Densification and Preservation: Competing or Complementary Strategies for a Vibrant and Affordable University District?

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Abstract

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This paper addresses the tension between preservation and densification, two strategies for increasing housing affordability, using a 2017 rezone in Seattle's University Distrct neighborhood as a case study. Specifically, this paper aims to understand how "naturally occurring," or sunsubsidized, affordable housing (known as "NOAH") has fared in the neighborhood since the implementation of the zoning change, which allows widespread increases in development capacity across the neighborhood. Leading up to the rezone, community groups expressed concerns about displacement risk and about changes to the neighborhood's unique character. To date, there is no clear understanding of the impact of the rezone on existing affordable units. This paper first analyzes the changes in both development capacity and development activity, measured through historical zoning data and permits issued in response to applications submitted after the zoning change went into effect, and then establishes and applies a set of criteria to identify probable NOAH properties and evaluate the extent to which they are at risk for redevelopment. Findings reveal many probable NOAH properties within a study area in the core of the neighborhood, ranging in redevelopment risk level from minimal to moderate.

1. Introduction

Like many cities across the United States and beyond, Seattle is currently struggling to provide sufficient affordable housing to its residents, and in particular, to its renters. American Community Survey data shows that, in 2022, 46% of Seattle renters were officially cost-burdened in that they spent more than 30% of their household income on housing costs. The rental unit vacancy rate during this time was just 3.1%, representing a highly competitive housing market for renter households (Colburn and Walter, 2024). For comparison, the average vacancy rate across all American cities ranged between 5.6 and 7.1% between 2020 and 2025 (Federal Reserve Economic Data, 2025). These housing challenges have been especially pronounced for low-income renter households; from 2017-2021, there were 36,835 households earning 30% or less of the area median income, and 22,285 households earning between 30 and 50% of the area median income (HUD CHAS data, 2024). Among all rental units in Seattle in 2019, only 14,858 were affordable to those in the former group, and 13,950 to those in the latter group (Seattle Open Data Portal, 2025).

It has been estimated that, between 2010 and 2020, a deficit of 40,000-50,000 housing units region-wide resulted from a disconnect between housing production and rapid population growth. To keep up with population growth in the future, the Council estimates that the Puget Sound region will need to add 810,000 new housing units by 2050 (Puget Sound Regional Council, 2022). As the region's largest population center, Seattle has a significant role to play in meeting this target, but the city's constrained footprint and restrictive regulatory environment make housing production difficult to do quickly and at scale. Unlike many cities in the United States, Seattle cannot simply expand outward to build more housing because it is bounded by water and mountains, and furthermore, to do so would be inconsistent with the goals of the Washington Growth Management Act (The Municipal Research and Services Center, 2025). Another complicating factor is that, as of 2022, roughly 70% of parcels in the city were zoned for single-family homes and accessory dwelling units (Colburn and Walter, 2024). As a result of this combination

of conditions, the cost to acquire land is high, and the carrying capacity of existing developed land is low. Upzoning, or the process of changing a zoning ordinance to allow for greater residential density in a given district, provides a crucial opportunity for developers in Seattle to build more housing units in areas where they are most needed.

Meanwhile, "naturally occurring," or unsubsidized, affordable housing, often referred to as "NOAH," serves as a key resource from within the city's existing housing stock for low- and middle-income renter households. In fact, NOAH properties, while not always well defined as a class of housing units, are nonetheless estimated to represent 75 percent of the affordable housing stock in the United States (McKinsey and Company, 2021). Compared to other unsubsidized housing, NOAH properties tend to be older, smaller, and have fewer amenities (Mecklenberg County, 2025). They fill an important niche in the housing market for those who either do not qualify for or cannot obtain subsidized housing, but also cannot afford unsubsidized housing priced at or near the median cost for the area, and are willing to forgo certain luxuries in exchange for affordability (National Low Income Housing Coalition, 2016). Logic suggests that a healthy stock of NOAH properties also benefits governments by reducing the need for expenditures on housing assistance.

One could argue that NOAH properties can confer non-monetary value to communities, as well. Older NOAH properties have the potential to provide architectural diversity to create a more interesting streetscape and can add a patina of history and memory to a neighborhood. These affordable units prevent residents from being priced out of their neighborhoods, allowing many to live in one place for a long time and cultivate deep roots and relationships in their communities (McKinzey & Company, 2021). If NOAH properties exist in neighborhoods that also contain more expensive forms of housing, they can allow an opportunity for neighbors of diverse socioeconomic backgrounds to live alongside one another. In summary, NOAH properties can be major contributors to the urban fabric and social vitality of healthy communities.

While both up-zoning and the preservation of unsubsidized affordable housing units offer potential pathways toward a more affordable housing stock, and while both are necessary for

healthy urban growth, the two strategies are often in conflict with one another. Cities must grow and evolve to meet the changing needs of their residents, but as they change, they must also preserve the resources on which those residents already depend. This paper addresses the challenge of reconciling these two competing goals within the context of Seattle's University District neighborhood.

The Study Area: Seattle's University District

Seattle's University District is a walkable, urban neighborhood encompassing the area immediately north and west of the University of Washington campus. It includes multi-family residential properties, commercial properties, and institutional properties owned by the university; some areas also feature Neighborhood Commercial zoning, allowing mixed-use commercial and residential properties (City of Seattle, 2025). In recent years, the neighborhood has been the site of dramatic change. In 2008, voters approved the Northgate Link light rail extension, which connects the University District to Northgate via the Link 1 Line (Sount Transit, 2021). To complete the extension, a new light rail station in the heart of the University District began construction in 2012 and opened for service in 2021. A Station Area Overlay zoning district was created to promote housing production and discourage auto-centric construction in the area immediately surrounding the station (City of Seattle, 2025). In 2017 the neighborhood was upzoned (figure 1) to allow residential towers up to 320 feet within a high rise core near the new Link station, and 240-foot residential towers and 160-foot commercial buildings in other specified parts of the neighborhood (City of Seattle, 2017).

As the upzoning plans were developed and revised, local planners, organizations, and community members debated about the impacts the zoning change and ensuing development would have on the character, livability, and displacement risk in the neighborhood (The Seattle Times, 2015, 2016). Theoretically, through a process known as filtering, new housing built today has the potential to become the naturally occurring affordable housing of the future (Palm, Raynor, and Warren-Myers, 2021). However, this theory does not address the immediate need for

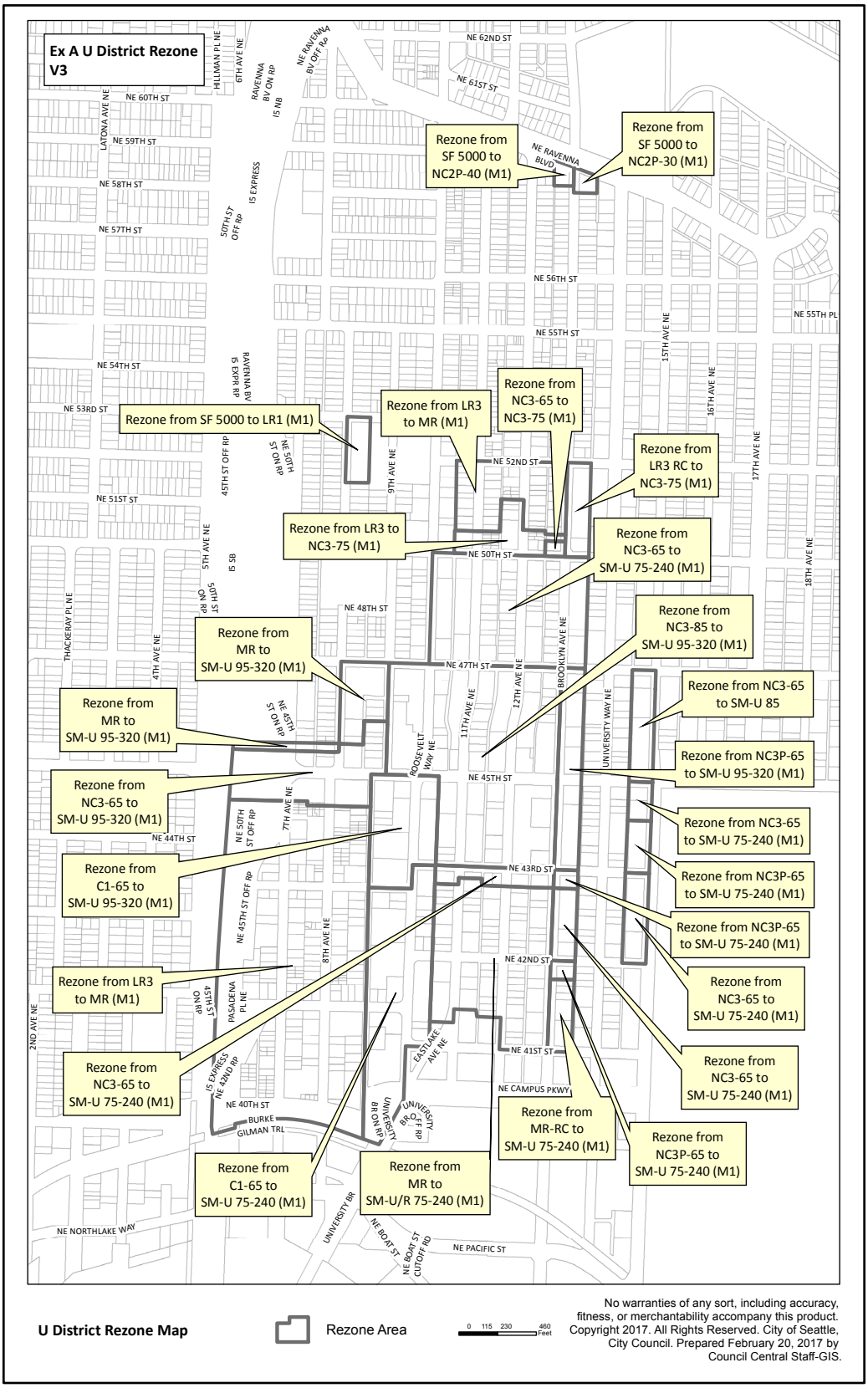

Figure 1. Final re-zone map of the University District. Source: Seattle Office of Planning and Community Development.

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The University District Neighborhood Design Guidelines

The University District Neighborhood Design Guidelines were developed, revised, and implemented with community input over a seven-year period from 2012 to 2019 (Seattle Office of Planning and Community Development). The guidelines include a context statement saying that "As growth continues, the University District and the areas around it are likely to experience a period of redevelopment. It is critical that new development continues the established physical character of the University District as a welcoming, inclusive neighborhood designed and built

at a human scale" (Seattle Office of Planning and Community Development, 2019, p. 3). Toward that goal, the guidelines call for the creation of "Character Areas," "Gateways," and "Placemaking Corners" (figure 2) organized around the following directives:

1. Create richness in the quality and variety of elements that form the public realm.
2. Emphasize human-scaled design and generate pedestrian activity to foster an engaging public realm.
3. Contribute to a robust network of pedestrian-priority outdoor spaces that act as a "front yard" for the University District community.
4. Establish design excellence and U District identity in taller buildings.
5. Integrate art and new technology.

The guidelines define Character Areas as places where "development design should reinforce and/or enhance the quality of place in the surrounding area" (p. 6). Gateways are defined as "significant 'entry' points in the U District neighborhood" which should "express a sense of arrival to a distinct area with distinctive forms, prominent massing, unique design concepts, and the highest attention to design quality" and "create pedestrian accommodating entries with wider sidewalks, significant landscaping features, public plazas, active uses, and art." Placemaking Corners are defined as "key nodes and pedestrian activity areas within the U District Neighborhood" and encourage developers to "design projects as part of a composition with the adjacent corner-facing sites to frame the space and balance strong spatial edges with adequate space for movement and activity, including small plazas, seating, and public art" and to "incorporate special paving and surface treatments; art installations; seating; kiosks" (p. 7).

Affordability and Preservation Supports in the University District

Seattle's Mandatory Housing Affordability (MHA) program is an inclusionary zoning approach that requires developers of applicable projects to either designate a proportion of units

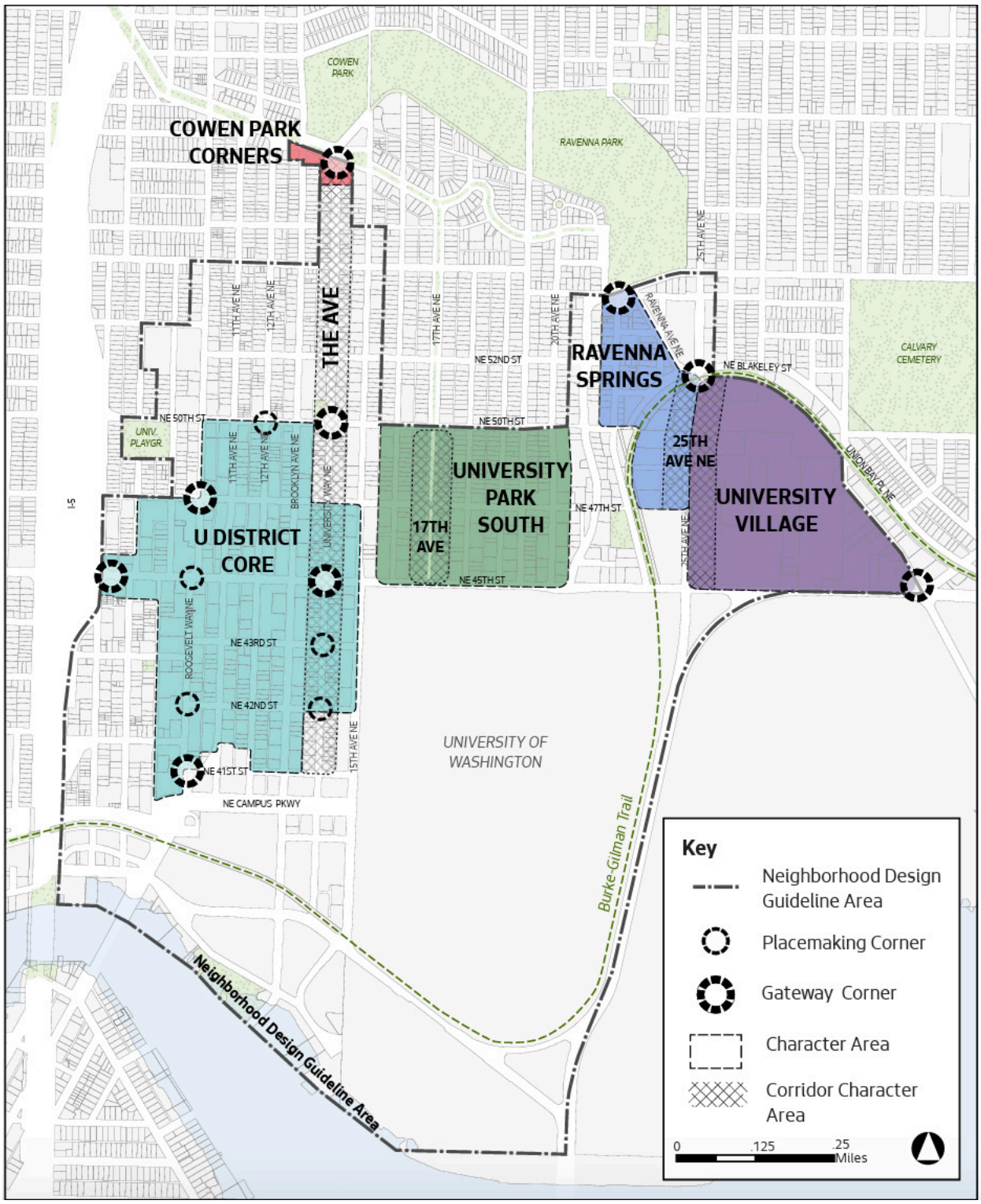

Figure 2. University District Neighborhood Design Guidelines Map A: Character Areas, Gateways, and Placemaking Corners. Source: Seattle Office of Planning and Community Development.

in new developments as affordable, known as the "performance" option, or pay into an affordable housing fund in lieu of providing affordable units, known as the "payment" option. The application of this program is "unlocked" through rezoning and the specific requirements are dependent on the underlying zoning as well as the details of a given building permit proposal (City of Seattle, 2025). Large swaths of the University District, including the majority of the study area considered in this paper, are overlaid with Mandatory Housing Affordability zones (City of Seattle ArcGIS Online, 2025).

Transfer of Development Rights (TDR), a type of market-based program by which property owners may sell their unused development capacity to other property owners who wish to exceed their own allowed development capacity, is also in place in the University District. The specific program in the neighborhood allows some preservation-worthy buildings to act as sending sites, from which development rights are transferred to other properties within the neighborhood (figure 3). Crucially, these transfers may only take place within the University District. As of 2018, there were 8 potentially eligible sending sites for historic buildings, 23 potentially eligible sending sites for vulnerable masonry structures, and no known instances of transfers in the University District (City of Seattle, 2018).

Assessing and Reconciling Competing Housing Affordability Strategies

This paper aims to analyze changes in the University District since the neighborhood was up-zoned, both from a housing affordability perspective and from an urban design perspective. Toward this goal, this paper will analyze the patterns of development in the neighborhood core since the upzoning legislation, identify existing affordable housing properties that are at risk for redevelopment, and assess the success with which the University District has adhered to its stated Urban Design guidelines as new development in the neighborhood has progressed. This paper will also explore the applicability of several strategies for preserving vulnerable affordable housing properties and reconciling the need for preservation with the need for new development in the University District.

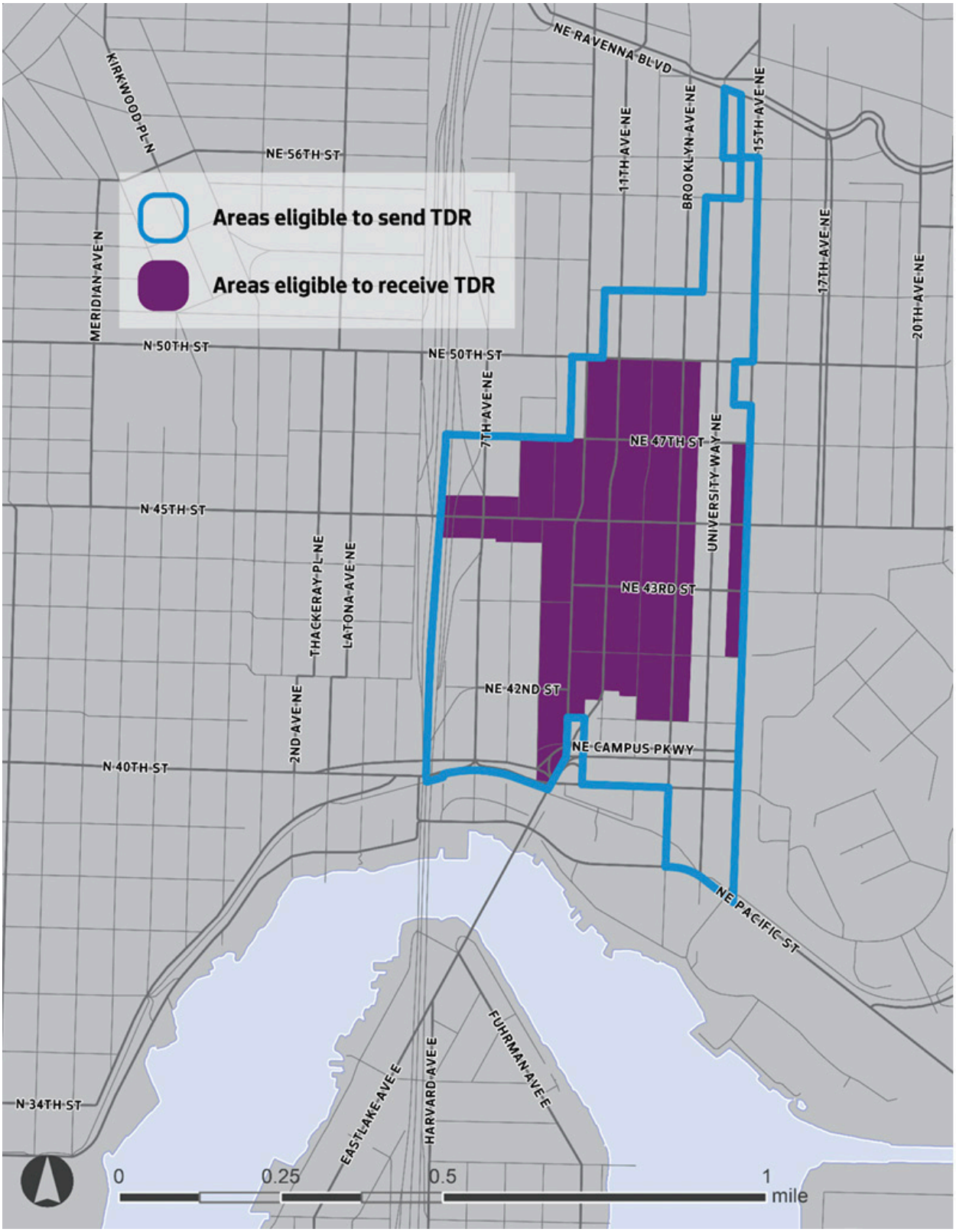

Figure 3. Map of eligible TDR sending and receiving areas within the University District.
Source: City of Seattle Report on Historic Buildings Transfer of Development Right (TDR) Programs

2. Literature Review

Preservation and the Role of the Planner

The need to reconcile competing housing affordability strategies in the University District is representative of the types of tradeoffs, more broadly, that planners and governments must make to pursue multiple goals. In a seminal paper, Campbell (1996) conceptualizes the competing demands placed on cities as a triangle, with economy, environment, and equity as its three points. In this framework, each point is in a unique form of conflict with each other point, and the conflict between economy and equity is labeled "the property conflict." According to Campbell, this conflict arises out of the economic development planner's view of the city as "a location where production, consumption, distribution, and innovation takes place" (p. 297), which is fundamentally at odds with the equity planner's view of the city as "a location of conflict over the distribution of resources, of services, and of opportunities" (p. 298). Campbell states that "This growth-equity conflict is further complicated because each side not only resists the other, but also needs the other for its own survival. The contradictory tendency for a capitalist, democratic society to define property (such as housing or land) as a private commodity, but at the same time to rely on government intervention (e.g., zoning, or public housing for the working class) to ensure the beneficial aspects of the same property, is what Richard Foglesong (1986) calls the 'property contradiction.' This tension is generated as the private sector simultaneously resists and needs social intervention, given the intrinsically contradictory nature of property" (p. 298). In Campbell's view, the role of the planner in managing the competing demands on the city is two-fold: first, to manage conflict and negotiate compromises between parties, and second, "to promote creative technical, architectural, and institutional solutions" (p. 305).

In analyzing the body of literature on the current relationship between planning and preservation in the United States, Minner (2016) argues that one of the greatest opportunity areas for collaboration between the two going forward is for the integration of an equity agenda into preservation practice. In fact, Minner references Campbell's writing on the "three E's" of

sustainability and notes calls in recent years for equity to take precedence over economy and environment. A major implication of the centering of equity in preservation practice is a need to expand our collective understanding of what is considered worthy of preservation, including the ordinary building stock that enables existing communities to function.

Why Preserve Ordinary Buildings?

Inspired by Jane Jacobs' (1961) critique of urban renewal and its impact on existing pre-industrial built form and the neighborhood life it supports, the Preservation Green Lab of the National Trust for Historic Preservation (2014) set out to answer the question "Where do older, smaller buildings fit within cities that are seeking to maximize transit investments, increase density, and compete in the global economy?" (p. 1-2). To answer this question, the authors designed a study analyzing the relationship between the age, diversity of age, and size of buildings to 40 economic, social, cultural, and environmental performance measures in Seattle, San Francisco, and Washington, DC. Their findings support the preservation of smaller, older buildings based on their associations with walkability, age and diversity of age of residents, night life, and economic activity. Notably, the authors found that "many of the most thriving blocks in the study cities scored high on the diversity of building age measure" (p. 5), suggesting that new development can and even should coexist alongside older, preserved buildings.

Building on the work of the Preservation Green Lab, Powe et al. (2016) designed a similar study that includes Tucson, Arizona, in addition to the three cities previously studied, to understand how the role of smaller, older buildings might differ in a smaller and newer city. Their intent was to explore the possibility of empirical support for Jacobs' (1961) theory, expressed in The Death and Life of Great American Cities, that "plain, ordinary, low-value old buildings" are necessary for healthy, vibrant neighborhoods. Jacobs' theory is largely grounded in the alleged economic value of older buildings, as buildings of different ages are likely to have different overhead costs and thus lend themselves to different commercial uses. In setting the context for the study, the authors highlight findings by Haughey and Basolo (2000) and by Rypkema and

Cheong (2011) showing associations between historic district designation and decreased affordability; crucially, Powe et al. distinguish landmarked or otherwise protected older buildings from "ordinary" older buildings, and clarify that they are interested in understanding the value of the latter. They also make note of findings from previous studies that both support and contradict Jacobs' theory, showing an ongoing lack of consensus among researchers about the importance of a diverse urban fabric. While scholars such as Weicher (1973), Schmidt (1977), and Glaeser (2011) find flaws in the premise that older buildings provide economic and social benefits to neighborhoods and cities, scholars such as Benfield (2014) and Ewing and Clemente (2013) bring light to their cultural and urban design value. Finally, Powe et al. highlight findings from several authors, including Burgess and Jenks (2000), Campbell (1996), Campoli (2012), Gottlieb (2006), and Glaeser (2011), showing an association between dense, walkable, and diverse neighborhoods and positive social and environmental outcomes.

To conduct their study, Powe et al. overlay each of the four cities with a 200 meter by 200 meter grid, then analyze the building characteristics within each grid square and examine the relationships between building characteristics and measures of residential density, job density, population diversity, and economic diversity. They found that character score, a composite measure developed to indicate the presence of smaller, older buildings and mixed-vintage blocks, was associated with greater population and housing unit density in all four cities. They also found a strong association between character score and the presence of small businesses and jobs at small businesses. Furthermore, they found "...significant evidence that high character score areas…have significantly greater diversity of resident age and younger median age of residents" (p. 175). However, they also discovered a negative association between character score and racial and ethnic diversity, particularly in Tucson. Their exploration of the relationship between character score and economic diversity yielded mixed results.

Regarding the implications of these findings, the authors state that "Perhaps the greatest outcomes for cities might come if planners and economic development officials recognized the valuable role that old buildings can play in supporting distinctive retail corridors of locally

owned businesses, mixed-use streets with bustling sidewalk ballets, and incubators for successful startups. Any discourse suggesting a false choice between historic landmark designations and laissez-faire, unencumbered development ignores how carefully crafted policy tools and development programs can support a healthy mix of old and new structures" (p. 177-78). Among the policy tools recommended by the authors are conservation districts, adaptive reuse ordinances, form-based codes, reduced parking requirements, and incentives for building reuse.

Preservation Tools and Strategies

While the literature makes a clear case for the preservation of older buildings, there is extensive ongoing debate over the proper strategies to use and in which cases. This is particularly true for the preservation of existing affordable housing. Elliott (2023) observes that, between 2010 and 2020, the total number of housing units in the United States increased by less than one percent annually, a fact that highlights the importance of preserving the existing housing supply and especially the most affordable existing units. When these affordable homes are demolished and redeveloped, the cost of materials, labor, permits, and fees usually needs to be passed on to the new residents in order for the project to pencil out. Even in cases where a portion of the units in the new development are made affordable through the use of inclusionary zoning, the developer typically needs to make up for this foregone revenue by increasing the price of the market-rate units, resulting in minimal net gains in affordability. For some very large projects in strong markets, where these price increases can be absorbed easily across many units, inclusionary zoning has the potential to preserve affordability at least as well as NOAH preservation would, while also increasing the overall housing supply. In other cases, however, it is beneficial for NOAH to be preserved rather than redeveloped.

In these cases, Elliott recommends that jurisdictions consider the use of zoning overlays or even new base zoning districts to protect the existing affordable units. The policy tradeoffs of this strategy are considered through the lens of two relevant analogous preservation efforts: historic preservation and building replacement restriction. Elliott notes that historic preservation

controls act as a policy tool to "prioritize the preservation of key examples of local history over the economic value of allowing market driven reinvestment of those properties for their 'highest and best use'" (p. 6), but present a double-edged sword as they can also result in the neglect and deterioration of protected properties. Replacement building restrictions, which require that redevelopment projects meet specific standards to preserve the character of the surrounding neighborhood, offer another example of a willingness by jurisdictions to "...compromise property owner desires to increase property values for the sake of achieving another community goal" (p. 7).

Elliott acknowledges that "The use of zoning to limit redevelopment is nothing new. What is new is a discussion about whether the preservation of existing NOAH dwellings is important enough to justify this particular use of the tool" (p. 8). Furthermore, Elliott acknowledges that this question of justification is likely to be divisive, theorizing that property owners (including community land trusts, in some cases) most interested in remaining in their homes and communities would support a NOAH preservation district, while those most interested in increasing their property values and selling for a profit would be opposed. Regardless, Elliott states that the most appropriate use case for a NOAH preservation district would be for the blanket protection of a defined area, whereas building replacement restrictions would be more appropriate at the individual property level, using home values relative to the city median or another measure of existing affordability to apply the restrictions.

The American Planning Association (2019) adopted as a policy position in its Housing Policy Guide that planners, policy makers, and local jurisdictions should advocate for the preservation of existing affordable housing, stating that "Incentivizing and/or mandating the preservation of existing affordable housing is often…the most sustainable way a municipality can ensure housing provision" (p. 10). The Housing Policy Guide recommends that jurisdictions encourage preservation through the identification of loan and grant programs to maintain and modernize existing housing and that planners do so through packages of incentives, innovative models such as low equity cooperatives and community land trusts, the creation of housing trust funds at the

local, county, and state levels, and inclusionary zoning.

The APA (2022) expands upon this last recommendation in its Equity in Policy Zoning Guide, placing a particular emphasis on the use of overlay zoning districts. The guide posits that, sometimes, "...overlay districts may be more important to protect the culture and integrity of historically disadvantaged and vulnerable communities than the base districts they modify" (p. 16). The guide also states that "These types of overlay districts acknowledge that it is not always a unique building or architectural style that fosters a unique sense of place, but rather a collection of businesses, residential dwellings, and/or civic uses that establish a shared community identity" (p. 18). One recommended strategy for establishing zoning overlays with the goal of affordable housing preservation is to define established building forms and then include protections for these typologies in the zoning ordinance. It should also be noted that the guide recommends that zoning overlays only be used for the purpose of affordable housing preservation "...with the clear understanding that restricting private investment will mean that the existing housing stock may age and may remain substandard compared to surrounding areas unless funding for structural improvements or interior remodeling is made available" (p. 18).

With regards to a long-standing debate among housing policy scholars and practitioners over the use of incentives versus mandates, Phillips (2020) suggests that both strategies are useful, but serve different purposes. In The Affordable City: Strategies for Putting Housing Within Reach (and Keeping it There), Phillips states that "Incentives should usually be the first thing to try, especially when it comes to housing production. For tenant protections and rental housing preservation, mandates are generally more appropriate" (p. 44).

Honing in on the question of rental housing preservation, Phillips provides several recommendations for upzoning best practices. First, upzoning legislation should be geographically distributed to avoid intense concentrations of competition for and redevelopment of newly available sites in a single neighborhood. According to Phillips, "Upzoning in just one neighborhood sends a signal that that specific neighborhood is a target for redevelopment and, potentially, gentrification and displacement… By enacting more geographically distributed upzones, either

simultaneously or in quick succession, the impact on any given community can be diluted, with development happening in more modest quantities all across a city" (p. 72). Second, upzoning should be "rightsized" to incentivize a range of sizes of new development projects. Large, tall developments, which are typically very expensive to build, often necessitate that construction expenses be passed onto residents and "those additional costs narrow the range of tenants who can afford to live or work in the new housing, such that only a few parcels might be redeveloped" (p. 78).

Beyond these general best practices, a proactive strategy Phillips recommends for preserving naturally occurring affordable housing, specifically, is acquisition using public funds. Phillips says that "acquiring NOAH is especially fruitful if it's located in a community on the brink (or in the midst) of gentrification or if a building requires significant upgrades to bring it to a proper state of livability" (p. 134) and that the "acquisition of existing buildings enables more flexibility and can promote better mixing of lower-income, working-class, and middle-income households." (p. 135). However, Phillips highlights two main limitations of this strategy. The first is that it does not actually increase the affordable housing supply compared to baseline, and the second is that these acquisitions may face obstacles due to the stigmatized nature of public housing in the United States and the impact of this stigma on public opinion and political will.

Walter et al. (2015) address the need for more robust policies and best practices to guide the public acquisition of vulnerable affordable housing properties. They look to Broward County, Florida, which includes the city of Miami, as a case study for the development of a tool to identify potential properties for acquisition. While affordable rental housing in cities across the United States is frequently sited in low-income neighborhoods to avoid pushback from wealthy homeowners, Broward County set a goal to increase affordable rental units in high-opportunity neighborhoods in an effort to deconcentrate poverty.

The authors note that there is little existing literature on strategies for the acquisition of affordable rental housing, especially for properties located in high-opportunity neighborhoods and not receiving federal subsidies. What literature is available primarily addresses economic

costs and benefits, but does not address the social concerns that are important to housing authorities. That said, the authors' study "...outlines a geographic information system (GIS) data-driven method for acquiring properties that help meet the social, economic, and cultural objectives of inclusion through the geography of opportunity" (p. 125). The study and tool operationalize affordability and opportunity presented by prospective properties for acquisition by using a cost-per-square-foot parcel-level dataset and a census-block-level shapefile containing key indicators related to household income, educational attainment, job opportunities, commuting characteristics, environmental health risks, and crime rates. Using these indicators, they created an opportunity index. The tool's output shows the spatial distribution of potentially viable properties for acquisition.

Strategies Employed in the University District

One strategy that is already in place in Seattle's University District and that goes hand-in-hand with upzoning is Transfer of Development Rights (TDR). TDR programs allow "sending" sites to sell their unused development capacity to "receiving" sites located elsewhere. Linkous (2017) posits that the voluntary, market-based nature of TDR programs is their key selling point for those who are wary of more top-down forms of land use regulation, such as zoning and comprehensive planning. Despite the wide appeal of TDR programs, Linkous questions whether the process of capping and trading development capacity, a model borrowed from emissions trading, is broadly applicable to urban land markets. Using a TDR program in Sarasota, Florida as a case study, the author addresses two questions: "First, what attributes of urban land markets may impact TDR program design and function? Second, is TDR a planning tool that can achieve desired planning goals, given the conditions of land markets? (p. 1123). The Sarasota TDR program was selected as a case study because it has resulted in few transfers, which Linkous says is representative of TDR programs in the United States overall. The study finds that there are several land market attributes liable to affect TDR program function. The first is that they are sensitive to timing. Linkous states that "Although market responsiveness is recognized as a critical component

of a TDR program success, so is a stable and predictable market framework. The Sarasota case illustrates the elusiveness of finding a sweet spot between the competing priorities" (p. 1137). The second attribute is the fact that voluntary participation in a TDR program can be based on imperfect information and involves a degree of uncertainty and speculation about how future regulations may change the market. The third attribute is the unique nature of land features. The fourth attribute is the limited number of potential buyers and sellers, which can lead to monopolistic competition. The final attribute is the outsized influence of development interests in urban land markets. One caveat of this research is that it considers the relationship between TDR programs and land markets in a vacuum, without taking into account the moderating effects of other land use policies.

Another strategy that, like TDR, is also in place in the University District, is transit-oriented development (TOD). While not a strategy for preserving existing housing, TOD is frequently used to increase the overall housing supply adjacent to transit access, theoretically leading to more affordable housing prices. However, Kaniewska et al. (2024) notes an inherent conflict between the goals of transit-oriented development and its potential to drive up housing costs. They state that "Housing costs are reduced through high-density land uses that amortize land costs over more units and uses. Transportation costs are reduced by providing alternatives to private vehicle ownership and use through complementary land uses proximate to transit. These savings accrue, in part, from the availability of high-quality transit and walking opportunities within mixed-use TODs and surrounding neighborhoods. Yet, ironically, all these good effects could be negated if these same accessibility advantages drive up rents to the point where they are no longer affordable for lower-income households" (p. 1). After identifying 107 TODs across 24 regions across the United States using a set of eight criteria, Kaniewska et al. systematically analyze the affordability of the housing produced by these developments. The analysis, which was based on rental price data for the apartment buildings directly adjacent to rail stations collected through phone interviews, property websites, and commercial websites specializing in real estate, revealed that only 24% of TOD housing units were affordable to households earning between

50-80% of the area median income. The authors looked at both subsidized and naturally occurring affordable housing units and found that, for all affordable TOD units across the country, there was a roughly even split between the two, but that there was significant variation between markets, with some containing virtually no naturally occurring affordable housing. Similarly, the authors found significant variation across the country in the use of incentives and requirements to produce and protect affordable units in TODs, with most interventions being initiated at the city level and very few at the county, state, and national levels. These findings underscore the need to consider NOAH preservation strategies in the University District, where both TOD and upzoning have been implemented.

Lessons from Seattle and Beyond

In Seattle, a city that experiences significant seismic activity, questions regarding the preservation of older buildings cannot be addressed without also addressing the topic of unreinforced masonry buildings (URMs). Chalana and Wiser (2013) note that "In many communities early masonry buildings contribute greatly toward neighborhood character and sense of place, yet they mostly remain underappreciated and unprotected by historic preservation legislation" (p. 43). The authors address this tension, as well as the shortcomings of previous URM inventorying efforts, by undertaking the most comprehensive survey of commercial URMs in Seattle to date. Drawing on FEMA's 2005 guidelines titled Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning, they use county assessor data to identify all "possible," "probable," and "confirmed" URM buildings in Seattle. They identified 2,474 probable and confirmed URMs, 57% of which were absent from previous inventories by the city that had been based on exterior architectural features. Chalana and Wiser state that "although these buildings rarely have high levels of individual prominence or monumentality, they contribute as a whole to the city's historic fabric and are among the types of buildings that FEMA discussed in terms of their strong ability to reinforce a sense of neighborhood, comfort, and familiarity after a disaster" (p. 49).

Despite the social and historical importance of these "ordinary" buildings on the list of probable and confirmed URMs, the authors determined that only 19% of them had been seismically retrofitted. Given that "the load-bearing walls in URM construction perform poorly under the types of shear stresses that occur during earthquakes, due to their limited strength and ductility" (p. 44), this presents a cultural resource preservation issue for a city as seismically active as Seattle. Chalana and Wiser highlight two substantial obstacles to addressing this issue. First, "...there are no provisions for historic-preservation considerations in seismic upgrading, with the exception of buildings with an official historic designation" (p. 45). Second, "...the city government requires basic seismic upgrades only when undergoing substantial remodeling" (p. 46). Altogether, this suggests that there is an unmet need for city policies to support the integration of cultural resource preservation and hazard mitigation planning with regards to Seattle's URMs (figure 4).

Figure 4. 4105 Brooklyn Avenue NE. Example of a University District URM. Source: King County Department of Assessments.

In another study, Chalana (2016) considers the preservation of older, smaller buildings in Seattle's Pike/Pine neighborhood, specifically in the context of upzoning legislation. This neighborhood, a former auto industry site with compact buildings, became a host to small businesses and affordable housing units once the auto industry moved out of the city. In 2004, Pike/Pine was upzoned, which "...triggered widespread redevelopment, resulting in bigger and taller buildings and rapid loss of older buildings" (p. 182). In response, the city established the Pike Pine Conservation Overlay District (PPCOD), an example of a historic district alternative called a Neighborhood Conservation District (NCD), to preserve "...48 auto-row era character structures that were 75-plus years old, recognizing their role in accommodating small and affordable uses, sustaining local businesses, and creating walkable streetscapes" (p. 183). Chalana finds that the NCD left a majority of buildings more than 75 years old in the neighborhood unprotected and vulnerable to demolition as development activity in the neighborhood increased. Moreover, because of the particular incentive-based structure of the program, many of the buildings that it did protect were still effectively replaced through extensive interior rehabilitation, even as their facades remained intact. Perhaps more importantly, the NCD did not protect the neighborhood as a whole from gentrification or preserve the vibrant LGBTQ+ culture for which the neighborhood had long been known. Chalana suggests that "Communities considering an NCD to preserve the neighborhood character of older neighborhoods should consider a tighter and tiered incentive structure to encourage balance between old and new, and work to ensure that the implementation of the ordinance aligns closely with preservation goals" (p. 184).

Idziorek and Chalana (2019) also evaluate the application of three different tools – transit-oriented development (TOD), transfer of development rights (TDR), and Urban Design Frameworks (UDF) – in Seattle's University District and Uptown neighborhoods. They approach this topic through the lens of the "uneasy alliance" between planners and preservationists, who have historically been at odds with one another, largely due to conflicts and diverging perspectives related to mid-century urban renewal efforts. The authors express their hope that a burgeoning collaborative relationship between planners and preservationists might offer a way forward

to balance development pressure with preservation needs, especially for upzoned areas containing "...built stock over 50 years old [that] remains ineligible for protection by any kind of preservation legislation and is therefore vulnerable to new development projects striving to maximize the full built potential of now-available urban sites" (p. 320-21). They state that "Planners and preservationists are working toward finding common ground that furthers their disparate – but sometimes overlapping – goals of transforming older urban neighborhoods to achieve density, affordability, and equity while maintaining a sense of place. Yet unresolved issues remain as many proposed redevelopment sites comprise a repository of older buildings that help define neighbourhood identity and character while also providing spaces for small businesses and affordable housing for a diverse population" (p. 320).

In the case of the University District, Idziorek and Chalana address the potential for the transit-oriented development around the neighborhood's new light rail station to disrupt the preservation of built and social fabric. They note that very few of the neighborhood's older buildings are legally protected from demolition and that "...local historic value is characterized by the everyday heritage present in the eclectic mix of building types and uses that reflect the district's diverse population and its relationship to the university" (p. 330). While the University District's upzoning legislation includes both a TDR program and an Urban Design Framework, the authors find that these tools, as they are designed and implemented in the University District, are limited in their ability to protect the neighborhood's vulnerable older buildings from demolition and redevelopment. The TDR program, which is voluntary and structured around incentives, is limited because "...only a handful of the District's buildings are designated by the City as character structures eligible for participation in the TDR program" (p. 330). This means that many smaller, older buildings in the neighborhood that would benefit from reallocating their allowed density elsewhere cannot serve as TDR sending sites. Meanwhile, the Urban Design Framework provides guidelines to integrate new development into the existing built fabric, but does not address the preservation of existing buildings, nor does it make meaningful arguments for the retention of existing built stock or adaptive reuse incentive programs.

In the Uptown neighborhood, which was also upzoned in recent years, Idziorek and Chalana assess the impact of a TDR special zoning overlay district that Seattle's Office of Planning and Community Development created in response to community demand. They also evaluate the effectiveness of an Urban Design Framework developed by a community-led organization called Uptown Alliance. According to the authors, "Uptown developed as a multifamily district in the early 20th century, when the housing shortage following World War I precipitated a 1923 zoning ordinance that allowed for apartments, hotels and boarding houses to be intermixed with single-family homes. Many of the apartment buildings constructed during this time remain today and have become an important resource because they provide unsubsidized – but still relatively affordable – housing, also known as "naturally occurring affordable housing" (Chapple 2017) in a high-demand urban neighborhood" (p. 332). In light of this fact, "a specific concern of the community that arose during the uptown UDF process was the potential loss of Uptown's naturally occurring affordable housing due to the increased development pressure caused by a recent upzone" (p. 333). The UDF adopted a set of guiding principles to strive for affordable housing, a diverse range of housing types, and the centering of neighborhood history. The goals of the TDR overlay district were to preserve naturally occurring affordable housing (typically in the form of brick character buildings), allow for the upgrading and/or retrofitting of unreinforced masonry buildings, and to concentrate development in underutilized parts of the neighborhood that don't contain at-risk buildings. The authors not only find that the Uptown TDR program is hindered by its voluntary, incentive-based structure, as is also the case in the University District; they also find that the high proportion of unreinforced masonry buildings among the neighborhood's older built stock presents a financial obstacle to building owners' participation. They state that "...while the intent of the TDR is to conserve historic character and community culture while achieving equity and affordability, financial assistance is needed in addition to policy support for conserving structures that serve as naturally occurring affordable housing" (p. 334).

Overall, Idziorek and Chalana express that these programs in the case study neighborhoods represent progress toward the integration of planning and preservation goals, but that they

do not, in their current form, sufficiently protect everyday built heritage from the threat of redevelopment. While they commend the community engagement processes that informed the Urban Design Frameworks, they also say "the case studies demonstrate that incentives can only accomplish so much; integrating preservation goals into zoning regulations and requirements will provide more tangible outcomes" (p. 339). The authors then point to the example of the Los Angeles Adaptive Reuse Ordinance, which they say "encourages the adaptive reuse of historic buildings through regulatory exemptions while at the same time accommodating TOD" (p. 339).

The city of Los Angeles first adopted the Adaptive Reuse Ordinance (ARO) in 1999 to facilitate the reuse of its existing built fabric as an alternative to demolition and redevelopment. In 2024, to address the city's housing shortage crisis, the ARO was expanded and reborn as the Citywide Adaptive Reuse Ordinance, one component of a larger effort called the Citywide Housing Incentive Program. Crucially, support for the adaptive reuse of existing buildings is written into the zoning code itself, rather than layered on top of it. The Citywide Adaptive Reuse Ordinance Fact Sheet states that, while only buildings built before 1974 were eligible for adaptive reuse incentives under the original version of the ordinance, the updated version not only extends these incentives to all buildings at least fifteen years old (based on the Certificate of Occupancy issuance date), but also allows for a faster as-of-right approval process to convert them to new uses. Part of the reason this is possible is because of the flexibility built into the zoning; for example, while a typical adaptive reuse project would only allow space within the building's existing volume to be converted to housing units, the ARO considers any building to meet zoning code requirements in its current form and also allows for any configuration of units and unit sizes. Compared to the incentive-based conversions with strict floor-area ratio requirements in the Pike/Pine Conservation Overlay District in Seattle, these conversions would likely move ahead with much lower expenditures on rehabilitation and new materials. Moreover, they are less likely to fall prey to the same type of "facadism" that has plagued preservation efforts in the Pike/Pine neighborhood. The Fact Sheet emphasizes the importance of adaptive reuse for meeting citywide housing affordability and sustainability goals, noting that "repurposing buildings is an effective

way to create new housing opportunities while maintaining the existing sense of place" and that "even with the most energy-efficient new construction, it can take up to 80 years to recover the energy that went into the demolition, production, manufacture, and transportation of new building materials" (p. 2).

NOAH Case Studies

Bloomington, Minnesota

Bloomington, Minnesota, a suburb of Minneapolis, stands out as a success story in the preservation of naturally occurring affordable housing and exemplifies how "rehabilitating and preserving naturally occurring affordable housing can be more cost-effective than replacing lost units with newly constructed subsidized housing" (HUD Office of Policy Development and Research, 2022). After Minneapolis lost more than 1,800 NOAH units in 2017, Bloomington was inspired to pass the Opportunity Housing Ordinance. In addition to putting in place inclusionary zoning requirements, the ordinance created a $15 million Affordable Housing Trust Fund, available to projects of 20 or more units in which at least 9 percent of the units are considered to be affordable. This fund was able to provide a $7 million loan to nonprofit developer Aeon to purchase and rehabilitate the Village Club Apartments, a complex of 306 NOAH units that had fallen into disrepair, and proactively preserve all 306 units without displacing residents (Figure 5). It is worth noting that, when the Village Club Apartments property went on the market, it attracted substantial interest from for-profit investors whom Aeon was able to outcompete.

The Bloomington area also benefits from the NOAH Impact Fund, launched in 2007 by the Greater Minnesota Housing Fund, a statewide Community Development Financial Institution (The Preservation Compact, Community Investment Corporation, and Institute for Housing Studies at DePaul University, 2024). The NOAH Impact Fund raised $25 million from impact investors to fund 90% of the cost to preserve affordable units in opportunity areas.

Figure 5. A rehabilitated NOAH unit at Bloomington Meadows, formerly Village Club Apartments. Source: Aeon.

Cook County, Illinois

Cook County, which includes the city of Chicago, serves as a model for other counties in the state in their implementation of the Illinois Affordable Housing Special Assessment Program (The Preservation Compact, Community Investment Corporation, and Institute for Housing Studies at DePaul University, 2025). Eligible properties, which include NOAH properties, receive a significant reduction in their tax-assessed value in exchange for making a portion of the property's units affordable to households at 60 percent of the area median income. More than 1,000 properties in Cook County have enrolled in the program since its inception in 2021.

Washington, DC

In Washington, DC, the District Opportunity to Purchase Act (DOPA) requires that the city be authorized to purchase any property with five or more rental units and with at least 25 percent of units affordable to households earning 50 percent of the area median income (The Preservation Compact, Community Investment Corporation, and Institute for Housing Studies at DePaul University, 2024). The goal of this program is to facilitate the public acquisition of potentially at-risk affordable properties.

3. Methods

Overview of Analysis

This analysis uses various public datasets to summarize the change that has taken place in a study area within Seattle's University District since the 2017 upzoning legislation, both with regards to development capacity and development activity. These changes are then used as part of a set of criteria developed to identify buildings in the study area at heightened risk of demolition and/or redevelopment following the upzoning legislation.

Selection of Study Area

This research focuses on a subset of parcels within the University District, rather than on the neighborhood as a whole. The particular study area, which is bounded by NE 41st Street to the south, 15th Avenue to the east, NE 52nd Street to the north, and NE Roosevelt Way to the west, was selected for several reasons. First, the study area surrounds the U District Light Rail station and roughly includes the station's walkshed. The rationale for the use of this criterion in selecting the study area is that transit walksheds represent unique opportunities to connect middle- and low-income renters with employment opportunities and also tend to increase the desirability of housing within their bounds. Therefore, transit walksheds provide an interesting lens through which to study changes in housing affordability. Second, the study area contains a wide range of zoning districts with a diversity of development standards (figure 6). There are fifteen unique zoning designations present in the study area in addition to the Station Area Overlay Zone, which overlays and modifies the development standards of some study area parcels, but not others. Third, the study area contains a diversity of building typologies and building ages (figure 7). Therefore, the selected study area can be viewed as a microcosm of the neighborhood's rezone and of the neighborhood's overall character. Finally, the study area has a high concentration of urban design features representing the overall vision for the neighborhood outlined in the University District Neighborhood Design Guidelines, and therefore provides a prime

opportunity to evaluate the extent to which the neighborhood has realized this vision since the rezone (figures 8 and 9).

Analysis of Change in Development Capacity

The first step in the analysis was to measure the change in development capacity in the study area from the period preceding the upzoning legislation to the period following the upzoning legislation. Development capacity was measured using two dimensional qualities – height and floor-area ratio – because both influence the number of housing units that can be built on a parcel and both were updated for many parcels as part of the upzoning process.

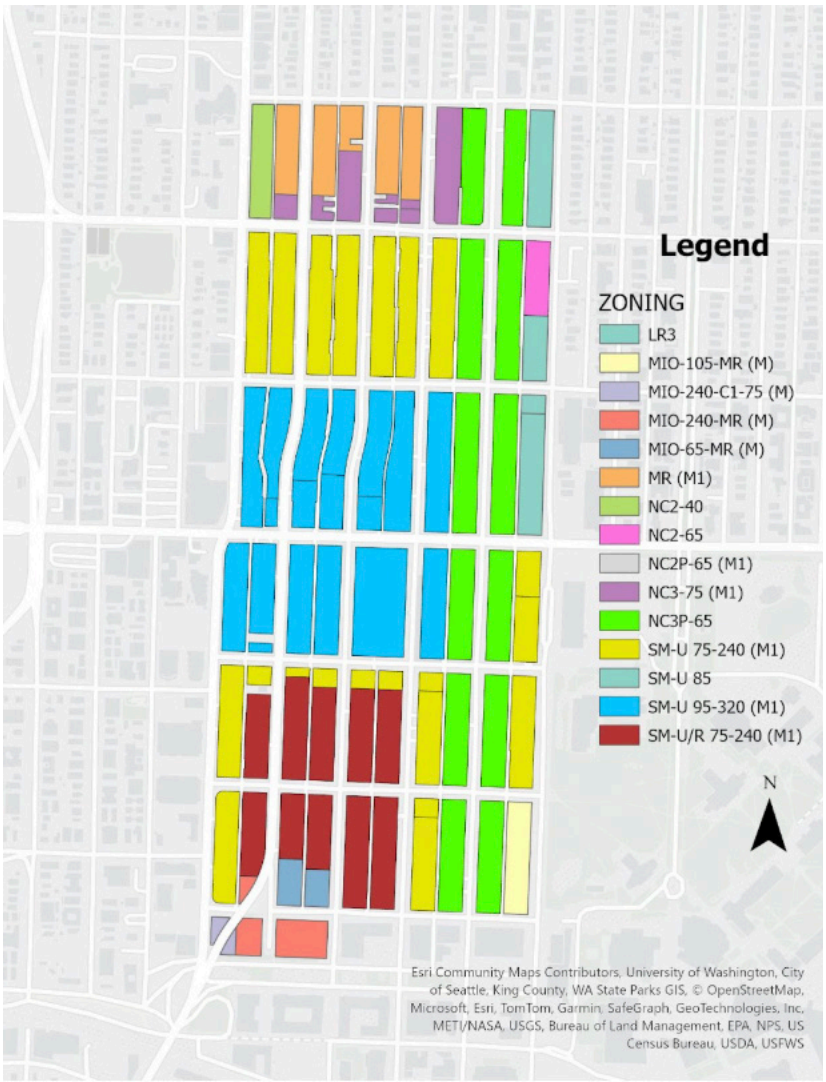

Figure 6. Current zoning map of the study area. Original map by the author.

To do this, a dataset was created containing the pre- and post-upzoning dimensional qualities for all of the unique zoning districts within the study area (figure 10). The zoning districts were identified by overlaying a shapefile of the Current Land Use Zoning Detail from the City of Seattle onto the study area in ArcGIS Pro. The Current Land Use Zoning Detail shapefile contains historical zoning data, which was used to determine which parcels had and had not been rezoned in 2017. For each unique zoning district, the percent change in

Figure 7. Example of contrasting buildings seen from Brooklyn Avenue NE. Original image by the author.

Figure 8. Privately-owned public space on Brooklyn Avenue NE. Original image by the author.

Figure 9. Privately-owned public space across Brooklyn Avenue NE from the U District light rail station. Original image by the author.

height and the percent change in floor-area ratio from pre- to post-upzoning were calculated. The dataset was then joined with the study area zoning map in ArcGIS Pro to visualize the development capacity change on maps. Finally, the Intersect tool in ArcGIS Pro was used to join the parcel data with the development capacity change data to show change in allowed floor area ratio and change in allowed building height for each parcel in the study area.

ObjectID	Station Area Overlay?	Rezoned 2017?	Pre-2017 Zoning	PreZoneName	Post-2017 Zoning	PostZoneName	PreHeight	PostHeight	%ChangeHeight	PreFAR	PostFAR	%ChangeFAR
20	No	No	NC2-40	Neighborhood Commercial 2 - 40	NC2-40	Neighborhood Commercial 2 - 40	40	40	0%	3.0	3.0	0%
2	No	Yes	LR3	Residential, Multifamily, Lowrise 3	MR (M1)	Midrise	50	80	60%	1.5	4.5	200%
28	No	Yes	LR3	Residential, Multifamily, Lowrise 3	NC3-75 (M1)	Neighborhood Commercial 3 - 75	50	75	50%	1.5	5.5	267%
18	No	Yes	NC3-65	Neighborhood Commercial 3 - 65	NC3-75 (M1)	Neighborhood Commercial 3 - 75	65	75	15%	4.5	5.5	22%
15	No	Yes	LR3 RC	Residential-Commercial, Multifamily, Lowrise 3	NC3-75 (M1)	Neighborhood Commercial 3 - 75	50	75	50%	1.5	5.5	267%
19	No	No	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	65	65	0%	4.5	4.5	0%
1	No	No	LR3	Residential, Multifamily, Lowrise 3	LR3	Residential, Multifamily, Lowrise 3	50	50	0%	1.5	1.5	0%
26	No	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
25	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
17	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
27	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
23	Yes	No	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	65	65	0%	4.5	4.5	0%
3	Yes	No	NC2-65	Neighborhood Commercial 2 - 65	NC2-65	Neighborhood Commercial 2 - 65	65	65	0%	4.5	4.5	0%
21	Yes	No	LR3	Residential, Multifamily, Lowrise 3	LR3	Residential, Multifamily, Lowrise 3	50	50	0%	1.5	1.5	0%
10	Yes	Yes	NC3-85	Neighborhood Commercial 3 - 85	SM-U 95-320 (M1)	Seattle Mixed - University Community Urban Center - 95-320	85	320	276%	5.75	12	109%
6	Yes	Yes	NC3-85	Neighborhood Commercial 3 - 85	SM-U 95-320 (M1)	Seattle Mixed - University Community Urban Center - 95-320	85	320	276%	5.75	12	109%
30	Yes	Yes	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	SM-U 95-320 (M1)	Seattle Mixed - University Community Urban Center - 95-320	65	320	392%	4.5	12	167%
22	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 85	Seattle Mixed - University Community Urban Center - 85	65	85	31%	4.5	6	33%
24	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 85	Seattle Mixed - University Community Urban Center - 85	65	85	31%	4.5	6	33%
29	No	Yes	C1-65	Commercial 1 - 65	SM-U 95-320 (M1)	Seattle Mixed - University Community Urban Center - 95-320	65	320	392%	4.5	12	167%
14	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
8	Yes	Yes	NC3P-65	Neighborhood Commercial Pedestrian 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
5	No	Yes	C1-65	Commercial 1 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
16	Yes	Yes	NC3-65	Neighborhood Commercial 3 - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%
13	Yes	Yes	MR	Midrise	SM-U/R 75-240 (M1)	Seattle Mixed - University Community Urban Center/Residential - 75-240	60	240	300%	3.2	10	213%
12	Yes	Yes	NC3P-65	Neighborhood Commercial 3 Pedestrian - 65	SM-U 75-240 (M1)	Seattle Mixed - University Community Urban Center - 75-240	65	240	269%	4.5	10	122%

Figure 10. Development Capacity Change Dataset.

Analysis of Post-Rezone Development Activity

To analyze the development activity that has taken place within the study area since the upzoning legislation went into effect in February of 2017, a list of all building permits issued by the city was first pulled from the City of Seattle Open Data Portal. This dataset was then cleaned in Excel to include only those permits issued for multifamily residential projects within the study area's zip code (98105). Permits for which applications were submitted prior to February of 2017 were also excluded. Next, using parcel number and address, this list was cross-referenced with King County Assessor data for all parcels within the study area to exclude from the list of permits those issued for parcels outside the study area. Then, this dataset was further cleaned to remove all cancelled and withdrawn permits.

Identification of Probable NOAH Properties

One of the goals of this paper is to determine the current status of NOAH properties in the study area and to understand whether and to what extent they have been impacted or are likely to be impacted in the future by development pressure spurred by upzoning. While there is no universally agreed upon definition of naturally occurring affordable housing, nor publicly available historical rental price data for buildings within the study area, two criteria, informed by the literature, were used to identify properties that are likely instances of NOAH:

1. *Privately owned and unsubsidized*
    - Publicly owned or subsidized buildings are, by defintion, not naturally occurring affordable housing.
2. *Built before 1975*
    - Idziorek and Chalana (2019) refer to "...built stock over 50 years old [that] remains ineligible for protection by any kind of preservation legislation and is therefore vulnerable to new development projects striving to maximize the full built potential of now-available urban sites" (p. 320-21). For the purpose of this analysis, buildings more than 50 years old as of 2025, i.e., buildings built prior to 1975, are interpreted as having the potential to be naturally occurring affordable housing.

To apply these criteria to the parcels in the study area, Parcel ID and address were used to cross-reference the parcel data with a publicly available map called "Affordable Units in Market-Rate Buildings in Seattle" that identifies all properties containing subsidized housing in the city. Six properties containing subsidized housing were then excluded from the parcel dataset. Next, the data were cleaned to include only multifamily residential parcels. Among residential housing types, the cleaned dataset included apartments, condominiums, duplexes, triplexes, fourplexes, and rooming houses; single-family houses, townhouses, and properties explicitly labeled as student housing were excluded. Finally, property reports for this dataset containing a total of

136 unsubsidized multifamily residential units were pulled from the King County Assessor's website to identify the year built for each property. The dataset was then filtered to exclude buildings constructed after 1975.

Analysis of Redevelopment Risk Status of Existing Rental Housing

To better understand the need for preservation efforts within the study area, set of criteria was then developed to gauge the demolition and/or redevelopment risk status of the properties identified as probable NOAH. Risk status is expressed as an integer from 0 to 4, based on the number of criteria met by a given building. The criteria are as follows:

1. *12 units or fewer*
    - It is understood by researchers that property owners often pass the cost of building maintenance on to their tenants through rent increases (Elliott, 2023). Therefore, logic suggests that smaller buildings with fewer tenants to absorb rental price increases, and to generate revenue for the property owner more generally, may be more vulnerable to redevelopment due to financial pressures on the property owner. The literature specifically highlights the redevelopment risk of 2-4 unit buildings, but because multifamily residential buildings this small are uncommon in the University District, this analysis uses a slightly higher threshold for number of units indicating elevated redevelopment risk (The Preservation Compact, Community Investment Corporation, and Institute for Housing Studies at DePaul University, 2024).
2. *Unreinforced masonry building*
    - According to the literature, retrofitting URMs for seismic activity can present a significant financial challenge to property owners (Idziorek and Chalana, 2019). Therefore, it is reasonable to assume that property owners collecting rents below the market standard may be more likely to sell their properties for redevelopment if the properties are URMs.

3. *Located in a zone with a high percent change in development capacity*

- This analysis assumes that probable NOAH properties located in a zone with a high percent change in development capacity are at increased risk for redevelopment because of a large gap between current and allowed development intensity. This is measured using the development capacity change maps created as part of this analysis.

4. Located on a block with other development activity

- The literature recommends that upzoning be geographically distributed across neighborhoods, based on the concern that concentrations of new development or redevelopment may signal gentrification and attract additional development interest (Phillips, 2020). For the purpose of this analysis, it is assumed that the same concern is applicable within a single neighborhood, and that instances of development might act as a magnet for future development on a given block. This is measured using the development activity maps created as part of this analysis.

Comparison to Historic Resource Survey

It should be noted that, in 2002, a survey of historic buildings, though not necessarily NOAH, was conducted in the University District (City of Seattle Department of Neighborhoods, 2002). Field survey forms and photographs were collected for 600 buildings built before 1962, making them at least 40 years old at the time of the survey. From these 600, the list was narrowed down using the following criteria:

- High or medium integrity
- Architectural style including outstanding and representative examples and design quality
- Known historical or cultural significance
- Geographical representation (with the respect to different sections of the neighborhood)
- Inclusion of some early buildings (pre-1906)
- Inclusion of some modern buildings (1940s-1962)
- Representative building types (commercial, apartments, single family, etc.)

The goals of the Historic Resource Survey differ from those of the survey of probable NOAH properties in this analysis, in that this analysis explores only multifamily residential buildings and generates a list of buildings whose historical or cultural significance would likely not be apparent to surveyors. However, it is useful to review the Historic Resource Survey in the context of this study to understand the approach taken to develop a set of criteria for identifying a particular, yet ill-defined class of buildings in the neighborhood. The Historic Resource Survey also provides useful context for understanding ongoing efforts in Seattle's neighborhoods to think critically about which buildings are worthy of preservation.

Application of Risk Assessment Criteria

To apply these criteria to the set of probable NOAH properties, a scoring sheet was created with columns for each of the five risk criteria listed above. Each criterion has columns for its actual value for each parcel and for a binary score to convert the value to a quantitative indicator of risk. A score of '1' indicates that a property meets a criterion, and a score of '0' indicates that it does not. The scoring sheet also contains a "total" column with the total score across all criteria for each parcel. A score of '0' indicates the minimum level of risk of redevelopment for a given parcel, and a score of '5' represents the maximum risk level. Next, the dataset containing the probable NOAH properties was joined, using Parcel ID as the common attribute, with the GIS layer containing parcel data for the study area. Geoprocessing tools were used to isolate the study area parcels containing probable NOAH properties. Then the scoring process proceeded as follows:

1. *12 units or fewer*
    - The number of housing units on each probable NOAH property was taken from the King County Parcel Viewer and manually entered into the scoring sheet to determine a "Units score" for each parcel.
2. *Unreinforced masonry building*

- A shapefile containing point data for unreinforced masonry buildings in Seattle, made public by the Seattle Department of Construction and Inspections, was joined with the GIS layer containing the probable NOAH property parcel data. This spatial join revealed the study area parcels containing both a probable NOAH property datapoint and a URM data point. The Parcel IDs for each of these parcels was then cross-referenced with the Parcel IDs in the scoring sheet to input a "URM score" for each parcel.

3. *Located in a zone with a high percent change in development capacity*
    - The GIS layer containing parcel data for the probable NOAH properties was added to the allowed floor area ratio change map and the allowed height change map created as part of the change in development capacity analysis. The Parcel ID for any probable NOAH property located inside the darkest green zones on either of these two maps, indicating the maximum change in development capacity following the 2017 upzone, was matched with the Parcel IDs in the scoring sheet to input a "DevCap change score."
4. *Located on a block with other development activity*
    - For the purpose of this analysis, a probable NOAH property is considered to meet this criterion if it is located on the same block as any parcel for which a construction or demolition permit has been issued since February of 2017. The dataset containing cleaned permit data for parcels in the study area was joined with the GIS layer containing parcel data for the study area, using Parcel ID as the common attribute. Then, parcels for which permits were issued were filtered to include only those with permits issued for new construction or demolition (i.e., parcels with permits issued for additions or alterations were excluded). Finally, the GIS layer containing probable NOAH properties was overlaid onto this map. The Parcel IDs for each probable NOAH located on the same block as an instance of development activity were then cross-referenced with the Parcel IDs in the scoring sheet to input a "DevActivity score" for each parcel.

Once the scoring process was completed, the scoring sheet was joined with the GIS layer containing all the study area parcels using the Parcel ID as the common attribute. The symbology of the parcel data map was then changed to the redevelopment risk score for each probable NOAH property using graduated colors.

4. Results

Results for Analysis of Change in Development Capacity

The analysis of the change in development capacity in the study area from before and after the implementation of the upzoning legislation revealed a concentrated increase in permitted floor area ratio north of NE 50th Street (figure 11). The buildings in this cluster were rezoned from LR3 and LR3 RC, which allow for a floor area ratio of 1.5, to NC3-75 (M1), which allows for a floor area ratio of 5.5. This amounts to a 267% increase. Other changes in floor area ratio throughout the study area were modest by comparison, but still significant.

For change in allowed building height, the analysis revealed significant increases throughout the neighborhood, with the greatest increases of more than 300% between NE 43rd Street and NE 47th Street (figure 12). The buildings with the greatest change in allowed height were rezoned from NC3P-65 and C1-65, which both allowed for building heights of 65 feet, to SM-U 95-320 (M1), which allows for building heights of 320 feet. The buildings along the commercial corridor of University Way, known colloquially as “The Ave,” were not upzoned.

Results for Change in Development Activity

The analysis of the building permits for multifamily residential properties within the study area issued for applications submitted after February of 2017 revealed twenty instances of development activity (figure 13). Among these twenty permits, two were issued for demolitions and five were issued for new construction. The other thirteen permits issued were for additions or alterations. Altogether, eight existing housing units were authorized for demolition and 843 new housing units were authorized for construction.

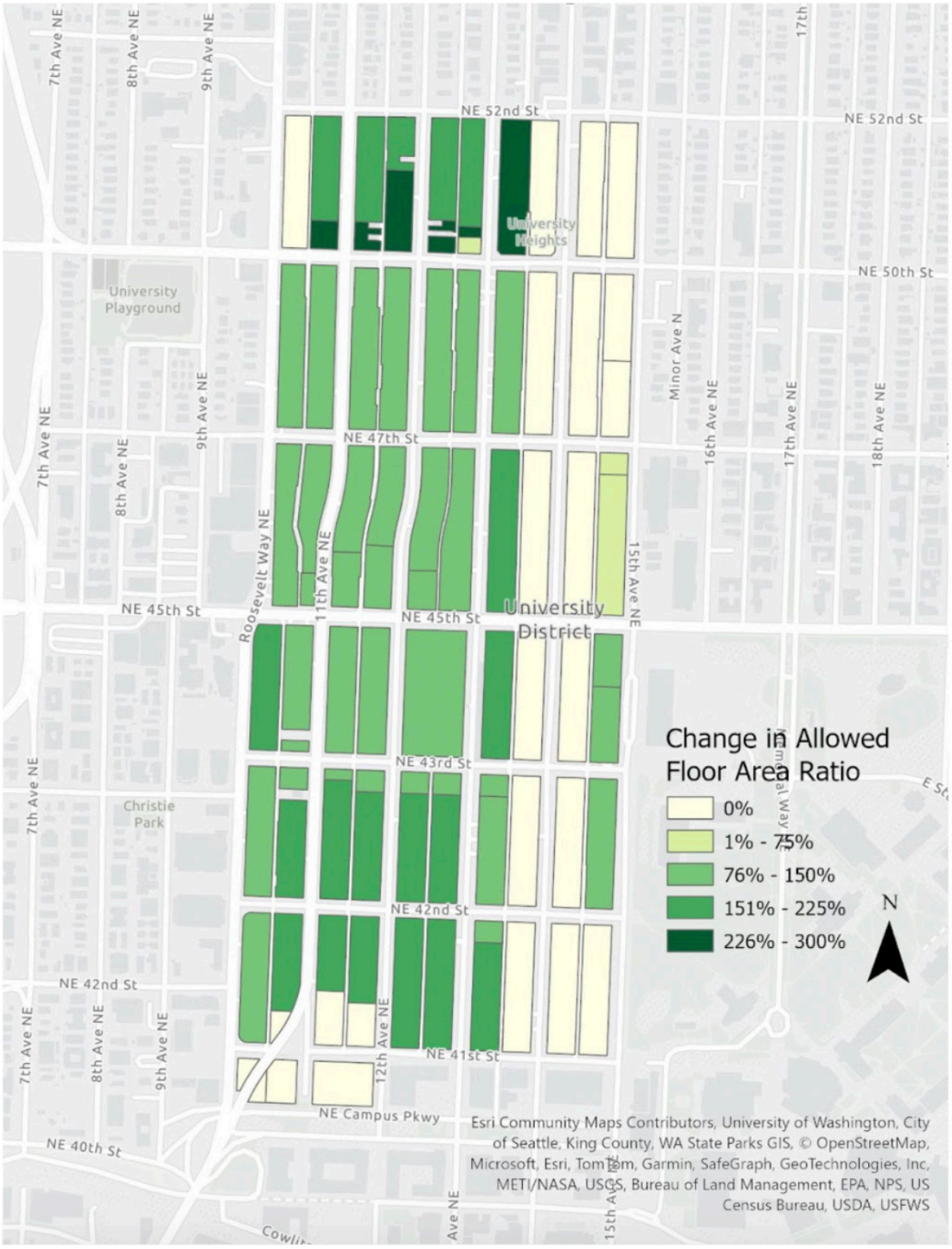

Figure 11. Change in allowed floor area ratio by study area zoning district. Original map by the author.

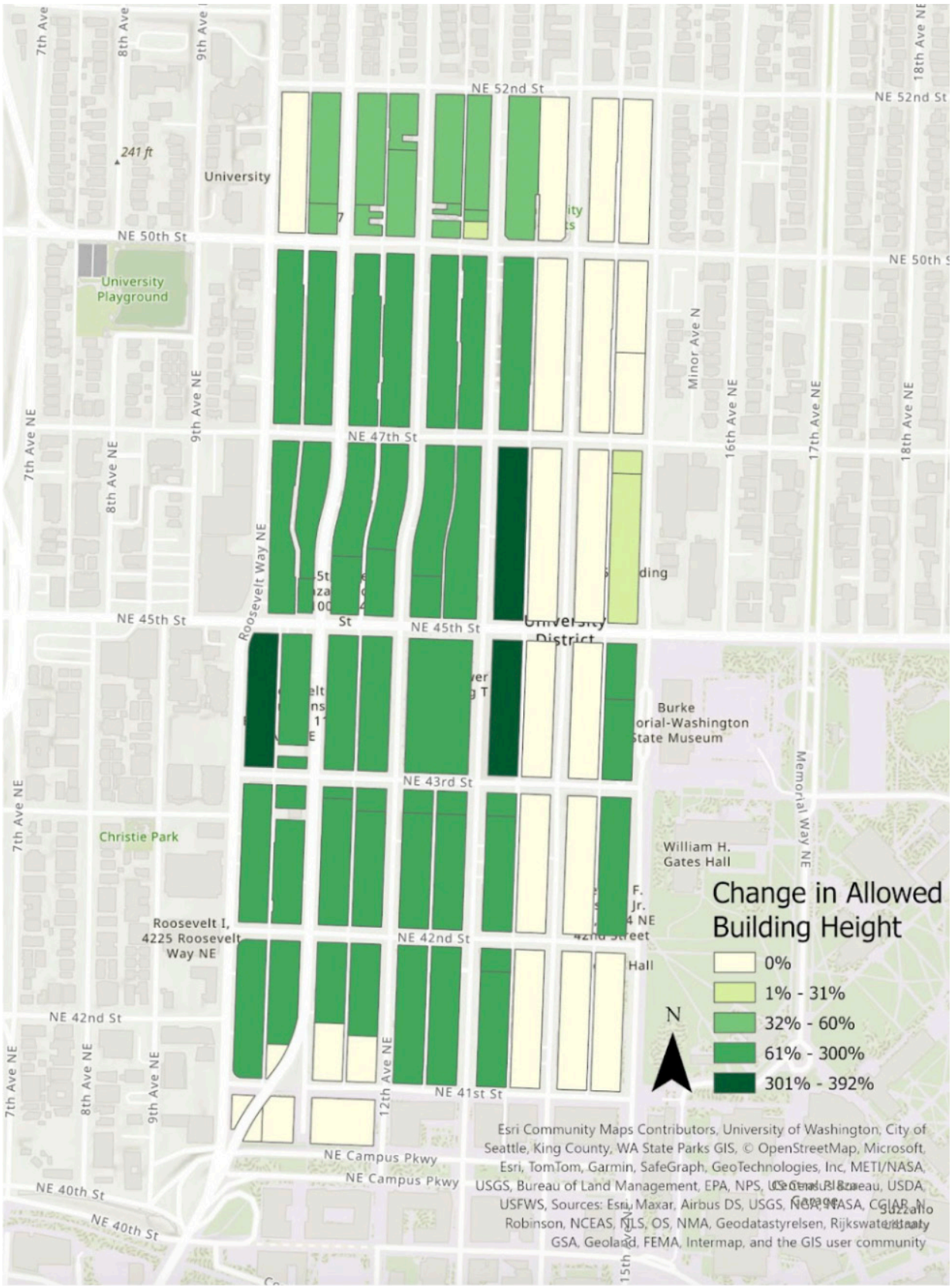

Figure 12. Change in allowed building height by study area zoning district. Original map by the author.

ParcelNum	Address	PermitNum	PermitClass	PermitClassMapped	PermitTypeMapped	PermitTypeDesc	Description	HousingUnits	UnitsRemoved	UnitsAdded	AppliedDate	IssuedDate	ExpiresDate	CompletedDate	StatusCurrent
1142001390	4144 UNIVERSITY WAY NE	6906458-DM	Multifamily	Residential	Demolition	Demolition	Demolition of existing building, subject to field inspection, STFI	5	5	0	6/19/2022	6/27/2022	12/27/2023	1/4/2024	Completed
1142001515	4141 BROOKLYN AVE NE	6673926-CN	Multifamily	Residential	Building	Addition/Alteration	Construct exterior alterations to all floors of existing apartment building, per plan.	0	0	0	12/28/2018	4/15/2019	4/15/2022		Expired
1142001525	4135 BROOKLYN AVE NE	7043280-CN	Multifamily	Residential	Building	Addition/Alteration	Construct exterior alterations to existing multifamily building, remove and replace siding and windows, per plan.	21	0	0	11/5/2024	3/14/2025	9/14/2026		Issued
1142001535	4131 BROOKLYN AVE NE	7043441-CN	Multifamily	Residential	Building	Addition/Alteration	Construct exterior alterations to existing multifamily building, remove and replace siding and windows, per plan.	35	0	0	11/5/2024	3/18/2025	9/18/2026		Issued
1142001650	4139 12TH AVE NE	6736934-RR	Multifamily	Residential	Roof		Reroof permit				7/9/2019	7/9/2019	1/9/2021		Expired
1142001770	4145 11TH AVE NE	7056169-CN	Multifamily	Residential	Building	Addition/Alteration	Construct alterations to repair apartment unit 36 from fire damage, subject to field inspection, STFI.				11/13/2024	11/26/2024	5/26/2026		Issued
1142001780	4131 11TH AVE NE	6672053-CN	Multifamily	Residential	Building	Addition/Alteration	Construct alterations to portions of an existing minor communications antenna facility (T-Mobil), per plans	0	0	0	9/26/2018	10/17/2018	4/17/2020	8/27/2019	Completed
1142000445	4311 12TH AVE NE	6690340-RR	Multifamily	Residential	Roof		Re-roof multifamily building.				9/25/2018	9/25/2018	3/25/2020		Expired
1142000500	1107 NE 45TH ST	6859479-CN	Multifamily	Residential	Building	Addition/Alteration	Shoring and excavation for future high-rise mixed-use apartment building, per plan.				5/9/2023				Corrections Required
1142000525	1013 NE 45TH ST	6826950-CN	Multifamily	Residential	Building	New	Construct shoring & excavation for new mixed-use high rise building, per plan.	0	0	370	6/1/2022				Corrections Required
1142000930	4225 BROOKLYN AVE NE	6924300-CN	Multifamily	Residential	Building	Addition/Alteration	Construct repairs in kind and replace fixtures and finishes in existing Apartment Building at all units, per plan.	0	0	0	10/27/2022	1/31/2023	7/31/2024	7/19/2023	Completed
1142000945	4220 12th Ave NE	6693250-CN	Multifamily	Residential	Building	New	Shoring and Excavation for construction of two retail and residential towers with common below grade parking, per plan	0	0	0	10/2/2019	2/2/2021	2/2/2024	9/20/2023	Completed
1142000950	4220 12th Ave NE	6722466-PH	Multifamily	Residential	Building	New	Phased construction of two residential and retail towers with common below grade parking and occupy, per plan	0	0	402	12/2/2019	2/2/2021	2/2/2024	12/21/2023	Completed
1142001140	1305 NE 43RD ST	6928024-CN	Multifamily	Residential	Building	Addition/Alteration	Establish minor telecommuncation facility, per land use code. Install fully screened panel antennas (Dish Wireless) and equipment platform at roof of existing multifamily building (Manor Appartments), and occupy per plan.	0	0	0	5/9/2023	8/10/2023	2/10/2025	8/12/2024	Completed
8881500000	4235 BROOKLYN AVE NE	6819523-CN	Multifamily	Residential	Building	Addition/Alteration	Construct tenant improvements to expand unit #205 on 2nd-story of existing apartment structure, subject to field inspection (STFI)				1/19/2021	1/20/2021	7/20/2022	2/24/2021	Completed
6746701020	4746 11TH AVE NE	7060049-CN	Multifamily	Residential	Building	Addition/Alteration	Construct exterior envelope improvements to an existing mixed-use building, per plans	40	0	0	2/13/2025				Corrections Required
6746701715	5031 11TH AVE NE	6794548-CN	Multifamily	Residential	Building	New	Establish use as and construct a multifamily building, occupy per plans	0	0	32	4/20/2022				Corrections Required
6746701720	5035 11TH AVE NE	6923271-DM	Multifamily	Residential	Demolition	Demolition	Demolish existing triplex, per plan	0	3	0	10/19/2022				Ready for Issuance
6746701730	5039 11th Ave NE	6711254-CN	Multifamily	Residential	Building	New	Establish use as and construct apartment, occupy per plan.	0	0	49	9/26/2019				Corrections Required
8817400180	5001 BROOKLYN AVE NE	6732875-CN	Multifamily	Residential	Building	Addition/Alteration	Change use from general retail sales and service to eating and drinking establishment, and construct initial tenant improvements for café at ground floor of commercial building, occupy per plan.	0	0	0	9/24/2019	12/3/2019	6/3/2021	7/22/2020	Completed

Figure 13. Dataset showing analysis of change in development activity within the study area.

Results for Identification of NOAH Properties

The analysis of parcel data for the study area revealed 80 properties that are likely to provide naturally occurring affordable housing (figure 14). While data on the number of units was not available for every property, this analysis was able to confirm that these probable NOAH properties provide at least 1,561 housing units.

Results for Analysis of Redevelopment Risk Status of Probable NOAH Properties

1. 12 Units or Fewer

The first criterion for determining redevelopment risk revealed 7 probable NOAH properties within the study area containing 12 units or fewer (figure 15).

2. Unreinforced Masonry Building

The second criterion for determining redevelopment risk revealed 15 probable NOAH properties in the study area that are unreinforced masonry buildings (figure 16).

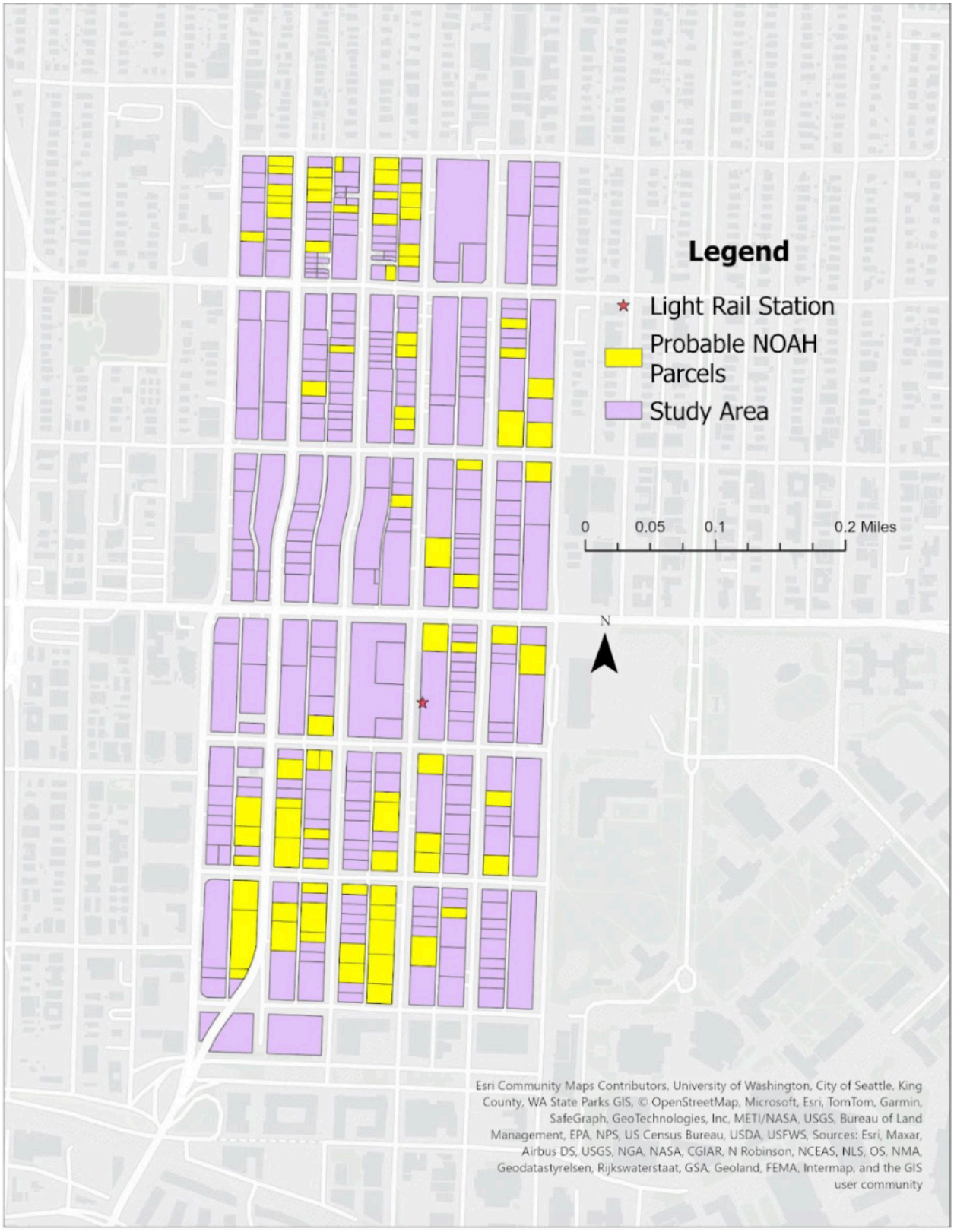

Figure 14. Parcels within the study area containing probable NOAH properties. Original map by the author.

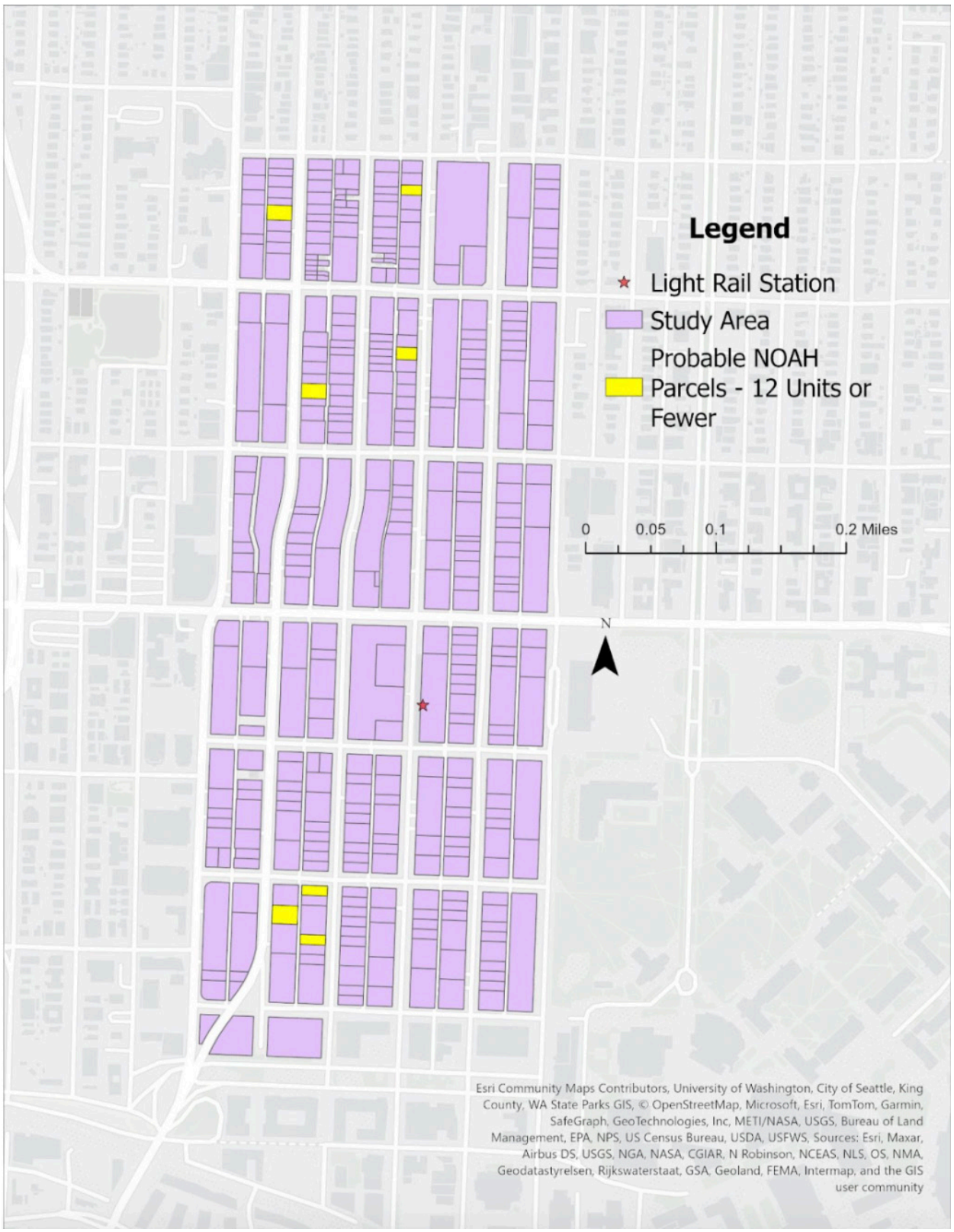

Figure 15. Probable NOAH properties in the study area containing 12 units or fewer. Original map by the author.

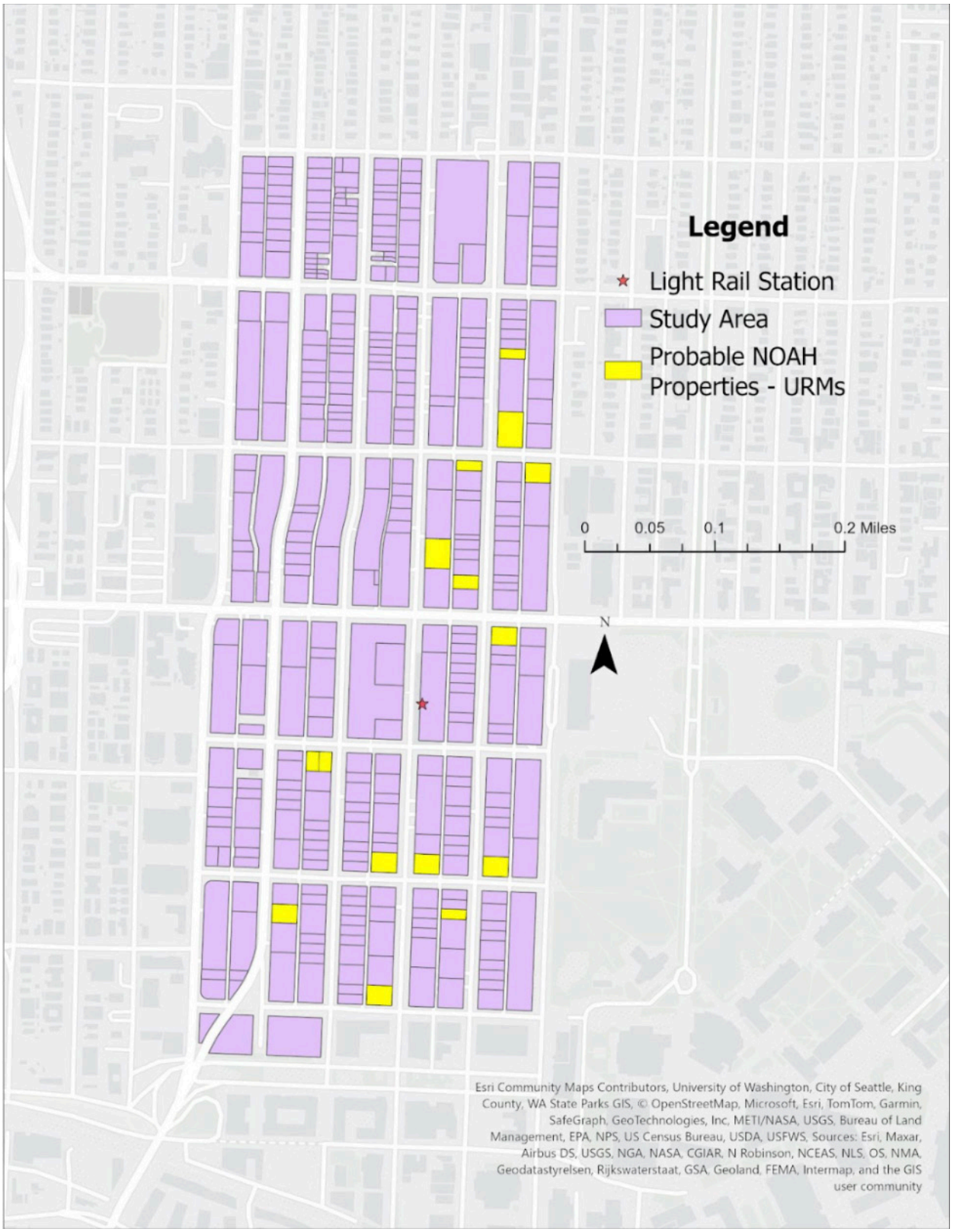

Figure 16. Probable NOAH properties in the study area that are unreinforced masonry buildings. Original map by the author.

3. Located in a zone with a high percent change in development capacity

The third criterion for determining redevelopment risk revealed 4 probable NOAH properties in the study area located in the zones with the greatest proportional change in allowed floor area ratio or allowed height following the 2017 upzone (figure 17).

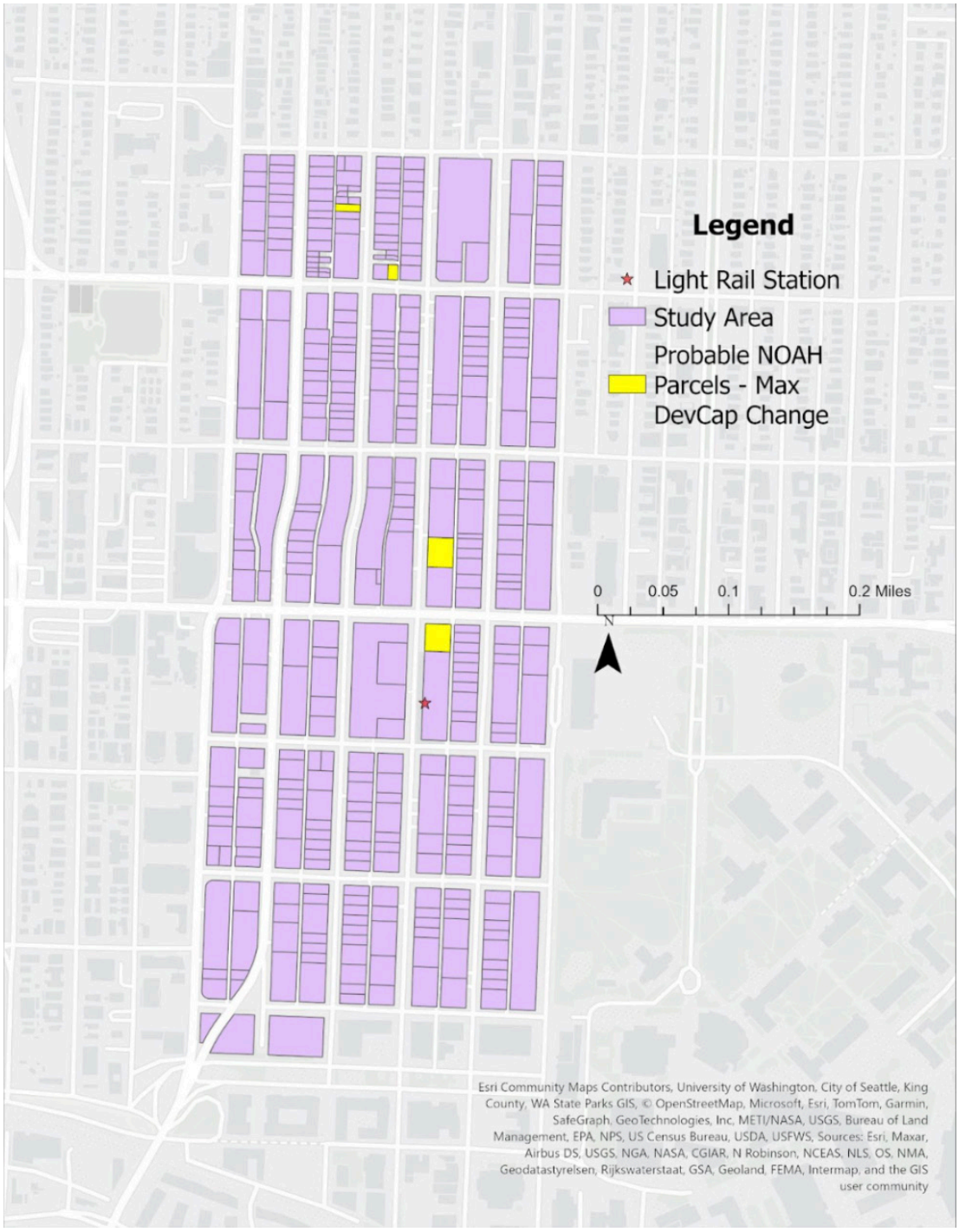

Figure 17. Probable NOAH properties in the study area that are located in a zone with the maximum change in development capacity. Original map by the author.

4. Located on a block with other development activity

The fourth criterion for determining redevelopment risk revealed 9 probable NOAH properties in the study area located on the same block as a permit issued for new construction or demolition since February of 2017 (figure 18). It should be noted that 2 adjacent parcels in the northwest corner of the study area containing probable NOAH properties were the direct recipients of these permits, with one issued for demolition and the other for new construction.

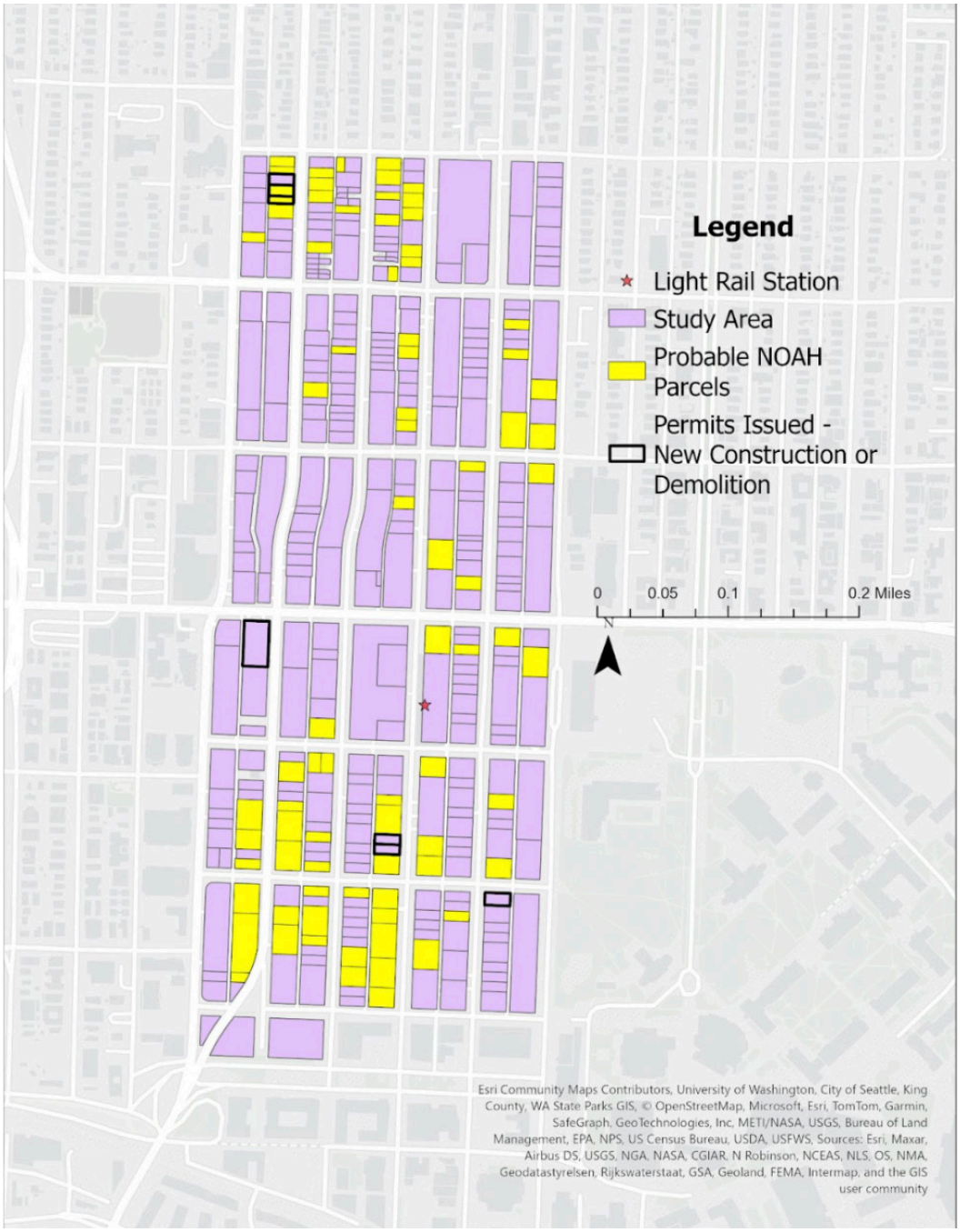

Figure 18. Map showing all probable NOAH properties in the study area that are located on a block containing a parcel for which a demolition or new construction permit was issued sometime after February of 2017.

The scoring sheet for the four redevelopment risk criteria revealed an overall moderate level of risk for probable NOAH properties in the study area, with an average redevelopment risk score of 0.76 out of a possible score of 4 (figure 19). No probable NOAH properties within the study area were determined to have a risk score higher than 2 (figures 20 and 21). The map of probable NOAH properties within the study area colored according to redevelopment risk score showed a fairly even distribution of risk across study area (figure 22).

Probable NOAH Properties

ParcelNum	Address	# Units	Units Score	URM?	URM Score	DevCap Change: FAR	Change: Height	DevCap Change Score	DevActivity?	DevActivity Score	TOTAL
1142001405	4137 UNIVERSITY WAY NE	N/A	0	Yes	1	No	No	0	No	0	1
1142001475	4120 BROOKLYN AVE NE	41	0	No	0	No	No	0	No	0	0
1142001515	4141 BROOKLYN AVE NE	32	0	No	0	No	No	0	No	0	0
1142001525	4135 BROOKLYN AVE NE	21	0	No	0	No	No	0	No	0	0
1142001535	4131 BROOKLYN AVE NE	40	0	No	0	No	No	0	No	0	0
1142001560	4115 BROOKLYN AVE NE	48	0	No	0	No	No	0	No	0	0
1142001570	4105 BROOKLYN AVE NE	35	0	Yes	1	No	No	0	No	0	1
1142001590	4110 12TH AVE NE	23	0	No	0	No	No	0	No	0	0
1142001600	4116 12TH AVE NE	27	0	No	0	No	No	0	No	0	0
1142001635	1205 NE 42ND ST	7	1	No	0	No	No	0	No	0	1
1142001640	1113 NE 42ND ST	10	1	No	0	No	No	0	No	0	1
1142001650	4139 12TH AVE NE	46	0	No	0	No	No	0	No	0	0
1142001665	4127 12TH AVE NE	11	1	No	0	No	No	0	No	0	1
1142001725	4120 11TH AVE NE	29	0	No	0	No	No	0	No	0	0
1142001740	4134 11TH AVE NE	11	1	Yes	1	No	No	0	No	0	2
1142001770	4145 11TH AVE NE	51	0	No	0	No	No	0	No	0	0
1142001780	4131 11TH AVE NE	73	0	No	0	No	No	0	No	0	0
1142001810	4111 11TH AVE NE	4	1	No	0	No	No	0	No	0	1
1142000015	4337 15TH AVE NE	123	0	No	0	No	No	0	No	0	0
1142000120	4346 UNIVERSITY WAY NE	N/A	0	Yes	1	No	No	0	No	0	1
1142000135	4339 UNIVERSITY WAY NE	N/A	0	No	0	No	No	0	No	0	0
1142000235	1301 NE 45TH ST	N/A	0	No	0	No	Yes	1	No	0	1
1142000450	1120 NE 43RD ST	40	0	No	0	No	No	0	No	0	0
1142000575	4307 11TH AVE NE	N/A	0	No	0	No	No	0	No	0	0
1142000655	4237 11TH AVE NE	N/A	0	No	0	No	No	0	No	0	0
1142000670	4225 11TH AVE NE	32	0	No	0	No	No	0	No	0	0
1142000690	4211 11TH AVE NE	2	1	No	0	No	No	0	No	0	1

Figure 19. The redevelopment risk scoring sheet for all probable NOAH properties in the study area.

Figure 20. 4134 11th Avenue NE. Example of a 1926 probable NOAH property with a redevelopment risk score of 2. Source: King County Department of Assessments.

Figure 21. 1113 NE 42nd St. Example of a 1957 probable NOAH property with a redevelopment risk score of 1. Source: King County Department of Assessments.

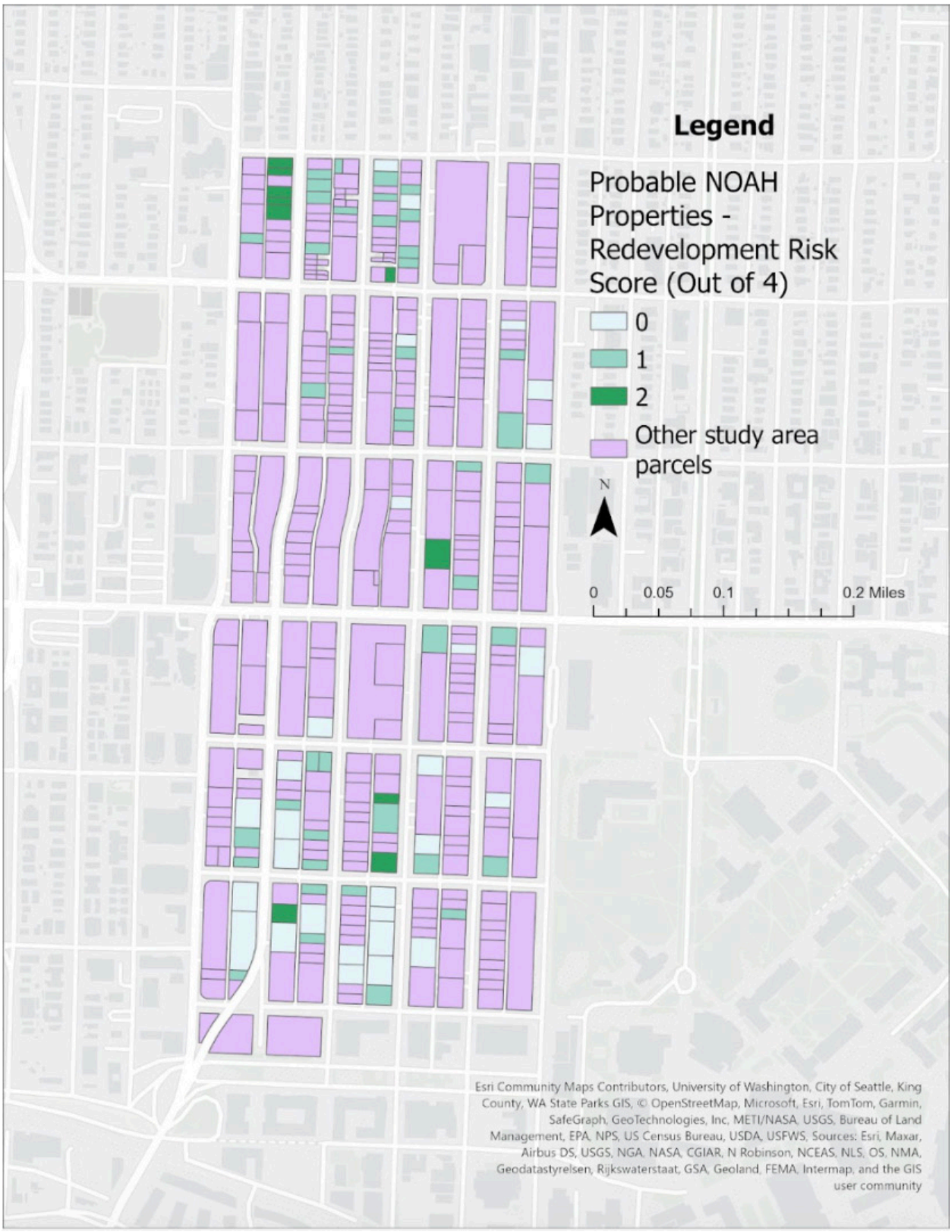

Figure 22. Distribution of redevelopment risk scores among probable NOAH properties. Original map by the author.

5. Discussion

Summary of Results

This paper set out to assess the extent to which the University District has adhered, and will likely continue to adhere, to its vision for navigating significant densification while preserving character and avoiding displacement in the neighborhood. In particular, this paper set out to explore displacement risk through the lens of the preservation and/or redevelopment of naturally occurring affordable housing. Overall, the analysis suggests that, while there are likely many instances of naturally occurring affordable housing in the University District, these properties are currently at a low-to-moderate risk for redevelopment. Furthermore, there are promising signs indicating that the University District Neighborhood Design Guidelines already have and will continue to maintain a sense of place and ease growing pains as development increases (figures 23 and 24).

Figure 23. 4123 12th Avenue NE, showing adjacent buildings of contrasting ages and styles forming an inviting, permeable street wall. Original image by the author.

Figure 24. The University District Light Rail Station, surrounded by contrasting building styles and a semi-pedestrianized block preserving a sense of open space. Original image by the author.

Recommendations and Lessons for Practice

Even though the probable NOAH properties identified in this analysis show only modest signs of redevelopment risk, it is worth considering strategies for ensuring that this trend continues as development increases. The literature suggests that one of the more viable options for preserving NOAH properties, especially in the University District where NOAH properties likely have a variety of characteristics and are distributed throughout the neighborhood rather than concentrated in one area, is acquisition by public entities or by socially-minded investors. Given the prevalence of unreinforced masonry buildings among the probable stock of NOAH properties in the University District, it is imperative that dedicated funding sources be established for owners of NOAH properties that are not acquired to finance the seismic retrofitting of these properties without having to sell them to for-profit developers. Bloomington, Minnesota; Cook County,

Illinois; and Washington, DC all offer useful case studies for innovative ways to fund the acquisition, preservation, and/or rehabilitation of NOAH properties. The Los Angeles Adaptive Reuse Ordinance provides helpful guidance for minimizing regulatory barriers to zoning-based preservation strategies. On the other hand, there is little evidence to suggest that incentive-based programs such as Transfer of Development Rights will prove successful in preserving affordable units in the University District.

Limitations

According to the U.S. Department of Housing and Urban Development, housing for which a household pays no more than 30 percent of their monthly gross income can be considered affordable (National League of Cities, 2024). It follows, then, that naturally occurring affordable housing in the University District can be defined as the set of unsubsidized housing units that meet this criterion relative to the area median income for the neighborhood. However, because historic price data for all properties in the study area were not available, this study uses building age as a proxy indicator to identify probable NOAH properties. Building age is not necessarily the only proxy that could have been used and it remains unknown how closely the list of probable NOAH properties assembled in this study would reflect a hypothetical version of the list based on historic pricing data. Similarly, the set of criteria used to evaluate redevelopment risk for the list of probable NOAH properties is by no means exhaustive.

Directions for Future Research

Future research endeavors might address the limitations stated above by replicating the study using a different proxy to identify probable NOAH properties or a different set of criteria to evaluate redevelopment risk and compare the results. One particular risk criterion of interest might be the distance of probable NOAH properties from highrise tower developments more than 85 feet tall. The Seattle Office of Planning and Community Development has mandated a minimum distance of 75 feet between highrise towers, so probable NOAH properties outside of

this radius might be at increased risk for redevelopment (The Urbanist, 2016).

Another interesting potential avenue for future research would be to further explore the topic of deferred maintenance among probable NOAH properties. In analyzing post-upzoning development activity in the study area, this study omitted permits issued for additions and alterations. Future research might investigate whether there is any overlap between probable NOAH properties and permits for alterations to better understand whether property owners have the means or the will to mitigate redevelopment risk by improving building conditions. King County Assessor data and property reports offer a wealth of opportunities to augment this research. For example, a study related to deferred maintenance of probable NOAH properties could be paired with an exploration of the change in tax-assessed value of each property to understand more about the relationship between deferred maintenance, tax burden on property owners, and potential profit in a reselling scenario.

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