square feet of residential space, allowing for a total of 13 units to be built at 60% AMI, according to PHA.

However, Stacy et al. (2023) found that zoning regulations that provide barriers to maximizing allowed density often were associated with a decrease in affordable middle-income units, i.e., this is not ideal to increase affordable low-income units. Schuetz (2009) also found that restrictive zoning codes led to the development of less multifamily housing when fewer building permits were submitted or approved in Massachusetts. Given that this alternative assumes that no building permits or zoning modifications will be submitted to the City of Charlottesville, it is relatively plausible that this alternative will not amount to the estimates provided by the Piedmont Housing Alliance and that the quantity of low-income rental units will be lower.

However, we understand the University of Virginia is committed to creating affordable housing. Therefore, it is unlikely this alternative will not have many affordable rental units. We can safely assume this policy option could create anywhere from 9-12 units.[11] These affordable rental units built to house those at

[11] Given that barriers to maximizing density have been shown to reduce affordable middle-income units, we can safely assume that low-income units will be impacted even more. Furthermore, because Charlottesville is strongly considering implementing an inclusionary housing program (Inclusionary Housing, n.d.), the minimum set-aside requirement would be 9 units (85 X .10 = 8.5 or 9 units). Given the density barriers, we can also assume that 13 units are not reliably feasible, so the range is less than 13 but at least 9.

60% AMI would cost around $288,000 per unit.[12] As a result, this alternative criterion is somewhat effective at creating affordable housing at our 60% AMI level. As such, it scores 1.5.

Timeline (20%)
Construction timelines cannot be compared given the Piedmont Housing Alliance's relatively similar estimates of 85 and 105 units. Rather, we will compare timelines based on the alternative's approval time. Given that the current status quo is based on a draft zoning code, the timeline for enacting this ordinance will correspond with the City of Charlottesville's plan. According to the Piedmont Housing Alliance, rezoning in Charlottesville typically takes 6-9 months. Additionally, the City of Charlottesville has continued to postpone the implementation of the rewritten zoning ordinance which is now expected to be released in early 2024. To account for potential delays, this alternative's timeline is 6-12 months. This is because the Planning Commission meets on the second Tuesday of every month and has frequently full schedules (City of Charlottesville, n.d.-e). This is also true for the Council, which meets bi-monthly (City of Charlottesville, n.d.-c). Therefore, this alternative criterion scores a 2.

Administrative Feasibility (20%)
As previously stated, the current status quo is based on the City of Charlottesville's proposed zoning ordinance. As a result, a developer for the 10th and Wertland site would not be required to submit any rezoning or special permit requests. As a result, this option is highly administratively feasible because it requires no additional action from the developer or the City of Charlottesville, earning it a rating of 3.

Alternative 2: Zoning Modification

Effectiveness (60%)
By removing zoning requirement barriers, density can be better maximized. CX-5 can support up to five stories without any additional bonuses, and the structure can support up to seven stories provided specific criteria are met (Tubbs, 2023a). Furthermore, as long as there is 10% outdoor amenity space, the building can occupy nearly the whole land area (Tubbs, 2023a). Therefore, the Wertland site could be zoned entirely as CX-5 which could allow up to 129 units. However, given the three developers' differing building potential, we will adopt Piedmont Housing Alliance's projections for maximum density at 105 units, a 20-unit increase above our present estimates. This suggests that 17 two-bedroom flats with an AMI of 60% could be built.

[12] For full cost calculations, see appendix.

However, Stacy et al. (2023) found that in over 1,000 cities with zoning amendments, there was a statistically significant increase of 0.8% in the housing stock. The National Low Income Housing Coalition also discovered in the absence of any public subsidy, there is little evidence to support a statistically significant increase in affordable housing units (Aurand et al., 2021). Applying this logic to the status quo range, a 0.8% increase in housing stock would produce new 11-13 units.[13] As a result, this alternative ranks a score of 2.

Timeline (20%)

To request a site rezoning or special use permit, any interested party must first organize a pre-application meeting with a planner for the proposed project and then contact the Department of Neighborhood Development Services, or NDS (City of Charlottesville, n.d.-d). Thankfully, the Piedmont Housing Alliance realized the challenges of the current proposal, which places Wertland and 10th in two different zoning classifications and has already proposed a revision to unite the site. This drastically accelerated the schedule of this alternative. This zoning adjustment, according to the Deputy City Manager for Operations,[14] should take two months to cover a likely consideration period because it must be scheduled as many things can make an agenda for the month. To account for any severe delays, this alternative will occur within 2 to 6 months. As it only amends one section of the new zoning rule, this alternative requires less time than the status quo. Therefore, this alternative criterion has a score of 3.

Administrative Feasibility (20%)

Given that the Piedmont Housing Alliance has already requested this zoning change, this option would require no additional work from any developer. The City Council and Planning Commission, however, must still vote on and approve this alternative. However, the literature from Lo and Freemark (2022) and Fleischmann and Pierannunzi (1990) exemplify developers' frequent requests for the rezoning of land parcels as well as the average willingness of local government officials to approve the project. As such, we believe this alternative criterion is highly administratively feasible; However, because it must still be approved, we believe its administrative feasibility is in the medium-to-high range as the developer cannot utilize this option until approval. As a result, the score for this alternative criterion is 2.5.

[13] Calculations: 105 X.10 = 10.5 or 11 units. A 0.8% increase in units due to a development change would result in a range of 9.072 to 13.1. As a result, this option can consistently yield 11-13 units.
[14] This timeline estimate comes from direct conversations with the Deputy City Manager for operations in late March.

Alternative 3: Zoning Modification + Developer Applying to the Charlottesville Affordable Housing Fund (CAHF)

Effectiveness (60%)
Submissions for this year's Charlottesville Affordable Housing Fund (CAHF) closed on January 31, and awards are scheduled to be issued in May 2023 (Tubbs, 2023b). However, because this application is only available once a year, we could use last year's data to estimate how it might help with construction at the Wertland site if developers applied during 2024.

Given our 60% AMI target, this alternative falls under tier 2 funding which awards $250,000 for developments planning to build and serve affordable housing units for households with incomes up to 60% AMI (Tubbs, 2023b). This would cover approximately 85% of the costs for one additional unit,[15] leaving a balance of about $38,000 to be paid by the developer. As a result, one more unit could be built at our target in addition to the previous estimate of a range of 11-13 units creating a new range of 12-14. This is in line with literature from Horowitz and Canavan (2023) which found that easing density restrictions allows for the construction of additional homes. This alternative also makes use of a government subsidy, implying that the development of housing will likely favor higher-priced rental units (Aurand et al., 2021). However, this would necessitate that one of the two-bedroom units, such as one priced at 80% AMI, is transferred to 60% AMI. Moreover, given that this alternative is utilizing the zoning modification, the price per unit would remain the same– around $288,000 per unit.[16] This alternative criterion scores a 2.

Timeline (20%)
The 2023 application cycle for the CAHF closed in late January. This would necessitate the Piedmont Housing Alliance or the selected developer to apply in the following year's cycle, suggesting that an application would have to be submitted before the end of January 2024, with notification taking place in May 2024 (City of Charlottesville, n.d.-b). Given the non-profit's familiarity with this fund, we anticipate that this will entail little administrative burden. However, the other two potential developers for the site may not be as knowledgeable about the process.

Nevertheless, any developer interested in funding from CAHF should allocate substantial time for filling out and submitting the application, so we recommend the process should start in December 2023 to allow for any delays or necessary prioritization of other development aspects. As the application is not due until

[15] $250,000/$288,195.195 = ~85%
[16] See appendix for full cost calculations.

January 2024 and given that awards are not granted until May 2024, at least a one-year timeline from May 2023 is required. Therefore, this alternative scores a 1.

Administrative Feasibility (20%)
The Piedmont Housing Alliance is familiar with the CAHF after receiving funding from it for nine years, from 2011 to 2021, totaling over $8 million in total (Tubbs, 2022b). The application is fairly simple–only 5 pages long. It does, however, require the submission of attachments such as a project description, a demonstration of equity, a project schedule, and capacity (City of Charlottesville, n.d.-b). According to the instructions, there is no cost required to apply for an award (City of Charlottesville, n.d.-b). Therefore, this alternative has a cost of $0. Given that this application requires project information to be sent to the City, the administrative feasibility is medium-to-high depending on the familiarity with Charlottesville's funding and comfort with government systems. As a result, this alternative criterion scores a 2.5.

Outcomes Matrix

	Effectiveness (60%)	**Timeline of Implementation (20%)**	**Administrative Feasibility (20%)**	**Total Score**
Alternative 1 Status Quo	9-12 units **Score: 1.5**	6-12 months **Score: 2**	High **Score: 3**	1.9
Alternative 2 Zoning Modification	~11-13 units **Score: 2**	2-6 months **Score: 3**	Medium-High **Score: 2.5**	2.2
Alternative 3 Zoning Modification + CHAF	~12-14 units **Score: 2**	12+ months **Score: 1**	Medium-High **Score: 2.5**	**1.9**

Recommendation
The decision matrix demonstrates each alternative received nearly identical scores, with alternative 2– a site zoning change,--receiving the highest overall score by 0.3 percentage points. However, this alternative is less than ideal given the significant literature which highlights that zoning changes alone do not always result in affordable housing. While alternatives 1 and 3 had the same score, alternative 3 is the policy alternative that would produce the most affordable rental units. That is, in the 12-14 range. As a result, this analysis recommends policy option 3 as it creates the most affordable units.

This recommendation accepts the trade-offs of increased administrative burdens on the City of Charlottesville and the selected developer, as well as a longer time frame, because the Charlottesville Affordable Housing Fund will not be available until 2024. While alternative 2 excels in all criteria due to its high administrative feasibility and implementation timeline, it fails to produce the greatest possible quantity of affordable units. Furthermore, the potential 12-to-14 two-bedroom affordable housing units at 60% AMI may one day help address the affordable housing crisis.

Implementation

This section discusses funding opportunities for developers through subsidies and a reduction in parking requirements, which could reduce financial risks.

The Piedmont Housing Alliance (PHA) became aware of the risks associated with this development plan before the city re-zoning process was completed. For example, the process has been delayed until the end of 2023, when it was supposed to be completed by the summer of 2023. At the same time, the University of Virginia is committed to selecting a development team for the Wertland site by the summer of 2023. Fortunately, because an application has already been submitted, alternative 2 is predicted to have a low implementation burden. However, the Piedmont Housing Alliance may need to advocate for the zoning changes to the Planning Commission and the City Council.

Several actors are currently involved in the Charlottesville housing space. The public, nonprofit, private, and citizen' sectors are the housing ecosystem's four primary groups of stakeholders.

1. The public sector includes Charlottesville City staff and the Charlottesville Redevelopment and Housing Authority (CRHA), both of which have a direct impact on affordable housing through acts such as development project approval. Their support will be critical to approving and implementing alternative 2 as the local legislative actors.

2. Non-profits include organizations such as the Habitat for Humanity of Greater Charlottesville and the Thomas Jefferson Community Land Trust, which frequently advocate for affordable housing measures. It is probable that given Charlottesville City's adoption of the comprehensive plan and the literature showing the success of increasing density and using subsidies to develop affordable housing, other non-profits will be supportive or familiar with this path of action.

3. Financial institutions, as well as the University of Virginia, are part of the private sector.

4. Finally, the residential sector is vital because residents can provide feedback to the community on their needs.

These organizations frequently collaborate, and they all play a role in the Charlottesville Affordable Housing Comprehensive Plan.

To put this alternative into action, the Piedmont Housing Alliance (PHA) should push its proposal onto the docket of the Planning Commission as soon as possible. Preferably, that would occur in either June or July. This could be accomplished by contacting their office directly via email, through local networks and contacts, on the phone, or by going to the office itself to appeal to their staff. Alternatively, this could be accomplished by PHA engaging in grass-roots lobbying. The PHA executive director could contact members of the Planning Commission to emphasize the importance of passing this modification for increased density. In turn, the Planning Commission may begin to advocate for this change, emphasizing the importance of prioritization to the City Council, which will then vote on the change. Even if Piedmont Housing Alliance is not chosen to develop the site, this advocacy could be extraordinarily effective,

Another potential obstacle is the high financial risk a developer may face if they commit to developing affordable housing on this site. The PHA believes that, despite the University covering the land costs through a ground lease, this subsidy may be insufficient on its own. As a result, the Piedmont Housing Alliance should investigate other types of subsidies, such as those listed in the section on common funding strategies.

Developers could consider utilizing the largest source of federal assistance by applying for low-income housing tax credits at 4 or 9 percent. Virginia Housing subsidies, such as Virginia's Housing Resource to Enable Community Housing (REACH) or one of the other 25 grant programs, should also be investigated by the selected developer (Virginia Housing, n.d.).

Virginia Housing, which has been extremely successful in supporting new rental units, could help move any development recommendation forward. From 2014 to 2018, the organization helped to build 24,000 new affordable rental units in Virginia (Virginia Housing, n.d.), with an average of 6000 units per year. Furthermore, the group has provided over $5.1 million in servicing support to Habitat for Humanity projects in various communities, including Charlottesville (Virginia Housing, n.d.).

Another way to reduce financial risks is to advocate for a reduction of on-site parking requirements. Zoning ordinances in communities across the United States will specify the minimum number of off-street parking spaces that must be provided for each unit in residential neighborhoods. However, the number of designated parking spaces is frequently arbitrary, leading many American cities to abolish parking minimums. In Charlottesville, for example, a 4-bedroom unit in a multifamily dwelling requires two spaces per unit, whereas a 4-bedroom unit in a townhouse requires one space per unit (*Off-Street Parking*).

Additionally, parking minimums lower residential development costs because a typical surface parking slot costs $5,000 to $10,000 to build (Strong Towns, 2018). Regardless of whether a tenant owns a car, parking spaces are usually included in the unit price. Parking spaces increased rents by up to 63 percent in buildings with no parking options, according to a 2012 study by the City of Portland's 4-story developments in a mixed-use zoning designation (Jaffe, 2015).

Parking takes up more than one-fifth of the total land area in Charlottesville (Stolzenberg, 2019). The availability of land is critical for the construction of more affordable units. However, there are drawbacks to lowering parking minimums, such as the short-term impact on parking availability and the local transit system inadequacy. As a result, the city must conduct a feasibility analysis on the effects of eliminating parking minimums. The city should assess vehicle ownership statistics by income level, age of family head, and household size, as well as proximity to public transportation and actual parking utilization rates to drive policy design and ensure demands fit local needs (Local Housing Solutions, n.d.-b).

Piedmont Housing Alliance's involvement in the Wertland project is, of course, contingent on the University of Virginia's selection. As a result, UVA is the primary stakeholder as the terms of development will be negotiated with their legal team. As such, their continued support will be critical to moving the recommendation forward. If PHA is not chosen, the organization may still have an impact on the Charlottesville housing market by advocating for the efficacy of increasing affordable housing units through increased density and reduced parking requirements.

Nonetheless, once passed, the updated zoning ordinances should significantly reduce barriers to the development of affordable housing for prominent community partners such as the Piedmont Housing Alliance.

Conclusion

This report aimed to address Charlottesville's affordable rental unit shortage by providing background information, calculating societal costs, and reviewing the literature on land use practices that local governments use to increase housing stock. Given this issue's limited scope, rezoning is the only viable option. Unfortunately, land banks and community land trusts are not possible in this area.

As a result, the literature and Piedmont Housing Alliance estimates reveal the effects of my three policy alternatives: Maintaining the status quo, changing the zoning ordinance for the 10th and Wertland site, and modifying the zoning designation on the site in conjunction with applying for Charlottesville Affordable Housing funding. These alternatives were compared according to effectiveness (i.e., the dependability of the policy option creating affordable housing), the timeline for implementation (to anticipate any delays in the construction development), and administrative feasibility (which determines the ease of achievement for both the developer and the City of Charlottesville).

This analysis recommends Alternative 3 as it allows for increased density as well as increased funding, both of which are effective mechanisms for facilitating the production of affordable housing units. This is only a suggestion; the final decision should be made by the University of Virginia and the developer.

Appendix

Costs to Society Calculations

	Inputs	Calculations	Total
Direct Costs	Median gross rent: $1,250 Severely cost-burdened renters' annual income: $34,999 Severely cost-burdened renters: 2,700	$34,999 X 100/30 = $10,499.7 $10,499.7/12 months = $874.975 $1,250 - $875 = $375/month $375 * 12 = $4,500	$4,500 X 2,700 **= $12.15 million**
Indirect Costs	Workers: 9,175 Commute distance: 17 miles (mi) Cost of 1 Gallon of Gas: $3.43 Workdays in 2023: 260 Fuel efficiency of a car: 24 mi/ gallon	Average cost of gas per day = $3.43 Annual cost of gas = $1,166	$1,166 x 9,175 **= ~$10.69 million**
Opportunity Costs	Workers: 9,175 Workdays in 2023: 260 One-way commute: 27 minutes	27 minutes X 2 = 54 (~an hour) 1 hour X 260 =260 hours	9,175 * 260 hours **= ~$2.38 million hours**
			Total Costs: $22.84 million + 2.38 million hours

Draft Building Requirements for CX-5

CX-5

B. **BUILDING**

1. **HEIGHT**	*Sec. X.XX.X*
Ⓐ Overall height (max stories/feet)	
Base	5 / 72'
Bonus	7 / 100'
2. **MASSING**	*Sec. X.XX.X*
Ⓑ Width (max)	275'
Active depth (min)	
Ⓒ Primary street	15'
Ⓓ Side street	9'
3. **GROUND STORY**	*Sec. X.XX.X*
Ⓔ Story height (min)	
Residential	10'
Nonresidential	14'
Ⓕ Finished floor elevation (min/max)	
Residential	2' / 5'
Nonresidential	-2' / 5'

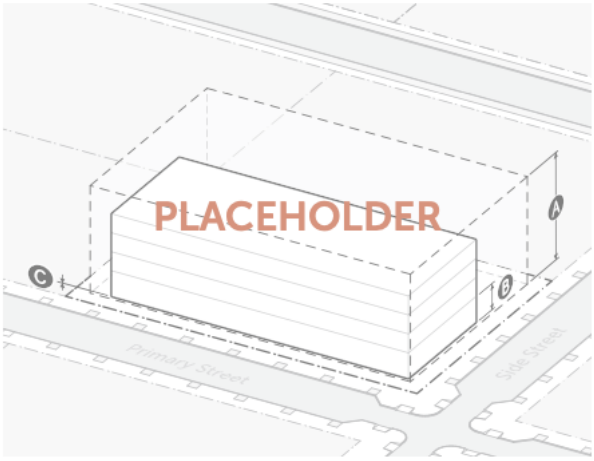
	Primary St.	Side St.
4. **TRANSPARENCY**	*Sec. X.XX.X*	
Ⓖ Ground story (min)		
Residential	35%	30%
Nonresidential	50%	30%
Ⓗ Upper story (min)	20%	20%
Ⓘ Blank wall width (max)	15'	25'
5. **ENTRANCES**	*Sec. X.XX.X*	
Ⓙ Street-facing entry spacing (max)	40'	60'
Entry feature	Yes	Yes
6. **WALLS & FENCES**	*Sec. X.XX.X*	
Front yard height (max)	Type X | 4'	
Side street yard height (max)	Type X | 6'	

Source: Cville Plans Together (2023)

Draft Building Requirements for CM

CM

B. BUILDING



1. **HEIGHT**	*Sec. X.XX.X*
A Overall height (max stories/feet)	5 / 72'
2. **MASSING**	*Sec. X.XX.X*
Width (max)	None
Active depth (min)	None
3. **GROUND STORY**	*Sec. X.XX.X*
B Story height (min)	14'
C Finished floor elevation (min/max)	-2' / 5'

	Primary St.	Side St.
4. **TRANSPARENCY**	*Sec. X.XX.X*	
D Ground story (min)	30%	30%
E Upper story (min)	15%	15%
F Blank wall width (max)	25'	50'
5. **ENTRANCES**	*Sec. X.XX.X*	
G Street-facing entry spacing (max)	200'	250'
Entry feature	Yes	Yes
6. **WALLS & FENCES**	*Sec. X.XX.X*	
Front yard height (max)	Type X | 4'	
Side street yard height (max)	Type X | 6'	

Source: Cville Plans Together (2023)

Findings Costs

	Inputs
Policy Option 1: Status Quo	85-unit development would have 45 two-bedroom units would span 49,984 square feet The literature shows evidence that restrictive zoning and density requirements hinders the construction of affordable housing units. 49,984 sq ft / 45 units = 1,110.75 sq ft/ unit Hard cost per sq foot: $259.46 Cost per unit: 1,110.75 sq ft X $259.46 = $288,195.195
Policy Option 2: Modifying the Zoning	105-unit development would have 57 two-bedroom units with 17 targeting 60% AMI The literature does not produce evidence that zoning alone creates additional affordable housing units. 1,110.75 sq ft per unit Hard cost per sq foot: $259.46
Policy Option 3: Modifying the Zoning + Utilizing the CAHF	The literature shows evidence of the combination of relaxed density and subsidies to create affordable housing units. Tier 2 funding: $250,000 $250,000/$288,195.195 = ~85%

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