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Vacant urban areas: Causes and interconnected factors

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ABSTRACT

Vacant urban areas (VUAs) can consist of both vacant land and abandoned structures. In this article, the authors summarize a recent survey on VUA, examine current conditions and causes of VUA, and explore the possible interconnections among these conditions and causes. The research examines employment, fiscal position, elasticity, population alteration, and regional location as primary variables. We find that VUAs are not interchangeable indicators of urban decay. Vacant land is most often associated with cities that have expanded their political boundaries while structural abandonment is more related to a city's population loss. Improvement of the local economy may not necessarily help reduce vacant land while structural abandonment is more sensitive to a city's economic status. Regional planning for VUAs, the strategic location of new industries and jobs, and new population/density regulatory approaches could be the next phase in addressing VUA changes.

1. Introduction

Vacant urban areas (VUAs) are ubiquitous and important urban phenomena. Increases and decreases in vacant land and abandoned structures (components contributing to VUAs) can help determine a city's future (Bowman & Pagano, 2000; Newman & Saginor, 2014). Too many VUAs can strain a city's finances and contribute to urban decline (Combes, 2000); too few can limit a city's development potential (Berger, 2007) and sometimes lead to increased densification and/or congestion (Hollander, 2010). Consequently, VUAs represent a crucial issue confronting city governments. Yet, despite the importance of VUA, few systematic studies of VUAs have been conducted; therefore our understanding of this issue is limited. Identifying the amount of VUA in U.S. cities and across regions is an essential first step. The critical subsequent step is determining its causes; doing so will yield important indicators of urban conditions and futures as well as offer guidance to local policymakers.

This research is both timely and necessary considering that the Great Recession of 2007–2009 appears to have aggravated VUA issues in many U.S. cities. What little we know about the VUA situation may possibly no longer hold given the substantial economic changes over the last 15 years. Much of the existing literature on VUAs is city-specific and tends to focus on possible solutions for vacant property rather than examining its causes.[1] Research using more reliable measures and more accurate data (e.g., spatial and geographic data) than were previously available is imperative.

In this paper, we use recently collected data on VUAs in U.S. cities to both identify factors contributing to VUA and explore interconnections among these factors. The next section of the paper discusses factors often said to be associated with vacant land and abandoned structures. Following that, we present our research design and methodology. After a discussion of the results of our analyses, we consider the implications of our findings in the concluding section of the paper.

2. Vacant urban areas: contested factors, consequences, and surveys

2.1. VUA: negative and positive aspects

All U.S. urban areas have some quantity of VUA, but for areas that have experienced decentralization, deindustrialization and population decline over the past few decades, the situation has been considered more acute (Goldstein, Jensen, & Reiskin, 2001; Hollander, 2010; Hollander & Németh, 2011). An excess of empty urban lots can disconnect the local community, generate unsafe conditions, lower the quality of life, produce unsightly aesthetic consequences, blight surrounding areas, deter future development, and decrease economic growth (Díaz, Nahuelhual, Echeverría, & Marín, 2011; Han, 2013; Kivell, 2002; Newman, 2013, 2015; Schilling & Logan, 2008). The long-term persistence of these empty lots can have enduring economic impacts and ultimately lead to widespread urban decline. Decreases in property values for properties tangential to vacant lots (Setterfield,

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[1] The popular media contain news stories with headlines such as “Instead of Demolishing Vacant Homes, Buffalo Sells Them for $1” (Semuels, 2014) and “Tree Farm Will Sprout on Blighted Urban KC Land” (Horsley, 2016).

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1997) can cause rents to drop, lowering maintenance and upkeep efforts, and creating tax burdens for owners (Goldstein et al., 2001; Immergluck & Smith, 2006).

VUA may be associated with a few potentially positive consequences. For example, underutilized vacant land at the edges of a city (e.g. greenfields) is often valued for its development potential (Bowman & Pagano, 2004; Stanley, 2015). Many cities have created programs in which inner city VUAs are given to neighborhood groups and transformed into community gardens (Tranel & Handlin, 2006). If the results of several case studies are generalizable, this type of remediation of vacant lots may also result in lower crime rates nearby (Kondo, Hohl, Han, & Branas, 2015). Large-scale VUAs provide the opportunity for assembling vacant parcels, clearing them, and redeveloping the space, as occurred in the 1990s with the development of low-density housing in an area of north Philadelphia once home to boarded-up buildings and empty lots. Relatedly, in 2016, Baltimore embarked on a plan to demolish 20 city blocks of vacant structures and convert the land to green space to be marketed to developers for new uses (Broadwater & Wenger, 2016).

2.2. Population and economic shifts

In some cities, increases in VUA have been linked to population changes (Rieniets, 2009), deindustrialization (Németh & Langhorst, 2014), local economic crises (Johnson, Hollander, & Hallulli, 2014; Ryan, 2012), and suburbanization (Audirac, 2007; Greenstein, 2004). Population relocation dynamics are often associated with land use alterations (Couch, Karecha, Nuissl, & Rink, 2005); as urban population migrations occur, many once vital land uses can become obsolete. Population changes also heavily impact economic activity and therefore are highly related to housing stock and market conditions (Johnson et al., 2014), all of which have been linked to increases in VUA (Heckert & Mennis, 2012). As the number of vacant properties increases, poverty rates can climb and land values can drop (Németh & Langhorst, 2014). If property values drop and structures begin to deteriorate, businesses often relocate or shut down, with concomitant job loss (Park & Ciorici, 2013; Sternlieb, Burchell, Hughes, & James, 1974). Remaining populations living among a surplus of VUA with low property values reside in neighborhoods that are likely to decline (Griswold & Norris, 2007; Mikelbank, 2008; Shlay & Whitman, 2006; Skogan, 1992).

2.3. Urban expansion

The most contested factor related to VUAs is a city's ability to expand or contract its territorial boundaries (Blair, Staley, & Zhang, 1996; Genske & Ruff, 2006; Meligrana, 2007; Rusk, 2006). Some scholars theorize that as cities expand, they leave VUAs in their wake (Treib, 2008), while others believe expansion to be a necessary ingredient to healthy economic growth (Berger, 2007; Rusk, 2003b, 2013). It remains unclear how shifting urban boundaries through expansion and/or contraction contribute to a city's vacant land supply (Fulton, 2006; Kozloff, 2007; Newman, Gu, Kim, Bowman, & Li, 2016).

Rusk (1993) argues that urban expansion strengthens the overall central city. A city's ability to expand its boundaries is paramount. Elastic cities expand their boundaries through annexation to increase populations and create stronger tax bases (Meligrana, 2007), while inelastic cities have fixed territorial sizes (Farris, 2001). Rusk (2006) claims that elasticity is strongly positively correlated with better economic planning while others, such as Smirnova and Ingalls (2007), suggest that lower rates of urban expansion provide greater opportunities for central city growth. Xiao et al. (2006) posit that elastic cities have less fiscal rationale to encourage infill, resulting in a greater likelihood of urban decline. Elastic cities have more space for new development on the periphery than inelastic cities, allowing them to capture new growth but typically with a lower population density. Evidence from Ohio shows that despite past annexation, suburbanization can generate significant intra-metropolitan area population shifts (Aryeetey-Attoh, Costa, Morrow-Jones, Monroe, & Sommers, 1998). Carruthers and Ulfarsson (2002) suggest that a trade-off occurs between urban expansion and densification; in the short-term densities typically decrease, but long-term densities can increase when appropriate regulations are put in place to control development in the newly annexed areas.

2.4. Regional location

In a study conducted two decades ago, VUAs were shown to vary by region (Bowman & Pagano, 2000; Bowman & Pagano, 2004). The massive shift of people, jobs, and capital into the Sunbelt cities in the South and West U.S. regions has come, somewhat, at the expense of the Frostbelt cities of the Northeast and Midwest (Ornstein, 1982). The trend in the 1970s and 1980s of urban deconcentration was characterized by a shift in employment and population from the relatively dense Northeastern and Midwestern regions of the country to the Southern and Western regions. The Frostbelt-to-Sunbelt shift during the postwar period continues to have implications on regional VUA amounts. From 1969 to 1994, the Sunbelt to Frostbelt metropolitan growth differential was substantial, with the Sunbelt growing much more rapidly (Gordon, Richardson, & Yu, 1998). The Frostbelt, with higher density cities, experienced higher levels of structural abandonment, while the larger and lower density cities in the Sunbelt reported high vacant land amounts (Bowman & Pagano, 2000; Carlino & Chatterjee, 2002). Employment trends also differ. For example, average annual private sector job growth rates were shown to be significantly different as Frostbelt job rates decrease, and Sunbelt rates increase (Gordon et al., 1998). These characteristics suggest that factors contributing to VUA may be different depending on regional location.

2.5. The latest VUA survey

There is no nationally standardized definition of vacant land or abandoned structures. Definitions and typologies of VUAs vary by municipality, making it difficult for researchers to study them. Consequently, surveys assessing amounts of VUA may fall victim to differing definitions and classifications across cities. While vacant land can be classified as a multitude of types (e.g. brownfields, greenfields, unused land, and derelict sites), Bowman and Pagano (2000) defined it as publicly and privately-owned unused or abandoned land, land that once had structures on it, and/or land that supports structures that have been abandoned, derelict, boarded up, partially destroyed or razed. Structural abandonment, when defined as an individual type of vacant property, is typically defined based on the duration of vacancy of a given element of the built environment (U.S. Department of Housing and Urban Development, 2015). Prior to 2016, three previous studies sought to gauge VUA amounts in large U.S. cities. Niedercorn and Hearle (1964) found that, on average, 20.7% of land in a given large American city was considered vacant while Northam (1971) reported 19.7% vacant land per city. In a study using data from the late 1990s, Bowman and Pagano (2004) revealed a sharper decrease in the average amount of vacant urban land: 15.4%. They also found that, on average, cities estimated their number of abandoned structures at a mean of 2.7 structures per 1000 persons.

Newman, Bowman, Lee, and Kim (2016) adapted the Bowman and Pagano (2000) survey instrument to an online format and surveyed cities with populations of 100,000 or more. In an effort to achieve some degree of comparative and diachronic consistency, the new survey employed the same definition of vacant land that Bowman and Pagano (2000) used. One major improvement over the 2000 study is that, rather than surveying the cities about the number of abandoned structures, the 2016 research utilized Geographic Information Systems (GIS) data on vacant addresses per city provided by the United States Postal