

THE VALUE OF OPEN SPACE: A GEOGRAPHIC CASE STUDY OF FLOODPLAIN
BUYOUTS IN LEXINGTON, KY

DISSERTATION

by

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DEDICATION

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LIST OF ABBREVIATIONS

Abbreviation	Description
ADA	Americans with Disabilities Act
CAA	Clean Air Act
CDA	Critical Discourse Analysis
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FWR	Friends of Wolf Run
HMGP	Hazard Mitigation Grant Program
LFUCG	Lexington-Fayette Urban County Government
NA	Neighborhood Associations
NFIP	National Flood Insurance Program
NGO	Non-Governmental Organizations
NIMS	National Incident Management System

ABSTRACT

This mixed-methods case study critically analyzes how floodplain property acquisition (buyouts) impacts an urban environment, Lexington, Kentucky, at the neighborhood scale while considering the role of individual residents, structural controls, and intervening organizations in land use decision making. Although local officials implement buyouts, the funding is primarily from the federal Hazard Mitigation Grant Program (HMGP). Therefore, in floodplain buyouts, the reopening of urban space is enabled by federal structural drivers, primarily FEMA, but is repurposed as a cultural landscape constructed and produced by the dialectical interaction of individuals and institutions. By highlighting the ways in which these entities interact and the differing values they ascribe to post-buyout landscapes, my research explores how residents, local government and stakeholders perceive and produce buyout landscapes. In Lexington, buyout properties transitioned from empty lots to tacit and explicit reflections of the sociopolitical landscape surrounding them. Enabled by federal funds, but left largely to their own devices, local residents adopted uses, ascribed values and produced their own land use norms for each site.

I. INTRODUCTION

In the United States, riverine flooding is the most costly natural hazard and is the cause of nearly two-thirds of all federally declared disasters (Smith 2013). Flood-related deaths in the United States are relatively low compared to other countries yet almost 12 percent of the U.S. population lives in flood-prone areas, leaving property, infrastructure, and livelihoods at risk (Smith 2013). In the 1990s alone, the National Weather Service estimates that flood events resulted in nearly \$50 billion worth of damage in the United States (Pielke et al. 2002). Damage from floods continues to rise because of changing climatic patterns coupled with population growth and urban sprawl pushing more people and structures into these hazardous landscapes (Pielke et al. 2002). Although floodplains are dynamic landscapes that can rapidly change with shifting weather conditions, tidal patterns and a host of other physical conditions, they are not isolated geophysical phenomena; societal interactions with these hazardous landscapes compounds the already dynamic nature of the floodplains.

Historically, in the United States, we have responded to flooding through a technocratic approach that emphasizes the construction of large structures to minimize risk. Structural mitigation such as levees, dams, and drainage systems are still the dominant mode of mitigation in many flood-prone communities today. In our society's pursuit of development and economic growth, we repeatedly attempt to out-engineer nature by altering hazardous landscapes, despite repetitive flood histories that wreak havoc on people and infrastructure. In an effort to augment structural mitigation approaches and further reduce our nation's vulnerability to floods, federal, state, and local governments have diversified their techniques to manage infrastructure and residential

occupancy within our nation's floodplains. Communities across the U.S. also adopt nonstructural mitigation practices, such as flood insurance, zoning regulations, and educational outreach in an effort to reduce flood losses. These practices are meant to disincentivize the settlement and development of floodplains through land use policy. In recent decades, floodplain managers seeking to reduce repetitive flood losses have increasingly implemented property acquisitions, or *buyouts*, as a nonstructural mitigation tool. Property acquisition permanently ends the cycle of repetitive flood loss as developed properties are cleared of all infrastructure and converted back to open, and often public, spaces.

In effect, property acquisition is the culmination of a centuries-old battle between the construction of civilization and the meandering path of a river. This struggle reflects the larger human intent of trying to control and subdue nature, to which nature responds with periodic reminders that complete control is elusive at best. For communities that implemented floodplain buyouts the fighting has ended; control ceded to nature and the dynamic geophysical processes of the floodplain are restored or at least allowed greater birth within the floodplain. However, buyouts are not the end to this contest; open spaces have potentially contentious social implications. Where houses once stood subjected to the power of nature, social conflict can arise over the use and management of these buyout properties.

These buyout spaces are created through a combination of federal policy and local land management practices. For communities that participate in the National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) can

provide funding through the Hazard Mitigation Grant Program (HMGP)¹ to local floodplain managers for the purchase of flood damaged properties, preferably in areas with a history of repetitive flood loss. States and/or local governments are responsible for 25 percent of the total acquisition costs, but federal taxpayers provide the majority of funding through FEMA (75 percent). Participation in the HMGP is voluntary, yet the program motivates impacted property owners to sell their flooded properties to the local government by paying owners the pre-flood value of their property. By reducing floodplain occupancy, open space is generated where buildings once stood. When education, land use zoning, and the capitalization of risk in the form of flood loss and insurance premiums fail to disincentivize floodplain development, floodplain buyouts return property, deemed too hazardous for capital investment, back to public management.

Although FEMA (1998) established general guidelines for post-buyout land use, the local community and stakeholders are, in reality, the entities guiding redevelopment decisions, resulting in a multitude of open space land uses that reflect the ideals and expectations of the community. The range of land uses includes well-managed public spaces that offer residents amenities such as playgrounds and walking trails, to minimally

¹ The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief Emergency Assistance Act and was created in November 1988. Amendments include: Hazard Mitigation and Relocation Assistance Act of 1993, Disaster Mitigation Act of 2000, and the Post Katrina Emergency Management Reform Act of 2006 (FEMA 2007).

maintained vacant lots² within the residential landscape. Increasing the utility of the acquired land through open space development returns taxpayer investment to the local community in the form of parks, gardens, and improved environmental services (e.g. wetland restoration, wildlife habitat, etc.). In addition to providing amenities to the community, these high-utility open spaces highlight the need to manage flood-prone lands as open space. These concrete examples of how open space can benefit a community both in terms of hazard mitigation as well as other community services like recreation, stand in direct defiance of a material culture that advocates for economic growth by developing empty, useless land. These buyout properties are not devoid of value or use; instead, how these open spaces are used reflects community culture, values, and beliefs in land management (Enemark 2006). For some, the open space resulting from a buyout program represents an opportunity, yet others view the properties as wasted land.

To understand how open space is used and valued, my study investigates the formal and informal land use decisions made amongst city government, local residents, and intervening entities in the form of neighborhood associations (NA) and non-governmental organizations (NGO) and how they influence post-buyout landscapes. I compared these decisions to the open space management goals as expressed in the FEMA guidelines and best practice manuals to identify the role of power structures and

² For the purpose of this study, vacant lots refer to grassy properties that are regularly mowed or properties that consist of bare soil. Some communities may describe the properties that I term vacant lots as passive open space, a more positive connotation. This word choice reflects how communities construct the landscape and assign utility and value to it, thus the very heart of this study. Therefore, to avoid influencing how participants in this study construct the open space, I refrained from both phrases and termed all the buyout properties as open space during communications until participants identified their name or word choice for the acquired properties.

individual agents in the production of post-buyout land use. By identifying the social processes that produce new land uses in these open spaces, I am contributing to both the theoretical discussion of how space is constructed as well as the applied understanding of an increasingly popular form of flood mitigation.

In building the theoretical component, I recognize that all landscapes are socially produced (Lefebvre 1991). The buyout landscape is produced through land use decisions that reflect the (in)actions of structures, agents, and intervening entities. The open space created through property acquisition is guided by structural controls such as FEMA, which regulates appropriate land uses. Local governance is also a structural control, as local managers interpret FEMA regulation, set budgetary spending, and implement land uses on the open space. Local government also intervenes in the production of open space by deciding “which city residents and other urban constituencies are invited, and enabled, to engage in the policy-making process” (Hinchliffe and Whatmore 2006, 133). Local governments, whether overtly or disguised, can enable some residents to participate while discouraging others.

FEMA and local governments are not the only forces shaping land use of buyout properties. The agendas of stakeholders in the form of intervening agencies like NGOs and NAs also manifest on the landscape. Unsurprisingly, stakeholders that share similar goals as the government are more often incorporated into policy-making and redevelopment programs than those with opposing views; the support of these constituencies can be used to legitimize public policy and urban regeneration programs (Raco 2000). Intervening agencies are not just tools of justification used by the

government; they can also serve the general public by acting as conduits of information between the government and residents. By providing expert information, intervening agencies and community groups can help empower residents who otherwise are excluded from the decision-making process.

Individual residents also construct the identity of open space just as these acquired properties influence neighborhood or local community culture. By rooting my study in the cultural landscape tradition, which asserts that meaning is imparted or produced on everyday landscapes and at the same time these meanings are interpreted or constructed by the people who interact with the landscape (Cosgrove 1989; Cosgrove and Daniels 1998; Mitchell 1994), I can decode these meanings, to reveal the identity of buyout landscapes as well as the values people ascribed to the open space. The conceptual framework for landscape interpretation detailed in Schein (1997, 660), focuses on analyzing discourse that “demonstrates how the landscape at once constricts and is constructed by individuals who live in a particular place.” This view is echoed in Harris (1999, 435) in that “landscape is both the product of cultural forces and a power agent in the production of culture.” Therefore residents adjacent to the buyout properties are impacted by the open space and in turn also construct the identity of the open space.

To examine the roles of all of these groups- structural controls, intervening entities, and agents- in the production of open space, my study explores how buyout landscapes are produced though both human forces and networks of authority. In Mitchell (2000, 11) the author asserts that all landscapes are born from “cultural wars” where networks of authority and individual agents negotiate and contest the identity, value, and

meaning of landscapes. Therefore, each buyout site has its own identity and value that is reflected in how the buyout properties are managed even though the program results from the same federal funding source, rules, and regulations. The meaning of each open space is a negotiation of FEMA regulations, local government, intervening agencies, and residents and this study explores how these negotiations vary across the post-buyout landscape.

To do this, I borrow from the post-structural critique that “space in itself may be primordially given, but the organization, and meaning of space is a product of social translation, transformation, and experience” (Soja 1989, 79-80). Framing this critique within the buyout context, the open space may be given to the public for use by the government, but how the space is used, valued, and defined reflects social and culture factors. Landscapes are not static; they change in appearance and symbolism in direct response to our evolving social interaction with them. By framing landscape as always in a state of ‘becoming’, the concept transitions beyond an epistemological view and acknowledges landscape as a tangible thing that intervenes in culture and simultaneously is shaped by human intervention (Schein 2009). Therefore, landscape interpretation does not simply describe a place; rather it considers the broader social, cultural, political, environmental, and economic discourses that create a tangible landscape (Boulton 2011).

By conforming to, or revolting against, dominant ideals of how the open space should be used, individuals either support or challenge the existing normative expectations and networks of authority. For example, FEMA identifies best practices amongst buyout landscapes and encourages high-utility land uses. For residents that buy

into this ideal of how the open space should look, and therefore this network of authority, they actively engage in the land use as prescribed (i.e. a park, athletic field, wetland, etc.). However, normative expectations and networks of authority do not always align as showcased by differences in public action versus government intended land use. A frequent example of this, particularly in urban areas, is when open spaces revert back to wetlands and adjacent property owners mow the riparian grasses because the properties should appear maintained and landscaped in a neighborhood. Municipal government may give the buyout properties back to the public, but public perception defines the value, identity, and use of the post-buyout landscape. Simultaneously, individuals or agents are also negotiating institutional controls as defined by FEMA and local government. The behaviors, practices and customs associated with the buyout properties are produced through agents interacting with networks of authority, and thus comprise the basis of this study.

1.1 Research Questions

My research uses case study analysis and grounded fieldwork to investigate five buyout neighborhoods in Lexington, Kentucky and their efforts to construct and manage open space created through property acquisition. Informed by critical social theory, my research examines the narratives of individual residents residing within buyout neighborhoods as well as those from intervening agencies including NAs and a local NGO. My study interrogates the metanarratives put forth by institutions, in this case specifically those from the Lexington-Fayette Urban County government (LFUCG) and FEMA. The metanarratives of these structural drivers along with the narratives of

residents help shape our understanding of the identity of open space as well as illuminating whose values are imprinted on the buyout land. Through a mixed methods approach, this study asks:

- (1) How do current residents of buyout neighborhoods perceive the acquired properties?
- (2) What values (economic, social, and ecological) accrue from open spaces?
- (3) Who determines these values: individual residents, structural drivers, or intervening agents with specific agendas? How do these determinations manifest in buyout land use approaches?

In addition to identifying how buyouts impact an urban environment, I examine FEMA's assertion that communities with high-utility land uses on buyout properties, such as parks, will experience a rise in the tax base due to the increased property values (FEMA 1998). Since value can extend beyond economic measurements, I surveyed and interviewed residents to understand their perceptions of the acquired land and what, if any, social, recreational, aesthetic, ecological or economic value the open space brings to their lives. These issues are significant because it is not only important to understand the long-term impacts of buyout land on the residents who remain in the neighborhood, but also how these residents shape, interpret, and construct the open space created by the buyouts.

1.2 Significance of Study

As the threat of flooding increases because of climate change (Min et al. 2011; Pall et al. 2011), understanding the impacts of mitigation practices is paramount. This process takes on even more urgency since we now know that the way in which communities

rebuild following a disaster, affects the outcome of the next event (Haas et al. 1977; Hagelman et al. 2012). By implementing mitigation projects that build resiliency, such as floodplain property acquisition, we reduce the impact of future events. Although property acquisitions can result from any magnitude flood, mega-disasters, such as the Midwestern floods of 1993, allow for rebuilding more resilient communities that can reduce future risk and promote new economic development (Waugh and Smith 2006). This research is also necessary, especially considering trends with climate change, because of the fact that scholarly research on property acquisition remains sparse despite its increasing popularity among floodplain managers and government officials. Recent proposals from New York Governor Andrew Cuomo, who endorses a \$400 million buyout of homes destroyed by Hurricane Sandy (Kaplan 2013), highlight the need for continued research on property acquisition; particularly studies that examine the social, economic, and ecological implications of buyouts as these topics remain largely unexplored.

Few geographic studies have explored the long-term impacts of post-disaster decisions on land use and redevelopment (Hass et al. 1977; Pais and Elliot 2008; Hagelman et al. 2012; Zavar et al. 2012). In her examination of the long-term social and economic impact of large scale floods, Gruntfest (1995) concluded that more post-disaster research is necessary to adequately understand how to prepare and mitigate for future events. My research provides a new dimension to the discipline's understanding of disasters by examining the long-term impacts of buyouts on communities, neighborhoods, and individual residents while engaging in critical social theory.

II. REVIEW OF RELATED LITERATURE

Dating back to the earliest of civilizations, humans have occupied floodplains to reap the many benefits associated with living along the riverbank: water for irrigation, fertile crop-lands, and transportation networks. We have known for some time that despite their many resources, rivers are hazardous to the built environment and can pose significant risk to human well-being (White 1945). In more modern times, we have sought to control, dominate, and restrain these waterways to limit their potential risk through the implementation of structural mitigation techniques. Structural flood controls seek to change the characteristics of the flood while leaving the buildings and people in the floodplain. Nonstructural flood mitigation focuses on forbidding, altering or removing the structures from the floodplain instead of attempting to control the flood (Buss 2005).

Throughout the twentieth century many cities across the United States expanded into the floodplains, constructing levees, channelizing rivers, and implementing other structural control measures to protect development (Walker, 1990). During this period, human occupancy in the floodplains dramatically increased (White et al. 1958; Montz and Gruntfest 1986). Although structural mitigation techniques offer some flood protection, they simultaneously promote development within the floodplains (Burby et al. 1988; Holway and Burby 1993; Driever and Vaughn 1988). Even federal disaster relief can hinder flood mitigation by providing a false sense of security; a perception the federal government is trying to curtail. The Disaster Relief Act of 1950 established an early precedent that local and state governments are primarily responsible for disaster relief and that federal aid is only provided when a disaster overwhelms the local and state

resources (Burby 1996). In Burby et al. (1988) the researchers caution that the availability of public infrastructure such as streets, sewers, and water lines, in flood prone areas incites development on the floodplain. To encourage development outside of the floodplain, governments could implement measures such as tax incentives and strict zoning codes to regulate development to higher ground (Burby et al. 1988). My study focuses on nonstructural techniques, specifically post-disaster land acquisition, or buyouts.

Nonstructural mitigation can be divided into two categories: lessening the impact of the hazard on a community and reducing human susceptibility to a hazard. Warning systems, disaster assistance and flood insurance all are mitigation techniques that lessen the impact of the flood. Zoning restrictions, elevating structures, and property acquisitions are examples that minimize human susceptibility to flooding (Alto 1993). These mitigation techniques impact how communities and individuals recover in the long term from a disaster. The decisions and actions of the recovery phase set the stage for the next event. Disaster recovery offers an opportunity for governments to implement programs that will reduce future hazard vulnerability (Berke et al. 1993). However, these programs tend to follow ideas and values that were already in place prior to the disaster. Disasters only magnify trends already in existence prior to the event (Haas et al. 1977). These trends are accelerated by the disaster and often result in an expanded urban footprint following the reconstruction period (Hass et al. 1977; Geipel 1991; Hagelman et al. 2012).

2.1 History of the Buyout Program

Floodplain management culture changed greatly in the United States during the late twentieth century. Prior to the 1990s, structural flood controls, including dams and levees, dominated as the primary means of flood protection. The presence of structural controls, particularly levees, in cities often generates a false sense of security among residents (White 1945; Montz and Gruntfest 1986). This sense of security contributed to an increase in urbanization within the floodplain in American cities during 1958-1986 (Montz and Gruntfest 1986). At the same time, scholars devoted their studies to researching these structural controls, resulting in a lack of research on nonstructural flood mitigation techniques (Montz and Gruntfest 1986). However, not all communities relied solely on structural mitigation; the state of Minnesota established the Flood Damage Reduction Grant Assistance Program in 1987 to reduce repetitive loss (DNR Waters Hydrologists 2001) and the city of Tulsa, OK responded to the flood of 1984 with large scale property acquisitions (FEMA News Release 2000). These nonstructural mitigation acts represent a minority of communities' actions at this time and were implemented through the local or state government without federal assistance.

One of the earliest published studies on property acquisition emphasizes the need for floodplain land use restrictions. The report examines the potential for a voluntary relocation program in Iowa City, IA, through FEMA trial 1362 funding. The study also suggests if the program is instituted, the acquired land should be converted to parks to promote "health and safety" (Tobin 1981, 61). Other early publications highlight a range of challenges associated with property acquisition including factors influencing

residential participation, social impacts of relocation and the preservation of historic buildings.

One of the first studies to examine the factors influencing residential participation in a buyout program is Handmer (1985). The author surveyed and interviewed members of three communities in Australia, each with a proposed relocation program, to understand attitudes about property acquisition. The study concludes that individuals with strong attachments to their community are likely to resist a relocation program, whereas individuals that perceive a severe flood problem will be more receptive to property acquisition. Additionally, public involvement in the planning and decision-making process helps limit tension and fears associated with the implementation of a program (Handmer 1985).

In contrast to the Handmer (1985) study which examined residential perception to a proposed relocation program, Tobin (1992) collected data on residential perception following a buyout. A door-to-door satisfaction survey of homeowners in Soldiers Grove, WI, was conducted to evaluate their experience with, and perception of, an implemented property acquisition program. Although the program was initially reported as a success by the municipal government and touted as a model for future towns, the surveys revealed that many homeowners were unsatisfied with the relocation project. Homeowners reported that they lost a sense of community and had less access to public and private facilities following the acquisition (Tobin 1992).

Loss of community was not the only challenge associated with floodplain property acquisition these early studies identified. In Ontario, Canada, the land acquisition of

historic buildings in the 1970s raised public concern over the loss of these culturally significant structures. This study reviewed meeting notes and news articles that described conflict between the government implementing property acquisitions and the local preservation society. This early publication also provides suggestions for addressing future issues concerning preservation of historic buildings and property acquisitions (Bennett and Mitchell 1983); a topic not referred to again in the literature. These early relocation programs identify concerns that communities implementing buyout programs still face today.

The present FEMA buyout program is the result of floodplain management reform during the 1990s. Several catastrophic floods, particularly the 1993 Midwestern Floods, initiated a change in federal policy that affected how communities recovered from disasters and mitigated against future events. The Stafford Act provides guidelines on how disaster relief money can be spent, and was amended in 1993 to allocate more federal funding for property acquisition within the floodplain and relocation assistance to flood victims (Godschalk et al. 1999). The following year the National Flood Insurance Reform Act was signed into law. The reforms to the NFIP included the creation of a pre-disaster mitigation fund to remove residents from the floodplain prior to disaster. Additionally, reforms included extending waiting periods for insurance to take effect, mandating that all private lenders require flood insurance for the life of a loan, and authorizing FEMA the ability to deny claims to homeowners that did not purchase and maintain flood insurance coverage (Conrad et al. 1998). In general, the newly enacted

legislature encouraged practices that limited human occupation of floodplains (Godschalk et al. 1999).

Following the initial implementation of the present buyout program, research projects evaluated the success of its strategy and potential land uses for the open space. Early on, supporters emerged calling for the buyout program to serve ecological needs such as restoring habitat restoration, improving water quality, and reducing soil erosion (Hanson 1995). The National Wildlife Federation published a report on the economic and ecological benefits of the program and strongly advocated for the acquired land to revert back to natural floodplains (Conrad et al. 1998). This report also examined repetitive flood properties and recommended communities with the highest repetitive loss statistics as sites for future buyout locations. In addition to providing ecological services, recreational use of the acquired land, such as hiking trails and athletic fields, were also identified as benefits (Conrad et al. 1998). Projects assessing the economic effectiveness of property acquisition determined that it is the most cost effective approach to flood mitigation; removing structures from the floodplain instead of repeatedly paying for flood damages saves communities and homeowners money over the long term (Nelson 2006; White 2011).

Once the effectiveness of property acquisition as a mitigation tool was established, researchers began examining the factors that influence homeowner participation in a buyout program. Homeowners identified financial considerations as the primary factor for buyout participation, these variables included mortgage debt, extent of damage, income, and insurance (Trotter 1999). An additional financial consideration for

homeowners, unique to areas with high-pressure for land development, is the pre-flood value of the land. Homeowners were more likely to reject a buyout offer and rebuild in an economy that promoted development (Zavar et al. 2012). In Kick et al. (2011), researchers also identified financial considerations in decision-making, but noted that the quality of relationships between flood victims and local officials helping with the recovery process were key elements for homeowners deciding whether to participate in a mitigation project. In Fraser et al. (2003), the authors conducted a telephone survey of flood buyout participants followed by interviews with selected respondents to understand why homeowners participated in the program. The researchers examined four communities that participated in flood buyouts during the late 1990s: Greenville, North Carolina; Kinston, North Carolina; Grand Forks, North Dakota; and San Antonio, Texas. The study identified that perceived risk, neighborhood attachment, program process timing, communication and trust were the most important factors in homeowners' decision-making process following the flood (Fraser et al. 2003). This result highlights the investigating behavioral and social processes in improving our understanding of land use outcomes in buyout landscapes.

In a later study of the same four cities, the question was raised whether the buyout program was truly voluntary (de Vries and Fraser 2012). A telephone survey of homeowners offered a buyout, revealed that 35 percent of the survey respondents felt that participation was involuntary. Homeowners disclosed that they participated in the program because they felt the buyout was a short “window of opportunity” to relocate out

of the floodplain; this was particularly evident among less affluent homeowners with low social capital (de Vries and Fraser 2012, 28).

This concern that the buyout program is not truly voluntary for all participants is further supported by work examining the socio-economic characteristics of flood buyout participants. In a historical analysis of floodplain land use and development in San Antonio, TX, white, affluent neighborhoods experienced more structural mitigation, such as dams, yet nonstructural mitigation, like property buyouts, was more frequent in lower-income neighborhoods with higher percentages of minorities (Hagelman 2001). Racial and ethnic inequalities associated with the buyout program were observed following the central Texas flood of 1998, which impacted numerous San Antonio neighborhoods. The neighborhoods with property acquisitions tended to have large minority populations (Pasley 2001). This trend was also observed in de Vries and Frasier (2005, 4), who noted that buyouts assisted in “cleaning up old or dilapidated problem areas” resulting in the loss of community culture in some of the oldest minority neighborhoods. Similarly, Lyons (2010) detailed the flood of 2008 that inundated Cedar Rapids, IA, and resulted in a large buyout of several historically Czech, lower-income neighborhoods. Interviews conducted with governmental officials as well as flooded homeowners revealed the tense relationship between the two parties. Many residents expressed frustration that the buyouts destroyed the Czech enclave and cultural heritage of a neighborhood (Lyons 2010). Whether these observations were a conscious result of discrimination or the byproduct of inexpensive floodplain land is a topic for future study but, again, these results emphasize the fact that land acquisition is both an economic and social exchange.

For some communities devastated by the 1993 Midwestern Floods, acquiring a handful of properties or a neighborhood was not sufficient to safeguard against future flood threats. As a result, communities decided to relocate entire towns. In Indiana, Wisconsin, and Missouri several towns and villages abandoned flooded city limits and built completely new communities located out of the floodplain (Doyle 1983; Brinegar 1997; Knoblock 2005; Chifos 2007). In addition to relocating people and towns, the implementation of other nonstructural techniques dramatically increased following the 1993 Midwestern Floods. For instance, raising the elevation of flooded properties to above base flood level, often necessitated by both federal and local floodplain management policies, became ubiquitous in areas damaged by flooding (Godschalk et al. 1999).

Few studies have identified land use on acquired properties following the implementation of a buyout, the exceptions being Hanson and Lemanski (1995), Harter (2007) and Zavar et al. (2012). FEMA promotes the open space development of acquired properties and provides recommendations to help communities repurpose these lands (FEMA 1998). Although FEMA has established specific restrictions pertaining to buyout property land use, such as structures must be open on all sides (FEMA 2009), there is still plenty of latitude for communities wanting to develop uses specific to their needs. The goals of open space management clearly indicate that the land must be maintained “in perpetuity for uses compatible with open-space, recreational, or wetlands management practices, and consistent with conservation of natural floodplain functions” (FEMA 2009, 39); yet this language is vague enough that it allows communities the opportunity to

interpret the most appropriate land use for themselves. FEMA encourages communities to implement open space development as a means of increasing the value of properties adjacent to buyout lands and therefore boosting the tax base for the community (FEMA 1998). This claim repeatedly appears in the literature, (Hanson and Lemanski 1995; Seibert 2001; FEMA 1998); however, no study to date has explored this statement. The work proposed in this study seeks to understand how buyout properties are utilized in open space management and how residents perceive their associated values.

2.2 Parks and the Value of Land

Although no study has explored property values in relationship to flood buyout land uses, a sizable body of work has examined the impact of open space, such as parks, on home values. Typically property values and proximity has been studied through hedonic analysis (Lancaster 1966). In general, studies support that in American cities, close proximity to open space increases home values (Lyon 1972; Hammer et al. 1974; Correll et al. 1978; Kimmel 1985; Nelson 1986; Ready and Abdall 2003; Nicholls and Crompton 2005; Anderson and West 2006). This work is often used as a means to quantify the value of open spaces in urban settings in an effort to protect them. Bolitzer and Netusil (2000) identified that close proximity to parks, green belts and golf courses positively impacted home sale prices in Portland, Oregon. Even though these open spaces can bring increased traffic and noise, a potential negative for home value, overall the open spaces in the study had a statistically significant effect on the sale price of nearby homes.

The trend of people paying more to live in close proximity to a park dates to early nineteenth century England, where developers such as John Nash (Regent's Park,

London) and Richard Vaughn Yates (Prince's Park, Liverpool) saw an opportunity for investment (Crompton 2005). This observation even fueled the village of Birkenhead to ask for public funds to build Birkenhead Park in 1847, the world's first park supported by taxes (Crompton 2004). An American architect, Frederick Law Olmstead toured Birkenhead Park in 1850 and brought the proximity property value idea to the United States through such designs as Central Park in New York City (Fox 1990; Crompton 2005).

Improvements to established parks also increase adjacent property values. In a study of five renovated New York City parks, Ernst and Young (2003) determined that the improvements positively impacted home values in all five study areas. Instead of hedonic analysis, this study used property sales transactions compared against one to two blocks adjacent to the park called the Park Impacted Areas. Clearly the quality of the park determines its impact on nearby homes. In addition to park quality, neighborhood characteristics such as lot size may affect the open space's impact on property values. Miller (2001) identified that neighborhoods with small private yards or gardens experienced higher overall property value impact from an open space than neighborhoods with larger gardens. This suggests that there is a greater demand for open space in densely housed urban areas with small lots.

Not all studies have demonstrated that urban parks are beneficial to the housing market. Troy and Grove (2008) examined crime rates and urban parks in Baltimore, MD. They determined that in neighborhoods with higher crime rates, parks actually negatively impact home values. However, in areas with relatively low crime rates, parks still

positively impact the value of houses. Parks are not the only land use that can influence home values in an urban setting. Mahan et al. (2000) used hedonic analysis to understand how urban wetlands impact residential values in Portland, OR. Overall, home values increased closer to wetland areas, additionally larger wetlands increased home values more than smaller wetlands. The authors also examined different types of wetlands, but determined that type of wetland had no impact on house value.

The value of parks and amenities cannot solely be calculated by dollars and cents, but must also include recreational (Godbey et al. 2005), aesthetic (Eyler et al. 1998; Eyler et al. 2002), and social value (Nies et al. 2003). Urban parks offer city-dwellers the opportunity for exercise and to experience nature. Female users of Prospect Park in Brooklyn, NY revealed that the park provided more than just a place to exercise, it also was a place to wear comfortable clothes, a freedom from their constricting everyday lives. The women also described the experience of being in a natural setting as recuperative and restorative (Krenichyn 2005). Other studies have identified similar psychological benefits of green spaces as places to escape and recharge (Kaplan 1995). Environmental benefits include the reduction of air pollution (Yin et al. 2011) and cooling urban heat islands (Bowler et al. 2010). These studies suggest that people associate a range of values with green spaces, beyond financial, thus reinforcing the need to explore the social values attributed to open space.

2.3 Hazards and the Value of Land

Just as proximity to amenities can impact home values so can hazards. It has even been stated that real estate located within floodplains should be appraised at a lower value

to reflect insurance costs and potential damage (Shilling et al. 1985). However, that is not always the case as consumers, i.e. homebuyers, establish the true value of a home by their willingness to pay or not. In Louisiana properties located outside of Housing and Urban Development (HUD)-designated floodplains were more expensive than homes within the floodplain; however, in Alabama location to floodplain did not impact house sale prices (Bialaszewski and Newsome 1990). This reflects real estate appraisal error and an unawareness of risk on the part of the buyers. Further evidence of this homebuyer-driven value, are coastal properties values. In Carteret County, North Carolina, an area vulnerable to both flood and wave hazards, coastal properties had higher values than inland homes because of the high premiums associated with oceanfront living (Bin and Kruse 2006). However, to best understand the subtle variability of oceanfront property values both the amenity of a beautiful view and the risk of hazards must be evaluated (Bin et al. 2008).

Additional studies support this lack of awareness of flood risk on the part of home buyers. Zimmerman (1979) studied home values in three communities in New Jersey that experienced periodic flooding from local rivers. Using assessor values, he compared home values in flood prone areas against homes outside of the floodplain using a difference of means analysis. No statistically significant results were identified, leading to the conclusion that homeowners were unaware of the flood risk and the NFIP did not impact the perceived risk (Zimmerman 1979).

In Montz (1983), the author observed similar results after interviewing property insurance agents, mortgage lenders, and real estate agents on how the initiation of the

NFIP impacted the housing market. She found that the NFIP had no effect on home demand or value. However, in Montz (1987), she identified contradictory results in a study of floodplain home values in Elmira, New York and Barre, PA. In her analysis, Montz (1987) used real estate data from the Board of Realtors Multiple Listing Service Sold Books to determine the prices of properties sold in the 100 year floodplain versus outside of the floodplain. These cities each experienced flooding from Hurricane Agnes in 1972, followed by a period of little to no flooding in the subsequent decade. In general, the study determined that non-floodplain homes had higher selling prices and fewer days on the market than homes within the 100-year floodplain. This study suggested that homebuyer awareness of the associated risks when purchasing a home within a floodplain may be a factor.

Additionally, Donnelly (1989) used a hedonic price model on homes in La Crosse, WI, and found that homes within the floodplain were valued on average \$6,000 less than comparable homes outside of the floodplain. The author noted that the cost of flood insurance is less than this price difference, suggesting that the reduced floodplain home values are not solely accounting for increased insurance costs but also reflect flood risk perceptions.

To explain these inconsistencies of floodplain home values, Tobin and Newton (1986) implement a theoretical approach that suggests the capitalization of flood hazards impacts land value. The article identified that the value of land decreases as the utility of land is reduced because of the risk of flooding. Both temporal and spatial variables impact the utility of the land and therefore land value. The frequency and severity of the

flood as well as land availability/development pressure all impact the utility. High flood frequency decreases the floodplain land utility as do large-scale floods that can cover large areas of a community and inflict extensive damage. However, limited land availability and development pressure can increase floodplain land utility.

This temporal and spatial variability has been observed in several case studies. Following flood events, home values recovered at different timescales that were independent of the flood inundation levels and severity of damage in California. Following the flood, property list prices increased while sale prices remained low; suggesting that homeowners made repairs and attempted to sell at higher values but the market was still unresponsive because of the hazard. This differential increased over time and suggests that capitalization and recovery occurred unevenly. The authors suggest that government policies and programs need to address these differences during the recovery process (Montz and Tobin 1988; Montz and Tobin 1988).

The importance of the flood frequency variable has been emphasized in other geographic locations, particularly the housing market in Des Plaines, IL, which experienced floods in 1986 and 1987 (Tobin and Montz 1990). The authors compared the flood events to housing list prices and sale prices from 1984 to 1988. They found that housing price recovery varied according to flood frequency; the prices of properties that experienced inundation and damage both in 1986 and 1987 lagged behind properties that did not experience both events. This study highlighted the importance of flood frequency and emphasized that this variable should be incorporated into evaluating property values. Additional work supports these findings that the characteristics of a flood, such as

frequency, severity, and extent, impact property values and price recovery (Tobin and Montz 1987; Tobin and Montz 1994; Tobin and Montz 1997).

In addition to flood characteristics, experience and the recent memory of large-scale storm events, such as hurricanes, may temporarily impact housing prices. A hedonic analysis of housing prices both within and outside of the floodplain in Pitt County, NC, between 1992 and 2002, found that homes within the floodplain were priced less than comparable houses outside of it. Additionally, the value of homes in the floodplain was reduced further following Hurricane Floyd in 1999 (Bin and Polasky 2004). A similar study using hedonic analysis, evaluated home values one year before and one year after Hurricane Katrina struck New Orleans, Louisiana, in 2005. The authors found that following Hurricane Katrina, homeowners were willing to pay more for higher elevated homes, even if the property was located within a flood zone. Prior to Hurricane Katrina, elevation was not a significant determinant in home value (McKenzie and Levendis 2008). This importance of elevation on home price may dwindle over time as the memory of the storm subsides, and the study should be repeated to see if the demand, and therefore value, of high elevation persists in New Orleans, LA.

Studies also indicate that the perception of risk can also impact home values. After the Loma Prieta earthquake in 1988, people overestimated the potential for damage caused by an earthquake, reducing home values of properties perceived to be at risk (Beron et al. 1997). This overestimation was the result of inefficient earthquake risk communication. However, disclosure of flood and hurricane risk in the Florida Keys, did not have a significant impact on people's decisions to purchase homes (Cross 1985);

likely because of the false sense of security brought by homeowners insurance.

Mitigation efforts that reduce perceived risk can also affect the value or sale price of a house. In Oklahoma City, OK, tornado shelters increased a house sale price by three to four percent as potential homebuyers viewed properties with shelters as safer and therefore more desirable (Simmons and Sutter 2007). These studies indicate that perception, either of safety or risk, significantly impact what homebuyers are willing to pay for properties.

However, the public and academic perception of hazards has changed in recent decades, no longer viewed as random “Acts of God,” but that hazards are the result of social, environmental, and technological systems colliding (Cutter 1996, 530). Hazard research must reflect the interaction of all three systems. In Grunfest (1995) the author evaluates the impacts of nine extreme flooding events on several national and international communities and calls for more attention to long-term social and economic impacts of disasters; a call that has gone relatively unanswered. The work outlined in this study will add to this area of hazard geography and contribute to our knowledge of the long-term social and economic impacts of floods and the buyout program.

2.4 Federally Funded and Locally Implemented

The buyout program is just one example of a federally funded program that is implemented by the local government. In the instance of the buyout program, local officials not only select homeowners to participate in the program, therefore determining the geographic scope of the program, but also how the land is used long term. In an evaluation of federal programs that are implemented at the local level, Thomas (1978,

420) notes that “federal programs are not uniformly applied...[and] the effectiveness of a federal program varies from one local community to another.” Thomas states the reason for this uneven implementation is that local governments make federal programs fit local agendas and priorities.

Pollution legislation, ranging from clean air to water quality, is disseminated from the federal government, but implemented by local municipalities. Despite federal mandates, many states have not fully implemented federal regulations, such as the requirements of the Clean Air Act (CAA), particularly smog reduction (Driesen 1996). States do not want to implement strict air quality standards that neighboring states ignore as they may lose business; therefore uniform enforcement across the country by the EPA is required (Driesen 1996). Similarly, the Clean Water Act, a piece of legislation passed by the U.S. Congress, requires states to establish and enforce water quality standards. These standards vary state to state with implementation varying substantially (Viscusi 1995).

Other examples of varying compliance with federal programs include the National Incident Management System (NIMS) which links federal, state, and local governments in one standardized emergency response system. NIMS is implemented differently in counties across the United States, which questions the effectiveness of the system in the event of a large-scale disaster (Jensen 2010). Additionally, the enforcement of the endangered species act often pits federal legislation against local enforcement as many endangered species live on non-federal lands (Melious 2001). Similar to these examples, the HMGP, funded and regulated at the federal level, is implemented by local municipalities. These local governments interpret and enact open space management to

varying degrees of utility across the country. This study in part, examines the product, the physical buyout landscape, of local interpretation of federal policy.

2.5 Neighborhood Associations and Civic Action

Neighborhood associations, particularly those in urban areas, increased during the late twentieth century, partly in response to urban redevelopment (Mesch and Schwirian 1996). These associations are replacing the once popular recreational and fraternal organizations that served as a forum for political discussion and a springboard for grassroots civic action (Cooper and Musso 1999). These place-specific organizations are driven by common interests to improve the overall quality of a neighborhood and often form in response to land development projects (Logan and Rabrenovic 1990). Research on neighborhood associations spans numerous topics and ranges from identification of participants' demographics (Nachmias and Palen 1982; Siordia and Saenz 2013) to the political effectiveness of associations (Mesch and Schwirian 1996; Purcell 2001; Knickmeyer et al. 2003) to associations' role in hazard management (Bajek et al. 2008). The buyout program provides an opportunity to explore the role of neighborhood associations in shaping federal policy to fit local communities.

2.6 Critical Social Research Methodology

In general, practitioners of critical social research share a common value orientation and epistemology, although there are differences in methods and, to some extent, beliefs regarding the connection between values and facts (Carspecken 1996). The first, and perhaps the most fundamental, of these commonalities is that critical research can be used to identify and change social inequities. In all societies, certain groups are privileged

while others are oppressed; this oppression is reinforced and carried forward through overt and tacit compliance with the social structure. From a critical perspective, research should be used to identify these inequities and confront all forms of oppression. Therefore critical researchers are not just examining social life, but to also pushing forward social theory by investigating “the nature of social structure, power, culture, and human agency” (Carspecken 1996, 3). The theme of power, often derived from the capitalist system of production and consumption, is present in critical work and represented through signs and symbols, much like a cultural artifact. In geography, these signs and symbols are of particular importance in landscape interpretation (Cosgrove 1985; Rose 1993).

Tying into this effort to identify signs and symbols of power within social systems, criticalists challenge the notion of “objective” science by questioning how traditional research methods perpetuate injustice and inequity while claiming neutrality. This leads into a key difference between critical and traditional or positivist epistemologies or how knowledge is acquired. The critical epistemology, as implemented in critical qualitative research, identifies truth as culturally bound yet acknowledges that common realities exist amongst all people regardless of culture or societal norms. Because of these common realities researchers are able to work across cultures (Carspecken 1996). My study embodies a criticalist perspective, as I work to understand the powers and social system associated with the buyout properties. Additionally, I borrow from the post-structural philosophical position to analyze discourse surrounding the open spaces of Lexington.

Post-structuralism exists within the critical social perspective realm. This philosophical position builds upon structuralism, a linguistic approach that “seeks to expose the enduring and underlying structures inscribed in the cultural practices of human subjects” (Gregory 2009, 725). These underlying structures are invisible, but their effects are evident and measurable in everyday social systems. Post-structuralists question and strive to break the theoretical arguments or meanings present in narrative, text or discourse. This disruption of meaning is often attributed to the French philosophers Jacques Derrida, Michael Foucault, and Jean Baudrillard among others. Derrida contributed the deconstruction of traditional binaries to the post-structural position (Derrida 1976). Foucault developed his archaeological and genealogical methods to analyze how institutions, like prisons, perpetrated power and societal control through discourse (Foucault 1970; Foucault 1972; Foucault 1976). Baudrillard, who published prolifically on issues facing contemporary society, did not view himself as a post-structuralist. He criticized the notion of critique employed by post-structuralists as “complicity rather than subversion” to the very structures in questions (Clarke and Doel 2004, 27). Post-structuralism has grown out of the French philosophical tradition, but has been widely implemented by a range of scholars (Spivak 1988; Butler 1990; Bhabha 1994). Each of these philosophers approach post-structuralism in their own way as evidenced in their methods and subjects. Although each of these scholars created their own version of post-structuralism, they share a questioning, or critique, of social institutions that perpetuate power and control.

Often intertwined in the post-structural identity is the post-modern movement. Post-modernism, which focuses more on cultural aspects like architecture, is less philosophical in nature than post-structuralism. Matthew Sparke has argued that post-modernism reflects more of a pragmatic position and that post-modernists distance themselves from the critique associated with post-structuralism and the inherent social responsibilities associated with identifying power structures, inequity, and oppression (Sparke 1999). However, in the field of geography important contributions have been made under the post-modernism identity (Soja, 1989). In his 1989 book, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*, Soja reprimands scholars who privileged history over geography in social theory and (re)claims the dialectic of space by asserting that space is both socially produced and a product of social forces. Building from this critical spatiality, my study examines the production of open space and how these acquired properties influence the social life in Lexington, KY, by critically analyzing the discourse of residents and the metanarratives put forth by LFUCG to identify the underlying institutions that perpetuate inequities.

III. METHODS & RESEARCH DESIGN

To critically examine how buyout lands are perceived and valued, I incorporated both quantitative measures and qualitative data. This mixed-methods approach allows for in-depth insight as well as generalizable statistics. My research design consists of three sequential components: (1) an initial pilot study that examined property acquisition land use throughout the central United States; (2) a structured survey of residents in each study neighborhood; and (3) semi-structured, in-depth interviews with a cohort of stakeholders. The initial pilot study revealed different land uses amongst buyout sites; this prompted my case study approach and engagement with the post-structural framework (Soja 1989) to understand how the Lexington-Fayette Urban County Government (LFUCG), neighborhood associations, a local NGO (Friends of Wolf Run [FWR]), and individual residents construct and manage the open space (Figure 1).

Creswell (2008) noted the benefits of a research design where a survey is followed by interviews, as the survey can help shape questions for the interview, whereas the interview can clarify and provide greater depth to survey responses. The case study approach allows for a holistic and in-depth exploration of social interaction; a variety of viewpoints and perspectives can be represented in a real-life context. Case study analysis captures these complexities that may be missed through other modes of research (Zainal 2007).

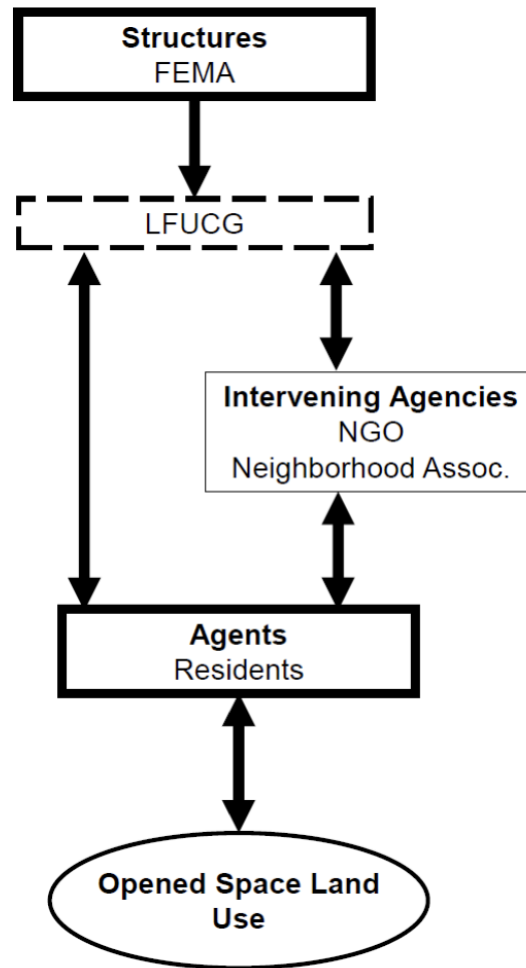


Figure 1. Conceptual framework based on identifying the various influences on open space land use and the interaction between structural drivers, intermediary agencies, and residents.

My case study focused on the experience and discourse of five neighborhoods in Lexington, KY. The narratives of these residents provided greater insight on how they valued the open space and how the management and utility of the space is perceived. The research questions included: (1) How do current residents of buyout neighborhoods perceive the acquired properties? (2) What values (economic, ecological, and social) accrue from open spaces? (3) Who determines these values: individual residents, structural drivers, or intervening agents with specific agendas? How do these

determinations manifest in buyout land use approaches? In addressing these questions, I seek to identify how residents, LFUCG employees, and various stakeholders interact with the open space and construct the buyout landscape that is both influenced and shaped by social life in Lexington, KY.

3.1 Study Site

This project compares the experiences of five neighborhoods within the Wolf Run watershed in western Lexington, Kentucky (Figure 2). In 2010, the U.S. Census Bureau reported a population of 295,803 for the City of Lexington (US Census 2010; Table 1). Portions of my study neighborhoods have experienced repetitive flooding since development in the mid-twentieth century, with significant damage after the 1992 and 1997 floods. In March of 1997, central Kentucky experienced catastrophic flooding because of to a series of powerful thunderstorms. The Lexington metropolitan area received between 20-25 cm of rain from the storm event causing urban streams to flood, including those in the Wolf Run watershed. In Kentucky, 92 counties received disaster declarations and damage across the region was estimated at \$400,000,000 (National Weather Service 2007).

Following these flood events, the Lexington Fayette Urban County Government (LFUCG) applied for funding through the Hazard Mitigation Grant Program (HMGP) and with the help of the federal government purchased 67 properties dispersed among the five neighborhoods during the late 1990s and early 2000s (Table 2). Following these acquisitions, between 88-97 percent of the homes remained in the study neighborhoods. I purposively selected Lexington, KY as the case study for my project due to this repetitive

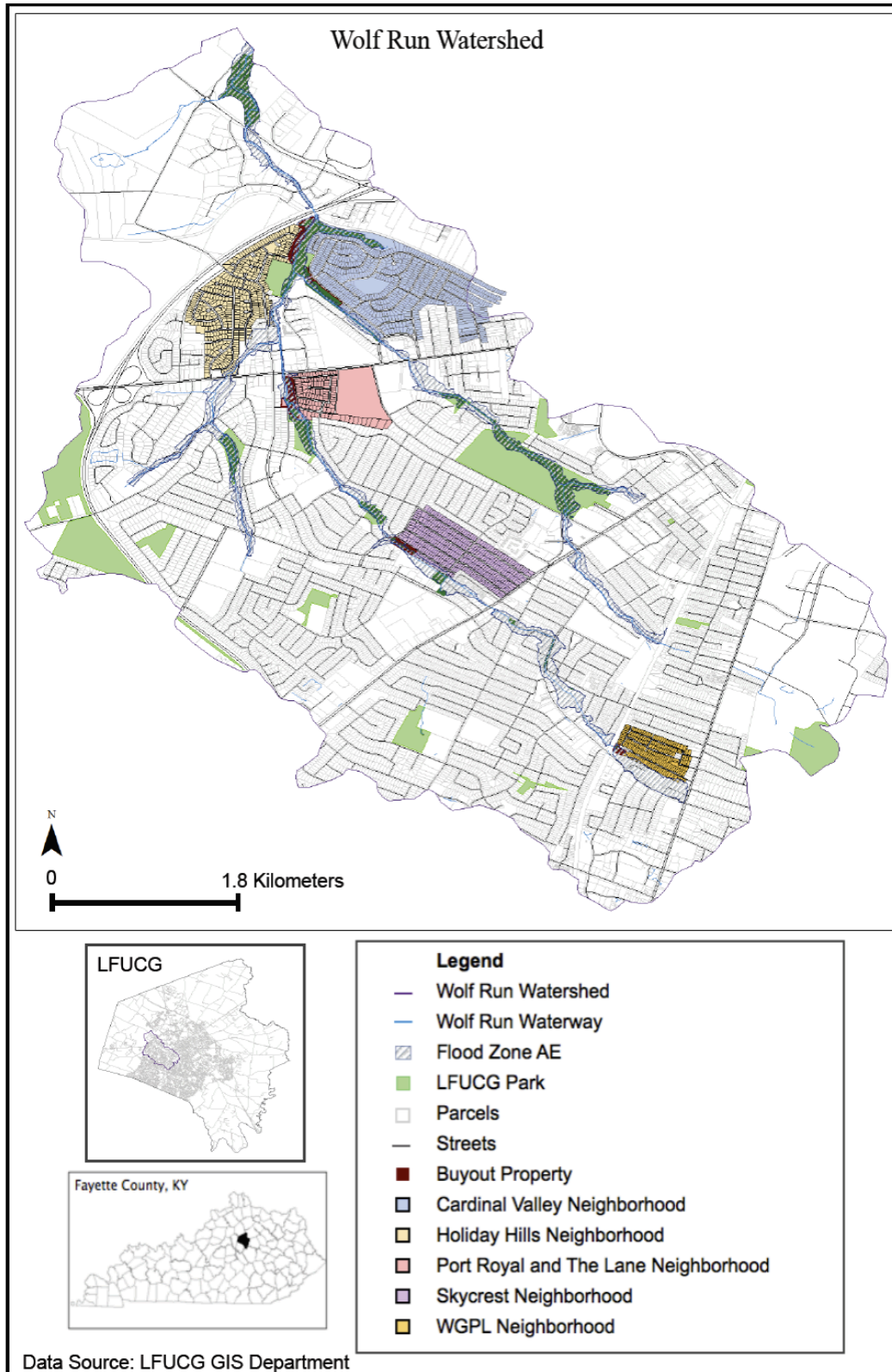


Figure 2. Map of the five Lexington, KY study neighborhoods.

flood history as well as the opportunity to examine the experiences of five different neighborhoods still populated with residents following the buyout and all managed by the same municipal authority.

In addition to these HMGP-funded buyouts, over the past decade LFUCG has used local revenue to acquire additional properties, known as capital projects. These capital projects are beyond the scope of this study, but it is important to highlight LFUCG's long-term commitment to acquiring flood-prone properties through a variety of funding sources. The capital project buyouts tend to be individual lots dispersed throughout the city, whereas the buyout properties LFUCG acquired through HMGP funding consist of larger tracts of land clustered together with potential for high-utility open space land use. As of 2013, only one of the study neighborhoods has implemented a formal open space land use; Port Royal developed a labyrinth with a bench on a buyout lot (Figure 3). The buyout properties in the other four neighborhoods are vacant lots primarily consisting of mowed grass with riparian vegetation along the creek (Figures 4-7). In the past couple years, the Port Royal and WGPL neighborhoods received local city grants, amounting to \$2500 and \$7000 respectively, for landscaping and tree planting. The Friends of Wolf Run (FWR), a local NGO, has also worked with the NAs in Port Royal and WGPL to plant native species and protect riparian vegetation through no-mow zones along the banks of the creek. FWR promotes an ecological agenda that seeks to develop a green corridor with native riparian vegetation along the creek and strongly supports the acquisition of properties in Lexington, KY.

Table 1. Demographic data for LFUCG and the five case study neighborhoods (US Census, 2010). Note: Port Royal and Skycrest neighborhoods are in the same census tract. *Hispanic/Latino/Latina Ethnicity is calculated independently from the racial categories (White, Black/African American, Asian, etc.) by the US Census Bureau.

Neighborhood	Median Home Value (\$)	Median Age (yr)	Racial/Ethnic Demographics				
			White (%)	Black/African American (%)	Asian (%)	Other Races (%)	Hispanic/Latino/Latina Origin (%)*
Cardinal Valley	103,100	30.8	66.2	13.1	1.0	18.7	26.3
Holiday Hills	124,300	34.3	69.7	17.7	0.0	12.6	14.7
Port Royal	131,300	41.1	87.7	3.5	0.5	7.7	7.2
Skycrest	131,300	41.1	87.7	3.5	0.5	7.7	7.2
WGPL	161,100	37.2	88.1	3.3	4.5	2.2	4.7
LFUCG	159,200	35.1	75.7	14.5	3.2	6.6	6.9

Table 2. The five Lexington neighborhoods with HMGP-acquired properties and the associated land uses. Note: In each neighborhood, all the acquired properties are grouped together resulting in one open space.

Neighborhood	Total properties	Number acquired	Land Use 2013	Neighborhood Association
Cardinal Valley	749	20	Vacant area	Active
Holiday Hills	464	19	Vacant area	Exists
Port Royal	99	12	Labyrinth/Vacant area	Active
Skycrest	353	10	Vacant area	None
WGPL	210	6	Vacant area	Active



Figure 3. A photograph of the Port Royal labyrinth and sign from December 2012.



Figure 4. A photograph of the acquired properties in the Cardinal Valley neighborhood taken in July 2013.



Figure 5. A photograph of the buyout properties in the Holiday Hills neighborhood taken in July 2013.



Figure 6. A photograph of the acquired lots along Furlong Drive in the Skycrest Neighborhood of Lexington, where the lots are mowed. Photo from December, 2012. Note the thick vegetation and trees along the back of the properties where the river flows.



Figure 7. A photograph of the buyout properties in the WGPL neighborhood with the newly planted trees; taken July 2013.

3.2 Pilot Study: Property Acquisition Land Use Survey

In 2011, I conducted a pilot study that categorized land use on 52 buyout sites throughout the central United States (Zavar 2012). All the sites experienced flooding from 1990-2000 allowing for observations of long-term open space management techniques. I identified buyout sites using government records, newspaper articles, and dialogues with local officials. I determined the present day land uses through a variety of methods including site visits, communication with local government officials, FEMA and government publications, as well as Google Earth satellite images. I counted all present day land uses individually, as some communities implemented multiple land uses at a buyout site. I then categorized the present day uses and compared my observations against the FEMA recommended uses on open space management (FEMA 1998).

My initial land use survey revealed that a variety of land uses exist within post-buyout floodplains and that many of the communities instituted land uses beyond FEMA's recommendations, but within the rules of open space management (Table 3). Although communities developed creative uses that enhanced the utility of the acquired properties, the majority of the 52 buyout sites remained vacant. The pilot study revealed that communities manage their open space differently, which is a reflection of local culture and beliefs. Building upon the work of my pilot study, I explored the decisions behind buyout property management and the social construction of open space.

From this initial land use survey, I selected Lexington, KY as my case study site because of the five distinct neighborhoods within close geographic proximity that shared the same flood and mitigation history. Additionally, each neighborhood has a relatively

large population of residents that remained in the neighborhood following the buyout.

The neighborhoods in my case study have each taken different approaches to open space land management, while operating under the same laws, policies, and guidelines of the local government. The Lexington Fayette Urban County Government (LFUCG) has taken a hands-off approach to managing the open space allowing for residents, neighborhood associations and the intervening agent FWR to spearhead campaigns and activities to increase open space utility. To understand how open space is viewed and valued by various people in the community, including residents of buyout neighborhoods, NGO members, and local government officials, I surveyed residents and conducted semi-structured interviews.

Table 3. Types of land use present at buyout sites in the Central United States (Zavar 2012).

Buyout Land Use	Frequency	FEMA Suggestion
Vacant Lot	28	
Park	23	
Athletics	13	X
Gardening	8	X
Playground	6	
Wetland Restoration	5	X
Water Recreation	5	
Hike trail	4	
Parking Lot	3	
Memorial	2	
Detention Basin	1	
Yard Waste Dump	1	

3.3 Phase One: Survey Component

To gather data on residents' understanding of and experience with the open space, I mailed out approximately 1700 surveys to residents of the five buyout neighborhoods in Lexington, KY (Figure 2). Partnering with the active NAs, I announced the surveys and detailed my project through NA email distribution listservs as well as alerted governmental officials and FWR of my study (Appendices A and B). Following the survey method of Dilman (1978), households first received an announcement letter in the mail explaining the survey and study (Appendix C). Two weeks after mailing the explanatory letter, I mailed the survey to households in the target neighborhoods (Appendix D), followed by a reminder letter two weeks later (Appendix E).

3.3.1 Validity and Reliability

To increase the validity and reliability of the surveys, I took careful steps in designing the instrument to ensure that each question had the same meaning to all involved parties. During the survey design process, I administered the questions to a comparable population and refined the questions and answer choices based on their responses. The survey included categories of questions that were conceptually or topically linked, yet formatted differently, so that I could assess whether similar linkages appeared in the answers.

Additionally, I strived for a representative sampling of my surveyed population to ensure the thoughts and opinions of each neighborhood were accurately represented. Since the neighborhoods of WGPL and Skycrest responded at higher rates than the other study areas, I handed out additional surveys during my field work in the neighborhoods

of Cardinal Valley, Holiday Hills and Port Royal to boost response rates in these neighborhoods. The follow-up interviews afforded me the opportunity to ask participants about their survey responses which provided deeper insight and clarification.

3.4 Phase Two: Interview Component

To understand the subjective experience of those impacted by the acquired land and to “reach areas of reality that would otherwise remain inaccessible” (Peräkylä 2008, 351), I interviewed residents of buyout neighborhoods, NA members, FWR members, and local government officials for their narratives on the buyout open space. The result includes 22 interviews that provide in-depth accounts of how various individuals and stakeholders perceive and interact with the open space. Both the verbal and nonverbal responses to interview questions were recorded to illuminate underlying beliefs and emotions regarding the buyout properties and open space. Through CDA of these in-depth interviews, I interrogated themes of floodplain utility, open space land management, and post-flood community rebuilding (Fairclough 1995 and Carspecken 1996).

3.4.1 Residents of Buyout Neighborhoods

Once in Lexington, KY, I contacted all survey respondents, through phone and/or email, who indicated willingness to participate in a semi-structured interview, to learn how residents understand the process and outcome of establishing post-flood open space in their neighborhoods (Rubin and Rubin 2005; Kvale and Brinkmann 2009; Appendix F). I conducted 16 interviews with residents³ and inquired about their perceptions of the buyout land use and how, if at all, the open space has affected their property values and

³ Three interview participants were both residents and either governmental officials or stakeholders. In these interviews, I included questions from both the residential and appropriate government or stakeholder protocols and therefore counted their interviews in both categories.

quality of life. In two instances, I met with married couples which resulted in a focus group instead of a one-on-one interview (Kamberelis and Dimitraiadis 2008). Both the interviews and focus groups provided a more robust account of the residents' experiences with, and understanding of, post-buyout land use management. By framing the discussions with residents as participant-centered, I increased their awareness of the buyout properties and FEMA-approved open space management practices (Fontana and Frey 2008).

3.4.2 Government Officials and Stakeholders

I conducted a total of nine semi-structured interviews with former and current government officials, NA members, and members of FWR to understand the decision-making process for the open space in each neighborhood (Rubin and Rubin, 2005; Appendices G, H, I, and J). Within this category, three of the interviews were conducted with pre-identified individuals and, employing a snowball-approach, I gained access to six additional participants. These individuals represented a variety of local government, NA, and NGO positions. By analyzing the discourse generated through these in-depth interviews, I explored how networks of power and authority have manifested in the floodplain and influenced the development of the open space.

3.4.3 Interview Procedures and Protocols

Almost all interviews were audio recorded and transcribed verbatim (McLellan et al. 2003); three interview participants requested that I not record their interview, in which case I wrote detailed notes. Following transcription and as part of the CDA, I developed a coding structure that identified common beliefs, thoughts, and emotions regarding the

open space. I did not use a predetermined coding structure; instead it was inductive in design and evolved from my interviews, field notes and transcripts. Using this coding structure and the software program NVivo (2012), I coded the transcripts and sorted them by themes for final analysis and synthesis (Rubin and Rubin 2005). For key informants, I conducted an in-depth power analysis following the procedures identified by Carspecken (1996).

3.4.4 Validity and Reliability

Validation checks were conducted at each stage of the interview process. Kvale and Brinkman (2009) argue that validity in the design of the interview should highlight beneficence, where the benefit to society is the primary goal and negative consequences are minimal. My study followed this model, where knowledge and understanding of communities' past experiences with buyouts will greatly help future cities acquire flood-prone properties and develop open spaces that best serve the community. By increasing participants' awareness of these properties, this study may even serve as a catalyst for increasing the utility of the acquired lands in Lexington. Additionally, I have promised interested residents, LFUCG employees and FWR a summary report of my findings.

During the interviews, I performed meaning checks to ensure I understood the participant's words and experiences. I supplemented the transcriptions with my interview notes and reflections to help provide an accurate linguistic style for the written account⁴. While performing data analysis, I conducted member checks with interview participants via email to verify my interpretation of participant narratives. I was also able to

⁴ All quotes in this study, both from written comments and verbal interviews, are represented as the individual communicated them to me. Therefore, I did not edit for grammar or spelling.

acknowledge and limit my own biases in data interpretation by utilizing the knowledge and experience of my qualitative learning community at Texas State University. Since I have the accounts of multiple participants, as well as my experience in the community, I triangulated narratives for increased validity.

To check the reliability of the transcripts, a second person transcribed various passages of each interview for comparison purposes. This comparison ensured consistency and accuracy from the audio recording to the written document. I was the only researcher coding the transcriptions, thus increasing the reliability of the coding structure.

3.5 Data Analysis

To analyze my data I organized the residents' survey responses and interview transcripts in NVivo 9 (QSR 2010). For the surveys, I performed a content analysis (Elo and Kyngäs 2007) of both the responses to questions as well as the unsolicited comments in the margins. This marginalia provided additional insight into residential perceptions of the open space and often reflected stronger emotions than the structured responses available on the survey. I organized the transcripts from my interviews with residents, government officials, and stakeholders in NVivo 9 (QSR 2010) as well. I implemented an inductive data analysis (Ruben and Ruben 2009) which evolved from my initial readings of my transcripts, field observations, and notes.

Based on my initial readings of survey marginalia and interview transcripts, I highlighted passages of interest using NVivo 9 (QSR 2010). I developed my initial codes based on these passages of interest. For example the code recreation emerged from a

resident's comment that the open space "keeps kids and me outside, keeps them playing, it lets all of us play, young and old." Once I had coded all the transcripts in NVivo 9 (QSR 2010) using this emergent coding structure, I divided the initial codes into 20 general categories by hand. This categorical aggregation enabled me to identify and refine my coding structure by eliminating repetitive codes as well as expanding upon narrowly defined codes. This iterative process resulted in 60 categorized codes. For example, I grouped the codes family interaction, recreation, and open space use within the category Activities Happening in the Open Space. I memo-ed to further refine the categories and identify general patterns amongst my codes.

As I refined my coding structure, I established parameters for my 60 codes using a spread sheet in Microsoft Excel (Microsoft 2010). For each code, I created a spreadsheet entry that included the code, associated category, description of the code, and three examples of quotes for that code. The examples served as boundaries for what was permissible for each code. The first of the three was an example of coding at low inference, the second example was a common reference, and the third example was higher inference. For the code recreation, I used the parameters; (1) soccer goals; (2) Nice to have non-traffic cut through- encourages ppl to walk; (3) keeps kids and me outside, keeps them playing, it lets all of us play, young and old. This increased my consistency throughout the data analysis and helped identify areas of overlap. These defined parameters, helped me reorganize and further refine the coding structure. For example, I initially assigned the code health to the category Security as I first thought residents associated illness caused by contaminated storm water with lack of protection, or

insecurity, from LFUCG. However, when I reread my interviews and field notes, despite residents discussing health concerns in relation to a lack of environmental protection, they more frequently connected their health to issues of water quality, storm water management, and other indicators of ecological health. Therefore, I redefined how I described the code health and grouped it into the Environmental Quality category, which included the codes: health, water quality, dog, garbage, and sewage; while the Security category included the codes: safety, police, violence, and vandalism.

In addition to refining my analysis of the data, this process helped me eliminate codes with overlapping boundaries. For example, “exercise” and “recreation” became one code. Additionally, as I defined and described the codes, I observed similarities and differences in experiences and perceptions from the five buyout neighborhoods. To improve my validity, I used meaning and member checks. After each refinement of my coding structure, I re-evaluated my categories and the associate codes based on re-reading interview transcripts, survey comments, and field observations. Based on my research questions and coding structure, I reduced my codes into three broad themes: Hegemony and Open Space, Engagement with Open Space, and Categories of Land Interaction. These themes included the motifs of access, power relations, and perceptions of value. I interpreted the data based on naturalist generalizations, where I compared and contrasted the perceptions and experiences of different individuals and at various scales. Finally, I contextualized my case study to the literature and used a series of maps, figures, photographs, and tables to represent and visualize my data.

IV. FINDINGS

My case study yielded quantitative survey results as well as qualitative open-response survey data and interviews. The survey results consist of descriptive statistics of the participants in the study neighborhoods as well as data on participant awareness and perception of the buyout program. Open-response survey questions captured participant attitudes and values of the buyout properties in their neighborhood. I also collected qualitative data through in-depth interviews, which illuminated how residents, LFUCG employees and other stakeholders engage with and perceive the buyout properties. Combined, these datasets identify how open space in Lexington, KY is constructed and valued by various entities.

4.1 Quantitative Survey Results

I mailed surveys to a total of 1,768 households in the five study neighborhoods of the Wolf Run watershed. Residents returned 250 surveys, resulting in a 14.14 percent return rate (Table 4). The multiple choice questions on the survey yielded demographic data as well as information on length of residency, awareness of the buyout program, and how the appearance of the open space impacts residential property values. The majority of survey respondents are female (65.97 percent) with an average age of 55.75 years old, although sex and age varied amongst the study neighborhoods (Table 5). Most survey participants indicated that they hold post-secondary degrees, with nearly 32 percent of all respondents earning graduate level degrees (Table 5). These higher-levels of education were more frequent in the WGPL (58.62 percent) and Skycrest, (35.09 percent) neighborhoods, which are in close proximity, within 3 km, to the University of Kentucky.

Over 98 percent of all the residents who participated in the survey lived in a single-family home and 86 percent of respondents owned their properties (Table 6). The majority of survey respondents who indicated that they rent their homes live in either the Cardinal Valley (13.85 percent) or WGPL (13.79 percent) neighborhoods. Although home rental is often associated with individuals of lower socio-economic status, the renters in the WGPL, a neighborhood of higher social-economic status, tend to be medical doctors completing their residency at a nearby hospital.

The higher number of renters in WGPL, particularly of medical doctors requiring short-term leases, likely contributed to the low average residency for this neighborhood. In their surveys, residents of WGPL reported the lowest average length of residency at 13.94 years (maximum = 54.00 years, and minimum 0.25 years). However, even though the average residency in all five neighborhoods was 18.47 years, length of residency varied greatly amongst the neighborhoods (Table 7). Based on the survey, on average, Holiday Hills residents lived in their neighborhood the longest (mean = 26.97 years, maximum = 50.00 years, and minimum 3.00 years), followed by Port Royal (mean = 22.75 years, maximum = 50.00 years, and minimum 1.00 year); Skycrest (mean = 21.04 years, maximum = 60.00 years, and minimum 0.25 years); and Cardinal Valley (mean = 20.57 years, maximum = 53.00 years, and minimum 0.25 years). Buyout neighborhood residency length, however, did not predetermine sense of community as revealed in the survey.

Table 4. Number of surveys mailed to residents and the return rate by neighborhood.

Neighborhood	Surveys mailed (n)	Surveys returned (n)	Total returned (%)
Cardinal Valley	707	67	9.48
Holiday Hills	404	34	8.42
Port Royal	110	21	19.09
Skycrest	343	58	16.91
WGPL	204	58	28.43
Unsure	-	6	-
Blank	-	6	-
Total	1768	250	14.14

Table 5. General demographic information of survey respondents by neighborhood.

Neighborhood	n	Demographics									
		Sex		Age			Education Level				
		Male (%)	Female (%)	Mean (yr)	Max (yr)	Min (yr)	High School/ Equivalent (%)	Some College (%)	Bachelor (%)	Graduate (%)	Other (%)
Cardinal Valley	67	34.36	65.63	58.42	89	26	25.80	30.64	24.19	14.51	4.83
Holiday Hills	34	46.86	53.13	63.81	84	37	32.35	29.41	20.59	17.64	0.00
Port Royal	21	35.00	65.00	60.15	95	30	15.00	25.00	30.00	25.00	5.00
Skycrest	58	22.40	77.60	53.19	88	25	5.26	26.32	28.07	35.09	5.26
WGPL	58	36.19	63.81	50.79	89	26	3.45	13.79	22.41	58.62	1.72
Unsure	6	50.00	50.00	39.3	61	26	20.00	0.00	20.00	20.00	40.00
All Neighborhoods Combined	250	34.03	65.97	55.75	95	25	15.25	24.15	24.58	31.78	4.24

Table 6. Survey respondents' housing characteristics by neighborhood.

Neighborhood	n	Housing Characteristics				
		Housing Type		Ownership Status		
		Single Family (%)	Duplex (%)	Own (%)	Rent (%)	Other (%)
Cardinal Valley	67	96.92	3.08	81.54	13.85	4.62
Holiday Hills	34	100.00	0.00	97.06	2.94	0.00
Port Royal	21	95.23	4.77	95.24	4.76	0.00
Skycrest	58	100.00	0.00	93.10	6.90	0.00
WGPL	58	100.00	0.00	86.2	13.79	0.00
Unsure	6	100.00	0.00	66.67	33.33	0.00
All Neighborhoods Combined	250	98.80	1.20	86.00	12.80	1.20

Despite the shorter residency time, surveys revealed that residents of WGPL more frequently agreed (44.83 percent) or strongly agreed (37.93 percent) that their neighborhood had a strong sense of community when compared to the other four study neighborhoods. Residents of Port Royal recorded the weakest sense of community amongst the survey participants, 9.52 percent strongly disagreed; however, 45 percent of the Port Royal survey respondents strongly agreed that their neighborhood offered amenities, more than any other study site (Table 7). Unexpectedly, the survey responses indicate no relationship exists between length of residency, available amenities, and sense of community. These neighborhood characteristics however provide generalized background information on the study neighborhoods that contextualize residents' perceptions of the buyout properties. For example, neighborhoods with fewer recreational amenities but strong sense of community, like the WGPL, may perceive the open space

more positively than neighborhoods with a multitude of amenities since the open space fills a recreational void in the WGPL neighborhood.

To begin to access residents' perception of open space, I first inquired about residents' awareness of their neighborhood's flood history and buyout program. In general, survey participants from all neighborhoods indicated that they are very aware (43.85 percent) of the buyout program in their neighborhood; 22.54 percent of respondents indicated they are aware, 11.07 percent indicated they are somewhat aware, and 22.54 percent indicated they were unaware of the program (Table 8). Residents of Port Royal revealed that they are very aware (66.67 percent) of the buyout program, the largest percentage of all study neighborhoods. Port Royal is the smallest neighborhood in the study, both in terms of number of households and area. Perhaps this small size increased the sharing of information amongst neighbors. In a small neighborhood with roughly 100 properties, the acquisition of 12 parcels is likely more noticeable than buyouts in neighborhoods with hundreds of households. On the other hand, in the largest neighborhood of this study, Cardinal Valley, 42.42 percent of the respondents considered they are very aware of the program; however, Cardinal Valley also reported that 28.79 percent of participants were unaware of the program, the highest percentage of any neighborhood. This suggests that the neighborhood as a whole has varied knowledge and experience with HMGP property acquisition. Not surprisingly, the individuals unsure of which neighborhood they reside in, recorded high rates, 50 percent, of unawareness of the buyout program.

In addition to establishing the level of awareness with the buyout program, I also was interested in participants' satisfaction with the present land use on the acquired properties and the perceived impact that the open space has on property values. The majority of survey participants responded that they are satisfied (40.36 percent) or somewhat satisfied (32.29 percent) with the current appearance of the open space (Table 8). Port Royal, the neighborhood with the labyrinth, recorded the most very satisfied responses at 26.31 percent, yet 15.79 percent of respondents marked that they are unsatisfied with the appearance, the second highest of the study sites. Participants from Skycrest accounted for the most unsatisfied responses at 17.65 percent, indicating that neighbors would like to see some change to the current land use of the buyout properties. Respondents from Holiday Hills appear to be the most satisfied with the current appearance as 54.84 percent marked satisfied and only 6.45 percent marked unsatisfied, the fewest of all neighborhoods. Given that Holiday Hills had the lowest survey response rate, 8.42 percent, this may just be a function of who elected to participate in the study; although the satisfaction rates of participants from Holiday Hills mirrors the overall satisfaction rates from all the neighborhoods combined.

The overwhelming majority of survey respondents from all neighborhoods combined indicated that the current buyout land use has no effect on their property value (65.24 percent); 18.03 percent marked that it increases property values and 7.73 percent responded that it decreases property values (Table 8). Residents of WGPL most frequently responded that the open space increases property value (32.20 percent), which may indicate why residents of this neighborhood tend to be very satisfied or satisfied with

the current open space use. Port Royal and Cardinal Valley residents responded most frequently that the open space decreased property value, 16.67 percent and 14.29 percent respectively; however, these comparatively low percentages suggest most residents that participated in the study do not associate the buyout properties with decreased property values. These survey responses reveal that in general, residents are aware of the buyout program and content with the appearance of the open space, yet see room for improvement. Since most people who participated in the survey do not associate the appearance of the open space with their property value, the overall satisfaction is likely higher than if residents felt that land use on acquired properties impacted their investment.

Table 7. Neighborhood characteristics as described by survey respondents of the five buyout neighborhoods.

		Neighborhood Characteristics												
		Years in Neighborhood			Strong sense of community					Neighborhood offers amenities				
		Mean (yr)	Max (yr)	Min (yr)	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Neighborhood	n													
Cardinal Valley	67	20.57	53.00	0.25	1.54	33.85	38.46	21.54	4.62	3.12	37.50	34.38	21.88	3.13
Holiday Hills	34	26.97	50.00	3.00	2.94	26.47	44.12	26.47	0.00	5.88	41.18	23.53	26.47	2.94
Port Royal	21	22.75	50.00	1.00	19.05	52.38	14.29	4.76	9.52	5.00	45.00	30.00	10.00	10.00
Skycrest	58	21.04	60.00	0.25	14.04	36.84	35.09	14.04	0.00	3.57	33.93	28.57	28.57	5.36
WGPL	58	13.94	54.00	0.25	37.93	44.83	15.52	1.72	0.00	3.64	34.50	43.64	16.36	1.82
Unsure	6	5.51	20.00	0.08	0.00	66.67	16.67	16.67	0.00	0.00	50.00	33.33	16.67	0.00
All Neighborhoods Combined	250	18.47	60.00	0.25	14.88	38.43	30.17	14.05	2.07	3.81	37.29	33.05	21.61	3.81

Table 8. Survey respondents' perceptions of the floodplain and open space in the five buyout neighborhoods.

		Flood and Open Space											
Neighborhood	n	Awareness of Buyout Program				Satisfaction with Current Appearance of Open Space				Current Open Space Impacts Property Value			
		Very Aware (%)	Aware (%)	Some-what Aware (%)	Un-aware (%)	Very satisfied (%)	Satisfied (%)	Somewhat satisfied (%)	Unsatisfied (%)	Increases (%)	No Effect (%)	Decreases (%)	Not Owner (%)
Cardinal Valley	67	42.42	15.15	13.63	28.79	11.86	44.06	32.20	11.86	11.11	65.08	14.29	9.52
Holiday Hills	34	41.18	29.41	8.82	20.59	19.35	54.84	19.35	6.45	12.90	70.97	9.68	6.45
Port Royal	21	66.67	23.81	0.00	9.52	26.31	31.58	26.31	15.79	0.00	83.33	16.67	0.00
Skycrest	58	34.48	27.59	10.34	27.59	13.72	31.37	37.25	17.65	17.74	70.97	4.84	6.45
WGPL	58	50.85	20.34	15.25	13.56	15.79	35.09	38.60	10.53	32.20	54.34	1.69	11.86
Unsure	6	16.67	33.33	0.00	50.00	0.00	83.33	16.67	0.00	16.67	50.00	0.00	33.33
All Neighbor-hoods Combined	250	43.85	22.54	11.07	22.54	15.25	40.36	32.29	12.11	18.03	65.24	7.73	9.01

4.1.1 Residents' Descriptions of Open Space

The survey included three open response questions; I analyzed the first two questions using the NVivo9 (2012) word frequency tool and the last question I tabulated by hand. The first of these questions asked residents what three words best described the open space in their neighborhoods. The most frequent descriptive words from all the neighborhoods combined were: green (6.39 percent word frequency), grassy (2.17 percent word frequency) and nice (2.17 percent word frequency; Table 9). These descriptions depicted the buyout properties as a positive element in the neighborhoods and characterized the open space as a park or greenway. The seven most frequently used terms from all neighborhoods combined were positive or neutral. The eighth most frequently used term, mowed, reflected both positive and negative opinions. Some residents identified the open spaces as “well maintained” by the city, which included regularly mowing the grass. However, other respondents felt that the open space needed to be mowed more frequently and expressed issues with the maintenance, appearance and upkeep of the buyout properties in their surveys.

This dissatisfaction with the appearance of the open space was evident in the ninth most descriptive word, grass, which was often used in conjunction with a form of mow or need, such as “grass needs mowed.” Given that needs was used 10 times by residents (1.28 percent word frequency), the majority of the grass descriptions referenced something residents would like to see changed or improved. A sizable minority of residents portrayed the open space with negative terms including unused (1.66 percent word frequency), empty (1.41 percent word frequency), and wasted (1.28 percent word

frequency). Participants used the word wasted to describe both the function of the open space as well as the money spent to acquire the properties. Despite these negative descriptors, the majority of study participants detailed the open space in a positive manner yet highlighted that the buyout properties could be improved with more regular maintenance.

Table 9. The most frequently used words to describe the open space from all five study neighborhoods (Note: The words “open,” “space,” and “area” were removed from the word frequency as they were not used to describe the properties but merely reference the parcels; only displaying $n \geq 10$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	green	50	6.39	green	positive
2	grassy	17	2.17	grassy	positive
3	nice	17	2.17	nice	positive
4	trees	16	2.05	tree, trees	neutral
5	well	16	2.05	well	positive
6	maintained	15	1.92	maintain, maintained	positive
7	clean	14	1.79	clean, cleaned	positive
8	mowed	14	1.79	mowed, mowing	neutral
9	grass	13	1.66	grass	neutral
10	unused	13	1.66	unused	negative
11	empty	11	1.41	empty	negative
12	natural	10	1.28	natural, naturally, nature	positive
13	needs	10	1.28	need, needed, needs	negative
14	park	10	1.28	park	positive
15	plain	10	1.28	plain	negative
16	wasted	10	1.28	waste, wasted, wasteful	negative

In addition to examining all the responses combined, I also analyzed the words used by each neighborhood to describe the open space to assess whether spatial variations exist. In Cardinal Valley, green is the most frequently used word to describe the open space, followed by maintained, grass, and grassy (Table 10). Uncommon to the other neighborhoods, residents of Cardinal Valley used the word city three times to stress that

LFUCG owns the buyout parcels and is therefore responsible for maintenance of the land. This awareness of ownership by residents, and the accompanying responsibilities, acknowledges and reinforces LFUCG authority. City was used by residents of Cardinal Valley to express something they feel LFUCG should fix or improve like mowing frequency, generating an element of residential opposition to this power. However, this minimal defiance of a few residents writing on the surveys that they are displeased with how LFUCG maintains the properties is less of a challenge to authority and more of a complaint regarding aesthetics. Based on the survey responses, most Cardinal Valley residents support how LFUCG manages the buyout properties⁵, or at least do not directly take a stand against it, and therefore tacitly comply to the established cultural norms and power structure associated with open space management.

In the other four study neighborhoods, the residents do not acknowledge LFUCG authority in buyout property management. Instead, the residents of Holiday Hills most frequently described the open space in their neighborhood as green, which is commonly used by all neighborhoods, and also designated the land as a park (Table 11). Unique to Holiday Hills, the issue of litter was raised in two of the surveys providing another area of improvement for buyout management. Residents of both Holiday Hills and Port Royal used wider varieties of descriptors for the open space than the other neighborhoods and therefore I included all n values greater than two. In Port Royal, residents commonly used the words clean and peaceful (Table 12). The use of peaceful may be related to the labyrinth in the open space, which is intended to serve as a place of reflection or

⁵ Only 11.86 percent of residents in Cardinal Valley that participated in the survey, indicated that they are unsatisfied with the current appearance of the open space, leaving over 88% of respondents either very satisfied, satisfied or somewhat satisfied.

meditation. Participants in Skycrest most often depicted the buyout properties as green and mowed, but four respondents (2.7 percent word frequency) described the open space as an empty “field,” “lot” or “space.” This negative perception accompanied by the high-frequency of neutral to negative descriptors, further indicates that residents in Skycrest think that the current appearance of open space needs improvement or a defined purpose (Table 13). Although respondents in Skycrest generally agree that the open space needs improvement, the largest consensus of any neighborhood in regards to the appearance of the open space was WGPL; 18 survey participants in WGPL classified the open space as green (8.22 percent word frequency; Table 14). Also, the WGPL surveys frequently mentioned the grant that the NA received to plant trees (3.2 percent word frequency), which was the second most frequently used word associated with the open space. The majority of the references to the tree planting grant were positive; the only two complaints were that the trees appeared “cluttered” and that “it shouldn’t cost \$7,000 to plant what’s there,” implying inefficient use of funds.

Table 10. The most frequently used words to describe the open space from the Cardinal Valley neighborhood (Note: The words “open” and “space” were removed from the frequency; only displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	green	8	4.32	green	positive
2	maintained	6	3.24	maintained	positive
3	grass	5	2.70	grass	neutral
4	grassy	5	2.70	grassy	positive
5	trees	5	2.70	tree, trees	neutral
6	well	5	2.70	well	positive
7	clean	4	2.16	clean	positive
8	empty	4	2.16	empty	negative
9	needs	4	2.16	needs	negative
10	city	3	1.62	city	negative
11	looks	3	1.62	look, looks	neutral
12	mowed	3	1.62	mowed, mowing	neutral
13	see	3	1.62	see	neutral
14	unused	3	1.62	unused	negative

Table 11. The most frequently used words to describe the open space from the Holiday Hills neighborhood (Note: The words “open” and “space” were removed from the frequency; only displaying $n \geq 2$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	green	7	7.37	green	positive
2	park	4	4.21	park	positive
3	nice	3	3.16	nice	positive
4	well	3	3.16	well	positive
5	care	2	2.11	care, cared	positive
6	exactly	2	2.11	exactly	neutral
7	free	2	2.11	free	neutral
8	just	2	2.11	just	neutral
9	like	2	2.11	like	neutral
10	litter	2	2.11	litter	negative
11	many	2	2.11	many	neutral
12	natural	2	2.11	natural	positive
13	sure	2	2.11	sure	neutral
14	utilized	2	2.11	utilized	positive

Table 12. The most frequently used words to describe the open space from the Port Royal neighborhood (Note: The words “open” and “space” were removed from the frequency; only displaying $n \geq 2$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	nice	4	5.80	nice	positive
2	clean	3	4.35	clean	positive
3	green	3	4.35	green	positive
4	peaceful	3	4.35	peaceful	positive
6	creek	2	2.90	creek	neutral
7	grassy	2	2.90	grassy	positive
8	maintained	2	2.90	maintained	positive
9	mowed	2	2.90	mowed, mowing	neutral
10	nothing	2	2.90	nothing	negative
11	used	2	2.90	used	neutral
12	wasted	2	2.90	wasted	negative

Table 13. The most frequently used words to describe the open space from the Skycrest neighborhood (Note: The words “open” and “space” were removed from the frequency; only displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	green	11	6.40	green	positive
2	mowed	6	3.49	mowed	neutral
3	empty	5	2.91	empty	negative
4	field	5	2.91	field	neutral
5	grass	5	2.91	grass	neutral
7	grassy	4	2.33	grassy	positive
8	natural	4	2.33	natural, naturally	positive
9	plain	4	2.33	plain	negative
10	unused	4	2.33	unused	negative
11	vacant	4	2.33	vacant	negative
12	wasted	4	2.33	waste, wasted, wasteful	negative
13	well	4	2.33	well	positive
14	clean	3	1.74	clean	positive
15	kept	3	1.74	kept	positive
16	looks	3	1.74	looks	neutral
17	needs	3	1.74	needed, needs	negative
18	spacious	3	1.74	spacious	positive

Table 14. The most frequently used words to describe the open space from the WGPL neighborhood (Note: The words “open” and “space” were removed from the frequency; only displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)	Value Connotation
1	green	18	8.22	green	positive
2	trees	7	3.20	tree, trees	neutral
3	grassy	5	2.28	grassy	positive
4	neat	5	2.28	neat	positive
5	nice	5	2.28	nice	positive
6	park	5	2.28	park	positive
7	planted	5	2.28	plant, planted, planting, plantings	positive
8	plain	4	1.83	plain	negative
9	clean	3	1.37	clean	positive
10	dog	3	1.37	dog	neutral
11	inviting	3	1.37	inviting	positive
12	maintained	3	1.37	maintained	positive
13	mowed	3	1.37	mowed, mowing	neutral
14	pleasant	3	1.37	pleasant	positive
16	unkept	3	1.37	unkept	negative
17	unused	3	1.37	unused	negative
18	well	3	1.37	well	positive

4.1.2 Residents’ Daily Interaction with Open Space

The second open response question asked residents about their daily interaction with the open space, I also used NVivo9 (2012) to count word frequencies as with the previous question. Most respondents (6.17 percent word frequency) reported no daily interaction with the open space in their neighborhood (Table 15). Another indication that residents have minimal engagement with the open space in their neighborhood was the frequent use (4 percent word frequency) of the word impact to express that the buyout properties have “no impact” or “little impact” on residents’ daily lives. This word choice is interesting as the question asked specifically about residential interaction with the

buyout properties, not how the open space impacts residents. Not only does this wording suggest that these residents do not interact regularly with the open space, but that they do not even view the buyout properties as relevant to their daily lives. An additional 1.92 percent of participants used the term neighborhood to express that they do not utilize or pass by that part of the neighborhood. Despite the majority of survey participants reporting little to no interaction with the buyout properties, the surveys reveal a sizable population of homeowners routinely engaged with the open space through the words: walk (3.09 percent word frequency), dog (2.52 percent word frequency), and play (1.83 percent word frequency) to describe their interactions with the properties. This cohort of residents that interact with the open space regularly tended to be dog owners who walked along or played in the open space. In general, the word frequency revealed two distinct categories of residents, the first category consisting of residents who regularly used the open space with pets and/or children and the second composed of residents with little to no interaction with the buyout properties.

However, a third category of residents emerged, those who did not perceive the buyout properties as a part of their neighborhood. Several residents wrote on their surveys that the open space was not in their neighborhood, even though I used the official LFUCG determination of neighborhood boundaries and verified the neighborhoods with property records from the tax assessor. In Holiday Hills, two residents wrote in the margins that they live in Viley Heights, which the LFUCG Property Appraiser distinguished as a subdivision of the Holiday Hills neighborhood. It is interesting to note which scale of belonging, the subdivision or neighborhood, people identify with when

trying to gauge perceptions of open space. Given that some residents do not identify the open space as located within their neighborhood or in the part of the neighborhood they use, their daily interaction with the acquired properties was likely low to non-existent. This perception that the buyout properties are beyond neighborhood boundaries may contribute to the high number of residents who do not think the appearance of the open space impacts their property value. Although this third category is relatively small compared to the combined survey results, it may explain in part why certain neighborhoods had lower response rates, in particular Holiday Hills. If many people from this neighborhood do not identify the open space as within the boundaries or residents themselves do not recognize that they live within Holiday Hills, they are likely less inclined to participate in the study.

Table 15. Residents' daily interaction with the open space for all study neighborhoods combined (Note: displaying $n \geq 10$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	none	54	6.17	none, nothing, n
2	impact	35	4.00	impact, impacts
3	walk	27	3.09	walk, walking, walks
4	dogs	22	2.52	dog, dogs
5	neighborhood	17	1.95	neighborhood, neighborhoods
6	play	16	1.83	play, playing
7	area	15	1.72	area
8	use	14	1.60	use, used, uses, using
9	see	13	1.49	see, seeing
10	nice	12	1.37	nice

In addition to calculating the word frequencies for all neighborhoods combined, I also examined residential open space interaction by neighborhood. The two

neighborhoods that most frequently indicated no daily interaction with the open space were Cardinal Valley (none = 10.22 percent word frequency, impact = 4.30 percent word frequency) and Holiday Hills (none = 10.64 percent word frequency, impact = 4.26 percent word frequency; Figures 16-17). Respondents from Cardinal Valley also indicated their limited interaction with the open space with other word choices such as, live, which was written on four surveys (2.15 percent word frequency), to express that a the resident “lives in a different part” of Cardinal Valley or a different neighborhood altogether. Similarly, residents wrote neighborhood in three surveys (1.61 percent word frequency) to express that the buyout properties were “not in my neighborhood.” Although in the minority, the residents of Cardinal Valley and Holiday Hills who do interact with the buyout properties regularly tend to do so by walking along the open space (Cardinal Valley = 3.23 percent word frequency and Holiday Hills = 4.26 percent word frequency). This indicates that the open space has some worth and function to residents seeking exercise in these neighborhoods. This preference to walk along the open space as opposed to the built suburban landscape hints at an aesthetic value associated with the buyout properties. Although not dominant values throughout the neighborhoods, the open space does generate fitness and aesthetic values for some residents of Cardinal Valley and Holiday Hills.

Table 16. Residents’ daily interaction with the open space for Cardinal Valley (Note: displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	none	19	10.22	none
2	impact	8	4.30	impact
3	area	6	3.23	area
4	walk	6	3.23	walk, walking
5	live	4	2.15	live, lives
6	open	4	2.15	open
7	space	4	2.15	space, spaces
8	neighborhood	3	1.61	neighborhood
9	path	3	1.61	path, paths
10	really	3	1.61	really
11	street	3	1.61	street, streets

Table 17. Residents’ daily interaction with the open space for Holiday Hills (Note: displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	none	10	10.64	none
2	space	5	5.32	space
3	impact	4	4.26	impact
4	open	4	4.26	open
5	walk	4	4.26	walk, walking, walks

In contrast to Cardinal Valley and Holiday Hills, none of the respondents from Port Royal listed no daily interaction with the open space. However, this does not mean residents of Port Royal have high interaction with the buyout properties either. The most frequent word used by survey respondents in Port Royal was impact, which was used in conjunction with “little,” “no” and “doesn’t” (Figure 18). The design of the neighborhood and the location of the buyouts properties along the primary entry/exit road to the neighborhood, increases the visibility of the open space. Three participants commented that they regularly see the open space when driving or walking through their

neighborhood (3.95 percent word frequency). This high visibility however does not necessarily translate to high-utility or high-function. Interestingly, Port Royal developed a labyrinth in the open space, yet none of the survey respondents indicated that they regularly use it, calling into question the function of this formal buyout land use.

Table 18. Residents' daily interaction with the open space for Port Royal (Note: displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	impact	4	5.26	impact, impacts
2	day	3	3.95	day, daily
3	green	3	3.95	green
4	neighborhood	3	3.95	neighborhood, neighborhoods
5	see	3	3.95	see
6	space	3	3.95	space

Although the open space in Skycrest is less visible than the buyout properties in Port Royal, respondents from Skycrest reported a similar lack of daily interaction (none = 8.52 percent word frequency, impact = 6.25 percent word frequency; Figure 19). A minority group of residents in Skycrest indicated dog walking (3.41 percent word frequency) as a common daily interaction with the open space indicating a recreational value associated with the buyout properties. This activity was even more common in WGPL as playing was the most frequently used word (3.93 percent word frequency; Figure 20). Residential interaction with the buyout properties included kids (0.98 percent word frequency) playing in the open space as well as dogs (3.61 percent word choice). These activities signify a recreational value associated to the buyout properties. WGPL respondents also wrote that the open space serves as a cut through to Southland Dr. (1.64 percent word frequency) where restaurants, shops and other businesses are located. Based on the

survey responses, residents of WGPL have the most frequent daily interaction with the open space when compared to the other neighborhoods, but there still was a sizable number of WGPL residents who reported that the open space has little to no impact on their daily activities (2.30 percent word frequency). These responses indicate that the open space has little impact on the majority of the residents who live in buyout neighborhoods.

Table 19. Residents' daily interaction with the open space for Skycrest (Note: displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	none	15	8.52	none, n
2	impact	11	6.25	impact
3	dogs	8	4.55	dog, dogs
4	walk	6	3.41	walk, walks
5	area	5	2.84	area
7	use	4	2.27	use, used, uses, using
8	gets	3	1.70	get, gets
9	just	3	1.70	just
10	nice	3	1.70	nice
11	place	3	1.70	place, places
12	space	3	1.70	space
13	think	3	1.70	think, thinking

Table 20. Residents' daily interaction with the open space for WGPL (Note: displaying $n \geq 3$).

Ranking	Word	n	Word Frequency Percentage (%)	Similar Words Included in Count (n)
1	play	12	3.93	play, playing
2	dog	11	3.61	dog, dogs
3	day	9	2.95	day
4	space	8	2.62	space
5	use	8	2.62	use, using
7	impact	7	2.30	impact
8	neighborhood	7	2.30	neighborhood
9	walk	7	2.30	walk, walking, walks
10	cut	5	1.64	cut
11	see	5	1.64	see, seeing
12	Southland	5	1.64	Southland
13	drive	4	1.31	drive
14	little	4	1.31	little
15	nice	4	1.31	nice
16	often	4	1.31	often
17	area	3	0.98	area
18	dr	3	0.98	dr
19	frisbee	3	0.98	frisbee, frisbees
20	kids	3	0.98	kids
21	park	3	0.98	park
22	people	3	0.98	people
23	sometimes	3	0.98	sometimes
24	wish	3	0.98	wish

4.1.3 Recommended Changes to Current Appearance of Open Space

The final open response survey question asked what, if anything, the residents would change about the current appearance of the open space in their neighborhood. I categorized the responses into groups based on frequency (Table 21). For residents that reported multiple changes, I recorded each response individually. Of the 250 surveys, 54 or 21.6 percent had no response to this question, suggesting little interest or support for changing the land use of the open space. The responses to the survey question reflect this lack of support for change; most people, over 18 percent, do not want to change anything in regards to the appearance of the open space, particularly in the Cardinal Valley and

Holiday Hills neighborhoods. The most common change survey respondents reported was that they would like more landscaping or planting of trees and flowers in the open space, to make the area “more inviting” (10.61 percent).

Table 21. How residents would change the current appearance of the open space in their neighborhood categorized by frequency.

Response	All Neighborhoods Combined (%)	Cardinal Valley (%)	Holiday Hills (%)	Port Royal (%)	Skycrest (%)	WGPL (%)	Unsure/ Blank (%)
Do Nothing	18.18	23.38	46.34	16.00	11.70	7.50	15.38
Planting/ Landscaping	10.61	10.39	7.32	20.00	9.57	12.50	0.00
Table	6.67	5.19	2.44	8.00	6.38	10.00	7.69
Path/Trail	6.67	3.90	4.88	8.00	12.77	3.75	0.00
Playground	6.67	1.30	0.00	8.00	8.51	13.75	0.00
Park	5.76	2.60	0.00	0.00	13.83	3.75	7.69
Mow/Clean	5.76	7.79	4.88	8.00	5.32	5.00	0.00
Bench	5.15	2.60	2.44	0.00	5.32	10.00	7.69
Garden	4.55	5.19	4.88	0.00	6.38	2.50	7.69
Athletics	1.52	0.00	0.00	0.00	3.19	2.50	0.00
Fence	1.52	1.30	0.00	0.00	0.00	5.00	0.00
Signs	1.21	2.60	0.00	0.00	1.06	0.00	7.69
Trash cans	0.61	0.00	2.44	0.00	1.06	0.00	0.00
Other	8.79	5.19	9.76	24.00	3.19	13.75	7.69
Blank/No Response	16.36	28.57	14.63	8.00	11.70	10.00	38.46

Closely connected to the desire for more planting/landscaping in the open space, and one of the most consistent concerns highlighted by survey participants, was the issue of maintenance, particularly mowing frequency and trash pick-up. Survey participants from all neighborhoods indicated they would like to change the current appearance of the open

space through more regular mowing/cleaning (5.76 percent). Residents of Holiday Hills suggested adding trash cans (0.61 percent) in the open space to reduce litter and dog waste. These maintenance concerns were substantiated by my field observations.

During my six weeks of field study in Lexington, I routinely visited the open space in all five neighborhoods. Lawn mowers, contracted by the city, mowed the buyout properties once during that timeframe; however, it rained almost every day of my fieldwork, limiting the opportunity to mow. Not only did it rain frequently, but these downpours produced flash flood warnings throughout Fayette County. Between July 1 and July 7, 2013 the Lexington Metropolitan area received almost 11 cm of precipitation, a remarkable amount given that the average precipitation for the entire month of July is 10.24 cm (National Weather Service, 2013; Figure 8-9). Following the rain events, I observed litter washed from the stream into the open space, particularly in WGPL. The frequency and strength of these rain events, in part the reason the open space exists today, makes it logistically difficult and expensive for LFUCG to dispatch a maintenance crew to clean-up the litter after each storm. Perhaps the installation of garbage cans for trash or dog waste, might encourage more residents to assist with open space clean-up on a routine basis. Landscaping or planting trees and flowers may also increase the perceived value of the buyout properties thus generating more concern for the appearance.

However, these improvements would cost LFUCG money to implement and maintain. The cost of routinely landscaping, collecting waste from garbage cans and mowing the open space might be prohibitive for the City of Lexington. An employee explained that LFUCG already spends \$45,000 each year to maintain, primarily mow, all

the buyout properties, both capital projects and those funded through the HMGP. The cost associated with maintaining the buyout properties is even greater, considering the loss of revenue because of the removal of homes that once paid property taxes. By converting private property to public land through floodplain acquisition, LFUCG lost a percentage of its tax base and thus annual revenue stream. By participating in the buyout program, LFUCG is not only financially responsible for their share of the purchase price (25 percent), but also this long-term maintenance, which is a significant annual expense just for minimal upkeep. Although FEMA (1998) argues that open space development increases the property values of the homes adjacent to the buyout property thus increasing the tax base, this claim has never been empirically evaluated. Given all the factors that influence property value, it is a difficult claim to validate. For LFUCG increasing annual expenditures on open space management in hopes of raising the tax base may not be economically beneficial because residents do not perceive a link between the appearance of the open space and residential property values. Additionally, the majority of residents that participated in this survey do not want to change the appearance of the open space, thus making it difficult to generate community support.

One project for which community support exists is repairing the sanitary and storm sewer systems, especially within the Wolf Run Watershed. Multiple residents, from all study neighborhoods, wrote in the margins of the survey requests for improved sewage control to reduce trash washed onto the open space after storms. In addition to carrying litter into the open space during periods of heavy rainfall, the high water also transports sewage. This is of particular concern for residents within the Wolf Run

Watershed as the waterway is contaminated with human fecal matter (Coakley 2012). In 2006 the Environmental Protection Agency (EPA) sued the city of Lexington for violation of the Clean Water Act. The sanitary and storm sewer systems were leaking millions of gallons of untreated/partially treated sewage into the waterways for years (Martin, 2012). In response, LFUCG has embarked on an estimated \$600 million dollar project to repair sewage systems and remediate the contaminated areas. Since this project directly impacts the health and wellbeing of residents within the Wolf Run Watershed, it generated support; this similar type of support is unlikely for open space development because most residents indicated on their surveys that the buyout property has little to no impact on their quality of life.

Although residents from all neighborhoods suggested increased maintenance, landscaping, and planting some requests were unique to specific neighborhoods. Cardinal Valley and Skycrest respondents requested more signage (1.21 percent) to identify appropriate conduct in the open space. By requesting more signage, these residents reference an established set of normative behaviors associated with open space that they want to perpetuate. One resident commented that a neighbor drives on the buyout properties despite existing signs that prohibit motor vehicles in the open space. It appears that not all residents agree to the normative view of appropriate open space conduct, or that there really is an established social expectation of how one should act in the open space. The signs could help in presenting that message, but without institutional support, the appropriate behavior will not be perpetuated in daily interaction or social life.

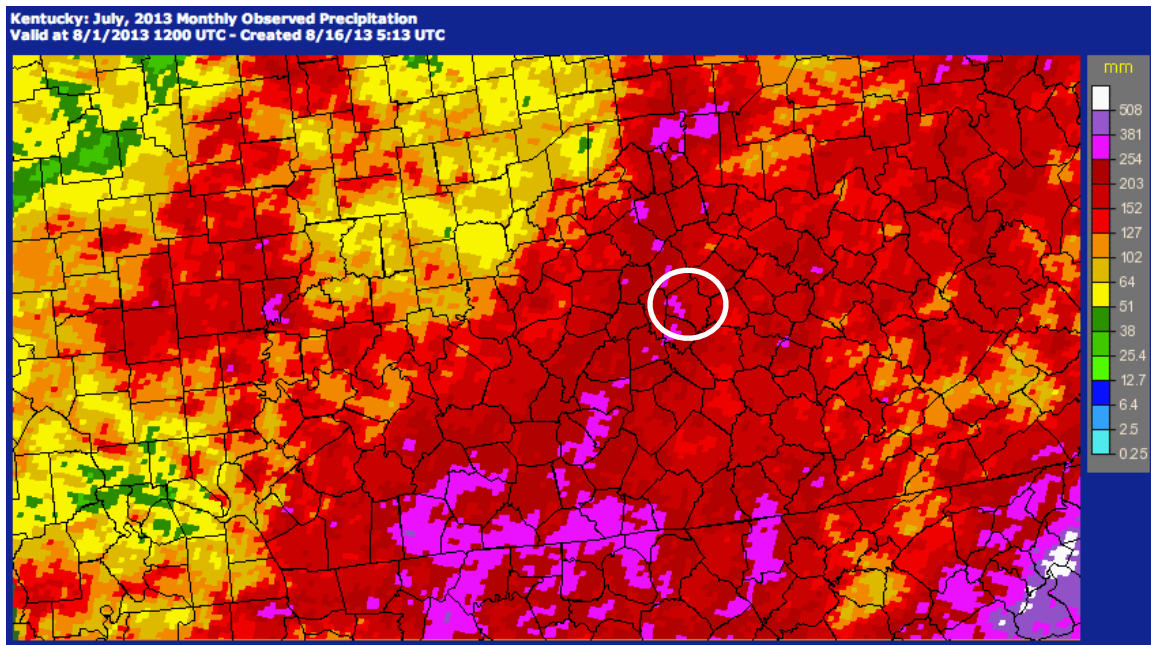


Figure 8. Monthly observed precipitation for the state of Kentucky (Fayette County identified in white circle) during July 2013 (National Weather Service 2013).

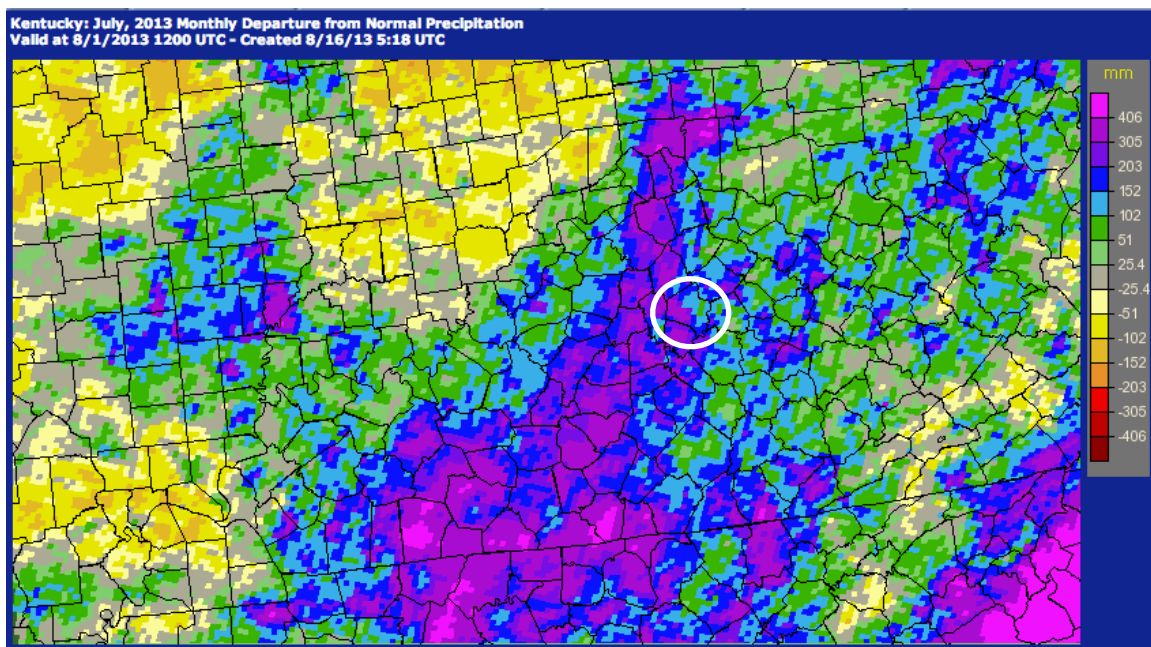


Figure 9. Monthly departure from normal precipitation for the state of Kentucky (Fayette County identified in white circle) during July 2013 (National Weather Service 2013).

Other improvements unique to specific neighborhoods included developing athletic opportunities on the buyout properties. Respondents from Skycrest (3.19 percent) and WGPL (2.50 percent) proposed defining the open space as an area for sports and recreation, such as setting up soccer goals. In general, these two neighborhoods are the most eager for open space development as they had the lowest number of “do nothing” responses on the survey (Skycrest = 11.70 percent and WGPL = 7.50 percent). The surveys also indicated that more residents from WGPL associate the appearance of the open space with their property value (32.2 percent), indicating a greater support based for open space development. The survey responses imply that for residents who associate the value of their property with the appearance of the open space, they are more interested in open space development, particularly if the development improves the aesthetic value via landscaping or the recreational value via increased opportunities for physical exercise.

The surveys identify several other general trends regarding how residents in the five study neighborhoods perceive and value the open space. For the majority of participants, the open space has little to no impact on either their property values nor their daily activities, this trend was most apparent in the Cardinal Valley and Holiday Hills neighborhoods. Those residents who do regularly interact with the buyout properties tend to walk along or play within the open space as observed in the responses from Skycrest and WGPL. Despite having the only formal land use, a labyrinth, residents of Port Royal, indicated on their surveys that the open space development did not raise their property values nor did anyone report using it. These surveys provide important background information on the general attitudes towards the open space. The second component of

this mixed-methods study, the critical discourse analysis of interviews, serves as a complimentary dataset generating an in-depth account of the interaction between social life and open space.

4.2 Qualitative Findings

I interviewed a total of 22 people which included residents from all five buyout neighborhoods, current and former city employees, neighborhood association members, and participants with FWR. Through these conversations, three broad thematic categories emerged regarding the open space in Lexington: hegemony, engagement, and categories of land interaction. I present each of these broad thematic categories as their own subchapters as each category addresses specific points related to the research questions. Furthermore, I break each of these thematic categories, and subchapters, into discrete arguments or motifs based on the interview data. Across all three thematic categories, narratives revealed motifs of access, power relations, and perceptions of value. Therefore I weave these motifs through each thematic category in an attempt to demonstrate how various entities constructed and (re)produced the identity of open space in Lexington.

4.2.1 Hegemony and Open Space

Hegemony is the political or cultural authority over a group of people. The acceptance of this dominant ideology, whether tacit or explicit, reinforces societal inequities and perpetuates systems of inequity. Even those oppressed often adhere to mainstream doctrine through inaction. Beliefs are systematically disseminated through the dominate culture and, in the case of Lexington, manifest in the uses and values placed upon the open space. Within this broad category of hegemony, I coded for themes of access and

power as related to the open space in the study neighborhoods. Residents that participated in interviews identified underlying power structures as well as revealed power relations between residents of varying socio-economic statuses. The theme of access included descriptions of how FWR is invited to participate with the LFUCG, physical obstructions limiting entry to public property, and constructs of alterity, or the identification as outside of the dominant social group.

4.2.1.1 Access

Themes of access repeatedly surfaced during interviews and in the written comments residents provided on surveys. Conversations with residents, stakeholders, and LFUCG employees identified how the intervening entity, FWR, was invited to participate in governmental activities, by LFUCG, thus legitimizing the agenda of FWR and enabling their access to open space management. These discussions revealed that the underlying power structure, the LFUCG, reinforces the inclusion of FWR in policy-making and government procedures. Structural controls determine who is invited to participate and engage with governmental activities. With this access, the FWR shapes political agendas and influences LFUCG subjectivities towards policy. FWR acts as a LFUCG-approved conduit of technical information between LFUCG and residents. George, an employee of LFUCG, typified an example of this access by stating:

“if anybody wants to do something in the greenway, we’ve got a Greenway Encroachment Application process, it’s just a simple two-page, simple thing and Stephen and his group [FWR], any time they want to do native planting we require them to do it, Encroachment Permit. And ah of course that work is automatically approved.”

As a part of bureaucratic protocol, LFUCG approves who uses the open space and how it is used through a permitting process. Even the use of the term encroachment in the application name reasserts LFUCG power over who is authorized to trespass beyond the established boundaries. The Middle English form of encroachment, encrochen, means to “seize illegally” (Merriam Webster, 2013). The etymology implicates that LFUCG makes an exception to its own rules and regulations to grant special permission for use of the open space. The automatic approval of FWR emphasizes that this entity is enabled by the city, not just to participate in open space management, but to participate in a capacity that is beyond the established boundaries. Automatic approval elevates the agenda of FWR and George’s casual reference that “of course” the FWR permit is automatically approved, normalizes the stature of FWR and their use of open space.

Liz, an employee of LFUCG, classified the relationship between the FWR and LFUCG as a “partnership,” implying equality amongst the intervening entity and the institution. Given that the founder of FWR is a retired LFUCG employee, the FWR serves as an unofficial extension of the LFUCG governing body. Liz commented, “I know that we’ve given [FWR] some money to actually do some implementation, naturalization, maintenance, monitoring; i-it’s a really nice partnership.” FWR carries out projects, funded through LFUCG or other governmental entities like the EPA that are consistent with LFUCG goals of land use and management. FWR serves as the conduit between residents and LFUCG; the members provide knowledge and expertise to both the residents, NAs, and city government. FWR has emerged as an authority figure on native vegetation, water quality improvement, and riparian-zone restoration amongst

many residents, which is reinforced by LFUCG granting FWR access to participate in open space land management. For those residents who align with the agenda of riparian-zone restoration, the authority given to FWR is perceived positively. However, for residents, who question the FWR agenda, they view FWR as another entity that must be maneuvered around to establish different uses for the open space.

Karl, a homeowner in Skycrest, who expressed interest in establishing a community garden in the open space revealed, “I’m not going to tell [FWR] what I’m thinking about doing in that space.” A community garden is within the FEMA rules for open space management; however, Karl perceived this land use as a deviation from the agenda of FWR and implied it is a subversive activity. He elaborated why he believes FWR would oppose a community garden: “I think community garden conjures up pesticides and stuff and runoff which [FWR] would be, I would say, adamantly opposed to....but I also have a gigantic garden in my backyard...and I don’t use an ounce of dust or anything like that, I do...all organic methods.” Through this explanation of how his idea of a community garden actually fits within the agenda of FWR, Karl is no longer a dissident, but compliant to FWR plans and activities. This tacit compliance reinforces the authority of FWR in open space.

These revelations of subtle, underlying issues of access to participate in local government are punctuated by residents’ discussions of physical barriers, like gates, which are present in the buyout neighborhoods and restrict access to the public open spaces. Residents from the neighborhoods of Port Royal and WGPL repeatedly highlighted the presence of gates that control who has means of entry to open space. A

resident of Port Royal, Joanne, mentioned in a comment in the margins of her survey that:

“One property that the city purchased for over \$300,000 is not accessible to public. Is treated like private property by those living on THE LANE- Have a gate preventing anyone from using the property as a shortcut. I feel I paid for it & should be able to use it. I do understand that opening it to public increases security risk/vandalism etc. -- mixed feelings.”

The Lane is immediately adjacent to the Port Royal neighborhood and the eastern portion of the road is private as indicated by signage. The western half of The Lane dead-ends in a cul-de-sac where open space connects to Wolf Run Park (Figure 10). The gate and high fence along Roanoke Rd closes The Lane off from the Port Royal neighborhood and restricts the general public from entering the property (Figure 11). Even the name of the street, The Lane (abbreviated The Ln), suggests prestige and privilege. Joanne detailed the buyout price of a home on The Ln at over \$300,000, implying it was an expensive purchase by LFUCG. In fact, the average sale price of the buyout homes in Port Royal was \$110,917, with a maximum purchase price of \$120,000, based on the sale transitions from the Fayette County Property Valuation Administrator (2011). Joanne claims ownership of the public space by asserting that “I paid for it” through taxes and contends that the gate prevents her from using the open space. Another survey participant of Port Royal, Gail, reiterated that “Part of land on “The Lane” is not available to other residents. Land at end of our street is used by public. My husband goes down daily & gathers trash from area.” Both Joanne and Gail emphasized the name, The Lane, by writing it in capital letters or quotations, reinforcing the elite status of the street and their exclusion from this public space.

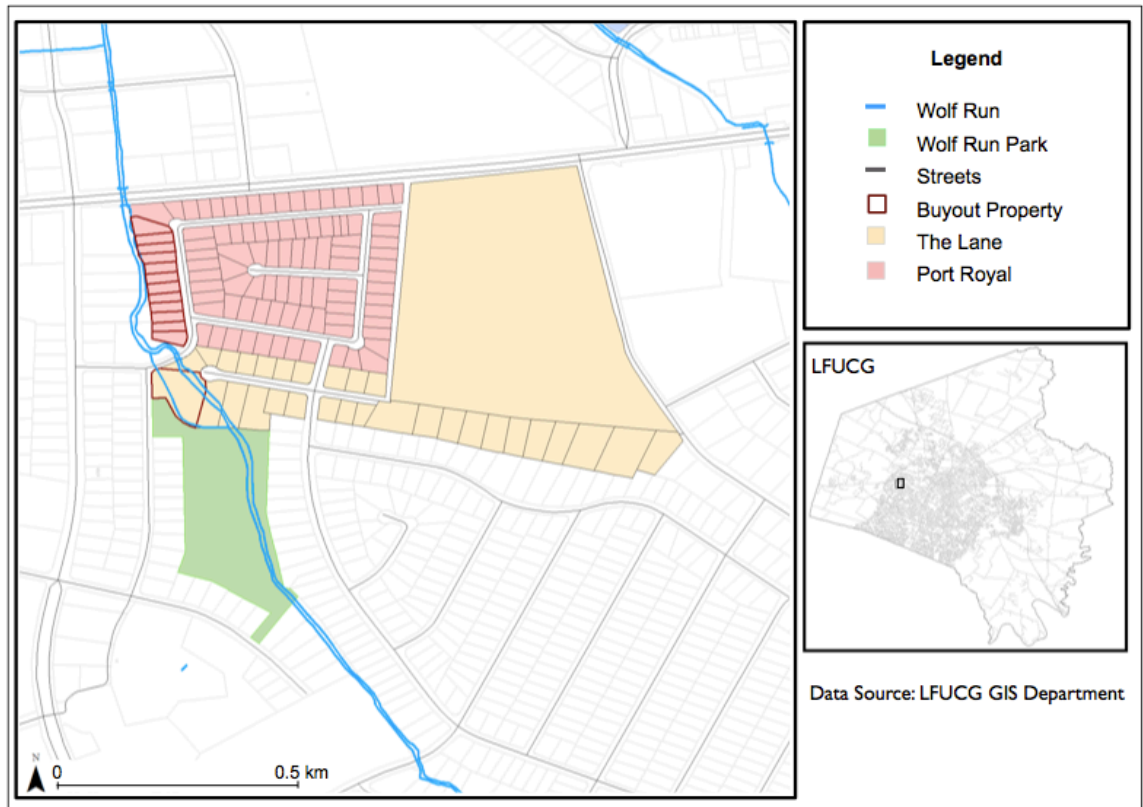


Figure 10. A map of the Port Royal neighborhood and The Lane.



Figure 11. Gate and brick fence blocking the entry to the open space at the end of The Ln from Roanoke Drive. Photo to left view from open space to Roanoke Dr. and photo at right view from Roanoke Drive into open space.

Despite these differences in public access to the open spaces in Port Royal and The Ln, homeowners in both neighborhoods take responsibility for the maintenance of

the buyout properties, but in different ways. Gail explained that her husband picks up litter from the open space along Roanoke Dr., likely the result of public use. Because the creek serves as a boundary for the neighborhood between a commercial district and multi-family housing, there is likely a higher volume of public use along the open space than in The Ln, where the tall, brick fence seals out non-residents. In contrast to Gail's experience, a homeowner on The Ln stated in her survey that she pays for mowing and tree maintenance of the open space, because the homeowner felt the maintenance LFUCG provided was inadequate.

“Because the city's contract mowers did an infrequent & very poor job, I have been paying to maintain this property myself for more than two years. The city is aware of this. I have also paid individually for preventive treatment for the ash trees as the city SAID they would not do so.”

LFUCG does not maintain the open space as well as this homeowner would like, so she pays for the area to resemble a park with manicured lawns. This ability to pay for the mowing of the public buyout land adjacent to her property again portrays The Ln as more affluent area, plus this reinforces the identity of The Lane open space as private, because a private land owner adjacent to the space pays for the upkeep of the buyout property.

Both buyout properties are public spaces as defined through LFUCG ownership, but the perception indicates that the open space along Roanoke is more public than along The Ln. The open space in Port Royal invites usage from both neighborhood and adjacent residents. The usage has resulted in litter and even vandalism of the labyrinth, in the form of sign destruction. Whereas the open space on The Ln, which was acquired at the same time by LFUCG and under the same guidelines, is perceived as private because of the gate and higher social-economic status of the street. The identity as a more affluent

neighborhood contributes to the perception that The Ln open space is private. The appearance of these two open spaces is quite different, indicating that the gate protects the aesthetics of the buyout property along The Ln. Litter was visible in the creek along the open space in Port Royal, but the The Ln appeared manicured, almost like a secret garden tucked behind the fence (Figure 12).



Figure 12. The open space along The Lane. Photo at the left shows the stone bridge that leads from the cul-de-sac to the open space. Photo at the right is of the stream and open space with recently mowed grass.

Despite residents of Port Royal expressing frustration about limited or restricted access to the open space because of a gate, other residents reported increased access. WGPL interview participants reported that a gate at the edge of the open space in their neighborhood enables residents' access to other amenities in the surrounding area. The open space in the WGPL increases access to Southland Drive, a commercial district with local restaurants, shops, and businesses. A fence separates the neighborhood from the commercial district and at the back of the open space is a gate that serves as a pedestrian thoroughfare between the neighborhood and commercial area (Figure 13). For Lauren, a WGPL resident who walks to work through the gate, the gate increases her pedestrian mobility by providing a convenient shortcut through the open space; "it's nice and it

saves me a big trip all the way around in order to get to the same location.” In addition to using the gate to walk to work, Lauren and her family also use the shortcut to frequent businesses on Southland Drive, including the weekly farmers’ market, thus reducing their dependence on motor vehicles.



Figure 13. Photographs of gate connecting the WGPL open space and the Southland Drive commercial district. Photo on left is walking towards the open space and the photo on the right is walking to the commercial district.

Lauren and her family are not the only residents of WGPL that value the gate. Survey respondents in WGPL wrote-in comments attesting to the importance of this passageway, describing it as a “good short cut to Southland Drive.” One respondent classified the open space as an amenity because of the “easy access to Southland Drive’s music, restaurants, food coop, etc.” Another resident added that they would like to see better maintenance for the path through the gate, since it quickly turns to mud during rainstorms, but is “happy there is foot/bike traffic options encouraging “green” alternative.” These comments indicate that environmentally-friendly, or green, lifestyles are valued amongst WGPL residents. Tied into this eco-friendly attitude, is a perspective that values active, healthy lifestyles. Lois, a WGPL homeowner, added that it’s “nice to

have a non-traffic cut through, because it encourages people to walk.” The gate therefore is not only a convenience for residents, but fits within the general values of the neighborhood.

However, control of the gate has been an issue between WGPL residents and Southland Drive business owners in the past. The gate connects the WGPL open space to a small parking lot behind a dry cleaner. The owners of the dry cleaners did not like pedestrians using their property as a cut-through to other businesses and padlocked the gate closed. Through subversive activities, the WGPL residents (re)established control over the gate. Nick, a WGPL resident, recounted the conflict between his neighbors and the business owner.

“At one point the-the people who own the dry cleaners, back when it was still dry cleaning clothes, they tried to padlock the gate. That kept us from using the field to pass through to go to the properties on the other side. I guess they figured nobody is walking their laundry to us, so they are going to use other merchants anyhow and we just bare the cost. Ah and there was this little guerilla war campaign where at night people would come in and cut the, cut the chain that they put up and then they would put it up again and then they would cut it again. And finally, I don’t, I don’t know exactly if it was negotiated, but finally they gave up. And now we have free flow to the ah through this field again.”

WGPL residents view access to the gate as their right and took action to protect their access. By repeatedly destroying private property (cutting a padlock), they contested the gate keepers without direct confrontation. Based on Nick’s account, the residents of WGPL eventually wore down the owners of the dry cleaners, retaking neighborhood ownership of the gate and reestablishing public access to Southland Drive. However, this access flows in both directions and some residents mentioned the gate brings non-residents into the neighborhood.

Most participants indicated the increased access to the WGPL neighborhood via the gate from Southland Dr. was a “low concern.” Charles commented that the open space “acts as a thoroughfare for people walking through” and that people who do not reside in the neighborhood use it and even “hang out in the tunnel” underneath the railroad tracks that span the creek. Charles considered the access for non-residents a “little bit of drawback, but not so much to keep us from using it.” Because Charles is willing to tolerate the pedestrian traffic coming into the neighborhood through the gate, he does not seem to perceive these individuals as a threat. Nick contended that the gate is not well-known outside of the neighborhood, “it’s not totally obvious that you have access to the neighborhood if you don’t live here and to those of us that live here it is a quick way to slip to the shops.” Lois affirmed Nick’s assertion, expressing that the non-traffic cut through “keeps down cars and others” in the neighborhood. She was concerned that the construction of a hotel near the entrance of WGPL would bring more undesirable people to the area than the open space, stressing that “you don’t know who stays at Hampton Inns.” Participants of surveys and interviews frequently indicated that residents know and regularly talk with fellow neighbors, which likely serve as a deterrent for individuals not wanted in the neighborhood. This strong sense of community also reduces the residents’ concern of outsiders accessing their neighborhood. Some residents however, revealed that unwanted activities still occur in their neighborhood because of the open space.

A resident of WGPL, Al, wrote on his survey that “Trees etc. were planted but appear cluttered. Makes “hiding space” for activities we would rather avoid seeing in our neighborhood.” This statement does not attribute the unwanted activities to non-residents

or outsiders, but instead to landscaping sponsored by the neighborhood association and paid by a LFUCG grant. The mention of undesired activities occurring in open space and use of the words “our neighborhood” suggests that the open space allows for subversive actions by individuals not welcomed by the majority of residents in the WGPL. By declaring ownership of the neighborhood and identifying outsiders, this resident defines who is encouraged to use the open space and in what capacity. The language evokes an identity for in-group members as indicated by the words, “we” and “our.” Out-group members perform actions not welcomed by the neighbors. By not naming the perpetrator of the unwanted activities as an outsider, he suggested that residents of WGPL are responsible for the offensive actions.

A survey respondent overtly identified one group of perpetrators, “I would like to see more respect for the area. There are teenagers throwing/breaking stuff in creek, trying to set littler on fire.” The unwanted activities occurring in the neighborhood seem to be conducted by a sub-population of residents, teenagers, not outsiders that gained increased access through the gate. Another sub-population identified in the survey comments are dog owners; particularly offensive to study participants are those that do not clean-up after their pets. This population frequently uses the open space, perhaps deterring residents without dogs from interacting with the acquired properties. The establishment of in- and out-groups as well as undesirable activities by study participants indicated that access to the public open space is constantly negotiated at the neighborhood scale.

This discussion of negotiating the use of the buyout properties is missing from the other neighborhoods, yet fears about non-residential access dominated the narratives. Residents linked their concern for security and safety to the motif of access; increased access to a neighborhood through the presence of public open space, decreased security for residents. A resident of Holiday Hills requested on their survey “more lights at night” in the open space, where as another resident expressed concerns regarding the safety of the nearby park. Valley Park spans the boundary between the Holiday Hills and Cardinal Valley neighborhoods. The park is adjacent to the buyout properties in both neighborhoods and stretches along the banks of Wolf Run. One resident of Holiday Hills checked the box on the survey that their neighborhood offers a park as an amenity, but then wrote-in the unsolicited comment “If you’re brave enough to use it!”

Residents of Port Royal included similar sentiments regarding the Wolf Run neighborhood park, writing that it is “dangerous- won’t go anymore.” A Port Royal resident also requested “a police roll call unit” in the neighborhood, when asked what they would like to change about the open space. These comments demonstrate residential concern regarding neighborhood safety. An employee in the Division of Parks and Recreation emphasized that safety concerns “tend to be more of a perception than a reality” but to combat this risk-perception LFUCG installed additional lights, activated a Valley Parks Board and increased “proactive police presence.” However, these surveillance actions by LFUCG reinforce residential perceptions of crime in the parks. In both Valley and Wolf Run Parks, the most frequent type of crime reported to local officials in the past year was vandalism, but there were two incidents of aggravated

assault at Valley Park (LFUCG, 2012). These crime statistics seem comparable to parks across the Lexington Metropolitan area, indicating this high crime perception is likely driven by other social factors.

During my field work, I spent time in both of these parks and noticed routine activity such as a father and son hitting baseballs, women walking their dogs, and men playing soccer at Wolf Run Park. At Valley Park, I observed that teenage boys to middle-aged men played basketball on the courts. The basketball players included a diverse range of races and ethnicities, but were predominately African American males. Popular culture reinforces stereotypes of violence, delinquency, and crime amongst African American male athletes (Lewis, 2008). Thus the sight of African American youth participating in pickup basketball games after school is judged as a safety threat by some residents. These stereotypes feed perceptions of unsafe parks that are perpetuated by LFUCG creation of neighborhood watch groups and police surveillance.

In addition to kids playing basketball, I also witnessed families, representing a diverse range of races/ethnicities, congregating together to watch youth soccer games and picnicking at tables while kids climbed the playground equipment. Tom, a homeowner in Cardinal Valley, asserted that the Hispanic/Latino/Latina families from the adjacent apartments use both the open space and Valley Park, but that the primarily White neighborhood association cleans and maintains the area. Tom informed me that the “Mexican guys across the way set up soccer goals” in the open space on weekend mornings. This distinction of who (identified by a nationality) uses the open space is an important point of clarification to Tom. He also recounted a neighborhood river clean-up

day where, “All the Mexicans were sitting in the shade at the pavilion having fun while the neighborhood association was working.” The neighborhood association did not invite the residents of the apartments to join in the river clean-up, yet Tom expected their participation. This assertion that the “Mexicans” generate the litter through their park use then neglect clean-up responsibilities is a strong statement towards underlying racial and ethnic tensions in the neighborhood that are not unique to Tom.

The open space appears to serve as a tangible culprit that Cardinal Valley residents associate with neighborhood “demographic changes” as delicately expressed by a survey respondent. These safety concerns reflect underlying social ideologies that influence cultural perceptions on race and ethnicity. Some residents of Cardinal Valley avoided direct statements on race/ethnicity and instead conveyed microaggressions⁶, covert expressions of racism that reinforce existing power structures. Written examples of these microaggressions include “Neighborhood has ethnic and income changes that have gone downhill- not sure will ever recover” and “Park located in high crime, apartment area.”⁷ Three Cardinal Valley survey respondents blatantly expressed racism; one survey complained that the park is “Full of Mexicans,” another wrote “let the Mexicans have [the open space]” and the most aggressive, “Put all the Mexicans on [the open space] and flood it.” These statements radically alienate a segment of the population and characterize a cultural group, or anyone who looks like they belong to a defined group, and the open

⁶ Term first used by Dr. Chester M. Pierce in the 1970s. See Sue, D.W. 2010. *Microaggressions in Everyday Life: Race, Gender, and Sexual Orientation*. Hoboken, New Jersey: Wiley.

⁷ During my fieldwork, I perceived most residents of the apartments adjacent to the Cardinal Valley neighborhood as African American, Hispanic, or Latino/Latina and Cardinal Valley residents as predominately White. The microaggression being the assumption that the *non-White* residents of the apartments are in a high-crime area.

space as unwanted subalterns. Not only does this alterity exist to discriminate against a group of residents, but the open space is also marginalized and deemed undesirable for the White majority.

4.2.1.2 Power Relations

Places are shaped through power relations. Foucault (1977) argued that “power produces; it produces reality; it produces domains of objects and rituals of truth.” Power, whether held by structural institutions or generated through agents, produces inequalities represented across the landscape. Open spaces are sites where power is negotiated between structural institutions, intervening entities and individual agents. Power constructs “rituals of truth”; normative expectations of who may engage with the open space and how the land should be used. In my study, I apply Foucault’s (1997) concept that “rituals of truth” are executed in the open spaces of Lexington to (re)affirm various power structures, primarily LFUCG and FEMA. Within this framework, “rituals of truth” represent every day, normalized practices, customs, and beliefs that residents of buyout neighborhoods enact, consciously or not. By ritualizing interactions and defining parameters for how one engages with open space, power is constructed, reinforced, and perpetuated by all accepting agents. When a resident acts outside of the established social boundaries or defies the ritual, they directly challenge the social order of that culture, i.e. the institution, as well as the entity in power, i.e. the structural control, that generated the custom.

In several of the neighborhoods, principally Port Royal, WGPL and Cardinal Valley, a minority of residents contested the authority of LFUCG in how they interacted

with the open space. In Port Royal and Cardinal Valley, a couple of assertive individuals with strong senses of agency, directly confronted LFUCG authority through engaged civic participation which ranged from generating petitions to communicating with elected representatives through official channels. Yet other residents, especially in the WGPL neighborhood, rebuked the normative expectations for how Lexingtonians interact with open space. In the Holiday Hills and Skycrest study neighborhoods residents more frequently reaffirmed LFUCG dominance by performing the recognized and accepted behavior associated with the open space.

4.2.1.2.1 Authorized Activities in Open Space

Residents who addressed in their interviews and written comments what land uses local or federal policy allows on the buyout properties, identified power systems associated with the open space. A resident of Port Royal wrote that they “would like to see it used- as of now it is considered a flood zone so - no - playgrounds - buildings or stationary facilities can be erected.” WGPL residents commented that “in the past other uses have been forbidden because it’s technically a water basin” and “It would be nice to have a park environment, but I believe the area still floods with possible sewage, so things ‘aren’t’ allowed to be built there?” These respondents hinted at underlying structures that control land use, but they are either unclear or reluctant to divulge what institution established the rules. By describing the open space as a “flood zone” and a “water basin,” residents acknowledged that these two land uses are controlled by governmental policy, but they tacitly comply with the governing bodies through inaction.

These comments indicate that residents would like land use change, but that they are unwilling or unable to challenge the existing policies thus accepting the status quo.

FEMA guidelines permit structures like playgrounds and pavilions; however, based on interviews with LFUCG employees, the City of Lexington does not endorse development in the open space. Rhonda, a LFUCG elected official, confidently said that “everybody knows and has an understanding nothing can be built [in the open space], that it’s a floodplain.” This normative claim that stakeholders of the open space understand the guidelines pertaining to open space management is more idealistic than realized. Although only one survey suggested a land use that is beyond FEMA-approved open space management guidelines, constructing a building for a senior center, residents interpreted and constructed the land use policies differently. Many respondents were knowledgeable that land use guidelines exist for the acquired properties, but in some cases they are misinformed about which institution enforces land use policies. In general, participants described stricter land use regulations than FEMA actually requires for buyout properties. This misinformation benefits the LFUCG institution as residents blame FEMA for limiting land use opportunities in the open space, which prevents residents from directly confronting LFUCG power, thus reinforcing the dominance of city-county governance.

LFUCG open space management is more ambiguous than residents acknowledged during interviews. Bill, an LFUCG employee, revealed that activity on the open space depends on City perceptions of liability; “I think it gets into more the risk management and insurance thing more than really anything else.” He added that LFUCG strives to be

“as risk free as possible, we’re never entirely risk free but reduce our liability is always the big big issues and that’s within the government.” The concern for liability is currently heightened as LFUCG was sued by the EPA in 2011 to clean up the sewer system pipes that leaked millions of gallons of sewage into waterways, including Wolf Run (Fortune, 2011).

The issue of sewage contamination is tightly coupled with storm water management and open space as the LFUCG capital projects funded buyouts that targeted properties experiencing flooding because of storm water contaminated with sewage. A former government official recounted the “burping manholes” that coughed up sewage during rain events and described a family that participated in a capital project buyout after being flooded repetitively with sewage-contaminated storm water to where the family was ill. The former government official implicated that LFUCG was responsible for the family’s contraction of diseases related to untreated sewage exposure and that the buyout was a way to fix previous mistakes and reduce LFUCG liability. This type of example underscores why LFUCG is wary about development in the open space and explains their heightened concern for liability and risk. Through the judicial process, the EPA is holding LFUCG liable for ignoring the sewage problem, resulting in a more cautious and restrictive attitude toward open space development.

4.2.1.2.2 Semantic Structure and Agency

Carspecken (2001) argued that semantic structures “provide views of the world, interpretative schema, value orientations and identity repertoires.” Close examination of word choice and sentence construction, particularly pronouns and passive versus active

voice, reveal how participants identified and engaged with underlying power structures.

When speaking in active voice, the agent performs the action as opposed to passive voice, which denotes the recipient of an action. The use of “I” and “we” in active voice suggests a strong sense of agency by the communicator. Passive voice places action, control and responsibility in the hands of institutions and structures. Through critical discourse power analysis word choices reflect structural controls prevalent in society (Carspecken, 1996).

The semantic structures of residents’ interviews revealed differing degrees of agency amongst the study neighborhoods. In both the interviews and open-ended survey questions, residents from all neighborhoods identified common power structures, principally LFUCG and FEMA. The level and variety of residential engagement with those entities varied amongst the neighborhoods and this reflected in open space land management. The only neighborhood to develop a formal open space land use, a labyrinth, was the neighborhood of Port Royal. The labyrinth was the product of residential agency and an ardent commitment to the development of a project on the open space. The development of the labyrinth was not accidental; instead it was the result of individual residents eager for civic engagement and a local government that took a reactive position on open space development. Analysis of interviews with long-term residents of Port Royal and members of the neighborhood association, particularly residents’ use of pronouns as well as passive verses active voice, revealed how neighborhood association members negotiated with various power structures to obtain their goal of developing the labyrinth.

Before the buyout had even begun, let alone the construction of the labyrinth, the Port Royal neighborhood served as a traffic “cut through” between two main roads on the west side of Lexington. This resulted in heavy traffic through the small neighborhood which concerned residents, particularly those with children, that speeding cars and high noise levels diminished the safety and quality of life for residents. To address this concern, the NA worked with LFUCG to close the entryway, which inadvertently generated funding that was later used to build a labyrinth in the open space.

“So we talked about trying to get [the cut through] closed. Well, Duncan had tried to get it closed for years and they wouldn’t ever do it. And we worked with the City and they came out and did a traffic survey to see how many people were coming in and out and we finally got it closed... [Duncan] was so happy that he gave us, I think it was \$10,000, to our neighborhood association.”⁸ - Pam

In this account of how the NA successfully closed the traffic cut through in Port Royal, Pam used “we,” the first-person plural, to describe herself as an acting member of the NA, which was ultimately the entity successful in closing the entryway; Duncan, an individual land owner, was not. This statement implied collective civic action in the form of a neighborhood association as necessary in order to accomplish projects in Lexington. This necessity of a NA to complete projects is given more credence given that the LFUCG Neighborhood Association Directory (2013) recognizes over 250 NA in the Lexington-Fayette County statistical area, each with varying degrees of activity. To Pam, the NA “worked with the City,” reinforcing that the local government holds the power to authorize land use change yet reinforcing the stature of the NA as a partner that can collaborate with LFUCG. To close the traffic cut through, the LFUCG (“they”) first

⁸ underline emphasis added

conducted a traffic survey, a technocratic approach of counting cars to determine the existence of a social problem, as the tool to legitimize the concerns of residents. By contacting LFUCG and supporting the traffic survey, the Port Royal NA operated within the existing power structure to bring change to their neighborhood. As a result, Duncan, a private land owner who criticized the traffic cut through for years, donated \$10,000 to the NA for closing the entryway. The ability to donate that sum of money implied that Duncan was of higher social-economic status. This also reifies Pam's power claim that collective civic action produces change in Lexington; an individual, even of higher social-economic status, is not as effective as the NA.

The NA might be the agent of force in open space development, but it did not have the financial capital without Duncan's donation of \$10,000. For the NA, identifying how to spend the donation was not straightforward. At the outset, the NA discussed building a playground in the open space, but that raised several logistical and social concerns, namely compliance with the American Disability Act (ADA) and displacement of registered sexual offenders living in the neighborhood.

“At first we talked about putting maybe a little playground down there and then we thought, well it has to be ADA and you know, to get down there, it's that big steep hill and we thought well how are we going to take care of that? And then, I hate to say this, but...we have along Fair Oaks a lot of (lowers voice) sexual offenders ...if we had put that in that would have meant they would've had to move.”⁹ -Pam

Initially, the NA discussed building a playground in the open space, but the dramatic change in land elevation and accessibility requirements made this project unrealistic for their budget. In describing the problems associated with the playground

⁹ underline emphasis added

idea, Pam's word choice trivialized the playground proposition by describing it as "little." The idea of building a "little playground" in the open space was insurmountable given the "big steep hill" and the requirements of the ADA. In her language choice, Pam dramatized these two concerns, yet the biggest impediment to building a playground, was not budget related, but instead social. This social complication, the presence of registered sexual offenders in the neighborhood, was stated very matter-of-fact by Pam and she avoided using hyperbolic description. Perhaps this was the real reason for abandoning the playground plan, but the budget and ADA compliance issues were more socially accepted and therefore the excuses she is more comfortable discussing with an outsider¹⁰.

Pam's use of first-person plural, we, established the normative behavior for residents of Port Royal: residents of Port Royal do not force other residents to move out. She justified the decision of the NA not to construct the playground since the sexual offenders, who live(d) adjacent to the open space, would have been required to move because of laws restricting their proximity to parks. Her narrative suggests that the NA acknowledges the registered sexual offenders as residents of the neighborhood, a population often marginalized as subalterns. By lowering her voice and covering her mouth when speaking, Pam expressed her embarrassment that her neighborhood included sexual offenders and that the NA accommodated their needs. For a neighborhood that has experienced displacement of residents because of flooding and the buyout program, Pam

¹⁰ Although I worked hard to establish a rapport with each participant in the study, I was and will always be an outsider. Pam and I talked comfortably in our initial meeting, which lasted a couple hours, and in subsequent communications. Even though she volunteered the information, this topic of sexual offenders in Port Royal and not forcing them to move out by changing land use, quieted her a bit and her body language changed. The ease that had existed in our conversation disappeared and I perceived this to be an uncomfortable issue for her. She only touched on the topic and moved on rather quickly supporting my assumption that she preferred not to discuss it in depth and for that reason I did not push the topic further.

indicated that residents of Port Royal were reluctant to drive any resident out of the neighborhood, regardless of criminal record.

For these financial and social reasons, the Port Royal NA determined that a playground was not a viable option, leaving the members to identify other potential uses for the \$10,000 donation from Duncan.

“So we were thinking and thinking what we were going to do and I love labyrinths. I love 'em. So I said, why don't we put a labyrinth down there? I said...it's something that, you know, they'll be able to mow around. It's...easy maintenance...if we have it, put it concrete and it'll last forever, it's not going to float away if...it floods.” -Pam

At this point of the narrative, Pam transitioned from first-person plural to first-person, demonstrating her agency as the individual who solved the problem of how to spend the donation and use the open space. She assumed the hero-role as the single person who identified the appropriate land use for the Port Royal neighborhood. A land use that does not displace current residents and one that is immovable, it cannot “float away” in a flood. Her strong emphasis on establishing a permanent structure in the open space counters her experience of friends flooded out of their homes, the structures that used to occupy that land. She continued to reinforce the power of LFUCG by identifying that “they’ll be able to mow around” the labyrinth; they, the city, as the owner and caretaker of the land. The permanency of the labyrinth also reflects the FEMA directive that any structures on acquired properties must be able to withstand repetitive flood events without damage.

During the process of building the labyrinth the NA repeatedly acted within the controls of LFUCG authority. The NA negotiated through the bureaucratic process of obtaining permits to construct the labyrinth. By adhering to these rules and policies, the

NA went through official channels to identify a formal land use on the open space. Cindy, a Port Royal NA member, explained that “because the City owns the property, we had to go through [the permitting process] and...they have all these biz-weird construction things.” In explaining the permitting process for development of the open space owned by LFUCG, Cindy restrained herself from using “bizarro” to a less severe word, “weird.” This restraint in word choice hints at the underlying power structure of LFUCG; she dampened her criticism of the bureaucratic process to an outside audience. A former member of the NA leadership elaborated on this process by listing the various departments that approved the labyrinth, “the law department had to approve, the engineering department had to approve it, Parks had to approve it, because they maintain it.” This emphasis of all of the procedures and structural controls that the NA endured to obtain permission for the labyrinth in open space attested to the resolve of the Port Royal NA leadership; a less determined individual or group may have given up because of the arduous process.

Pam viewed the labyrinth as a community produced product, but her influence and drive is evident in each step of the process. Actually, as Pam specified, “what I found...is called a Roman Maze...so even though it’s not a true labyrinth, it does the same thing.” The NA could not afford a Chartres labyrinth, the traditional design with curved lines, and instead constructed a Roman maze with straight lines. Pam justified that the Roman maze is just as useful as a Chartres labyrinth by declaring, “you can’t do it in a minute. It takes a while; it’s deceiving if you just look at it.” She repeatedly references the utility of the maze, but shied away from explaining how she or neighbors interacted with the

labyrinth. Instead Pam recounted an instance when health professionals from a local Veterans Association hospital visited the Port Royal labyrinth to conduct a workshop and discuss their plans to construct a labyrinth of their own. She highlighted this story and emphasized that the NA and labyrinth “helped” the Veterans. In our conversations, she constructed an identity for the labyrinth centering on its utility yet her narrative does not include a realized function. Additionally, this narrative is external to the Port Royal neighborhood; Pam defined how the labyrinth is used in terms of non-residents. This etic narrative¹¹ is further highlighted by Pam’s insistence that she does not use the labyrinth “as often as I should” and by referencing how people who do not live within Port Royal.

Despite her vagueness in how the labyrinth is used, Pam is clear that she originated the Roman Maze idea and initiated its construction with the assistance of community members. Pam accentuated her actions while describing this community effort. She researched the design of the Roman maze online and found the work crew to pour the concrete. Pam required help in calculating the dimensions of the labyrinth, but sought out assistance from a “[University of Kentucky] architecture professor...[who] did all the dimensions for the concrete guy, only charged us like \$100.” In addition to the university, a structural control that she worked with to obtain the necessary knowledge to carry out the project, LFUCG also eased the permitting process for the NA.

“The city helped...to get our construction permit. We were supposed to make a...temporary road going down [the hill]. [The builders] were supposed to put that barrier fence up and so I said, ‘this is ridiculous,’ so I went and talked to the mayor and

¹¹ Kenneth Pike (1967) originally described the etic and emic perspectives through examining how linguists study languages. Pike clarified that “etic viewpoint studies behavior as from outside of a particular system” while the “emic viewpoint results from studying behavior as from inside the system (pg 37).” Extending this etic/emic perspective to one’s construction of their own narrative, an etic narrative is constructed by forces external to the individual, while an emic narrative is directed by individual, or internal, experiences.

I said... ‘look this is only going to take a week’ ...he’s far enough [from the road], so [the mayor] got all those requirements waved for us... so yeah, so everybody helped all the way around.” -Pam

To reduce the paperwork associated with, and cost of, constructing the labyrinth, Pam maneuvered around the bureaucratic construction procedures by directly requesting a favor from the Mayor. Her access to high-level decisions makers within the LFUCG was enabled by her association with a NA. Ultimately, the Mayor pushed through the labyrinth project that was otherwise stalled because of the cost of building the required road and barrier fence. The City, via the Mayor, made an allowance for the construction of the project, resulting in the only formal development of open space in Lexington. Due to this access to authoritative institutions and Pam’s perseverance (based on her account), the NA was able to build the labyrinth. This land use is consistent with the official FEMA rules, but outside the scope of high-utility land management practices that benefit both the environment and local community as evidenced by the lack of use and function. Even proponents of the labyrinth could not define the function of the maze for the Port Royal neighborhood. Additionally, the concrete slab, the base of the labyrinth, creates an impervious surface in the floodplain. To provide a place to sit while reflecting in the maze, the Port Royal NA purposively selected a non-native material, a marble bench. A flat rock was also purchased by the NA leadership at a landscaping store so people walking the labyrinth would know where to enter the maze. The introduction of these foreign elements coupled with a lack of use by residents, produces an artificial landscape that obscures the underlying utilitarian purpose of the buyout land, flood mitigation, with the facade of a functioning land use, the labyrinth.

Port Royal was not the only neighborhood where the actions of the NA propelled by a strong-willed individual influenced land use in the open space. Cardinal Valley homeowners banded together to stop the development of a Frisbee disc golf course in the open space. Not all of the homeowners in this neighborhood accepted buyout offers, resulting in clumps of open space interrupted by homes. To try to implement a land use that accommodated these dispersed spaces, the city council tried to “sneak a Frisbee golf course through” (Sharon) about two years ago. LFUCG abandoned this plan because of complaint from the Cardinal Valley NA and residents.

Sharon, a long-term resident who appreciates the open space in her neighborhood because it is quiet, and her fellow neighbors were concerned that the Frisbee golf course would bring people and garbage to the neighborhood. She explained that a couple of concerned residents went to the city council and argued that, “FEMA won’t allow [the construction of a Frisbee disc golf course]” in the open space. Sharon claimed that one resident called FEMA to gain their support in preventing the course. Sharon and her fellow neighbors are very aware that FEMA guidelines control LFUCG open space management and in her account, residents successfully went above LFUCG authority to prevent a open space land use that residents did not want in their neighborhood. Despite this awareness that FEMA guidelines exist, many residents are not familiar with approved land uses in open spaces. Frisbee disc golf courses are within the FEMA guidelines and are frequently implemented on buyout properties randomly dispersed throughout a neighborhood (Zavar 2012).

In addition to speaking with city council and FEMA, one Cardinal Valley resident started a petition against the development of the Frisbee disc golf course and generated 200 signatures of support from neighbors. Sharon attributed the civic engagement of a couple key individuals as the force that disallowed LFUCG from spoiling the quiet of her neighborhood. These individuals directly challenged LFUCG authority by speaking out at city council meetings and documenting neighborhood attitudes towards the Frisbee disc golf course. Because of these agents, the city abandoned the development plans in the open space. This public outcry against land use development has likely shaped the attitudes of LFUCG employees, resulting in minimal formal activities in the open space. The City is unwilling to engage with residents that challenge LFUCG plans, even when residents are misinformed, epitomizing the hands-off approach to open space developed. LFUCG employees exasperatedly described stories of individual activism that resulted in false information spreading through neighborhoods via petitions.

“We’ve had green ways where trails were gonna go in and you get one person that doesn’t like it. That person will start a petition, they’ll put all this erroneous stuff on there that none of its true but there’s horrible rumors and they’ll go door-to-door. The next thing you know is there’s like 400 names on this thing, they’ve signed against this thing that is erroneous. Because we [LFUCG] don’t like controversy we just drop it.” -Liz

In this passage, Liz identified herself as a member of LFUCG and through her use of the first-person plural established the normative behavior for the city, avoiding confrontation with residents. She also detailed the strong individual agency that is present in the neighborhoods, the type that can initiate a non-factual petition and successfully generate residential support. This individualistic agency is magnetic and attracts other residents to join the cause against a common opponent, LFUCG. The

magnetic agent establishes their own subjective viewpoint and by generating neighborhood support, transitions their perspective or truth to the normative behavior for a group of residents.

Rhonda, a LFUCG official familiar with the Frisbee golf plan, clarified that the Frisbee golf course was not a city council idea, but rather was initiated by the Parks and Recreation Department. She distanced herself from the land use plan in her narrative by switching from the plural possessive pronoun, *our*, to the objective personal pronoun, *they*. However, Rhonda identified with the Cardinal Valley residents adjacent to, and within, the open space and understands their concerns. By emphasizing that “I wouldn’t like that” she considered the situation from the perspective of the homeowners. Rhonda justified that the real goal of the development project was to keep neighborhood kids active and out of trouble, not to invade or disrupt the quiet of the neighborhood. Her slumping body language and softening of her voice hinted at a disappointment that they were not able to increase youth activities in the neighborhood; a neighborhood where residents perceive unoccupied youth as a threat to safety and security.

“One thing in the area that Cardinal Valley did is, just as critical as the water, is keeping our kids busy and occupied. And they did talk about and they did a design, Parks & Rec did, for a Frisbee golf course. But, the problem is that there were a couple homes that didn’t participate in the buyout and they were like on both sides [laughter] of this one lady’s property and I said, “I wouldn’t like that.”- Rhonda

These narratives of land development of open space in Lexington indicate the important role magnetic agents take in shaping land use on the acquired properties. In these two examples, the larger neighborhoods and LFUCG reacted to the desires of the magnetic agent. In the case of Port Royal, the magnet agent drove the development of a

labyrinth, a land use most residents seem ambivalent towards. For Cardinal Valley, it was the initiative of the magnetic agent to prevent a land use deemed undesirable. In both instances, the goals of an individual or small group determined land use outcomes for the whole community. These magnetic agents successfully worked within the established procedures of the bureaucracy to realize their objectives and in the end the LFUCG institution subscribed to the vision of these individuals.

4.2.2 Engagement with Open Space

Interaction with the open space reflects how the properties are valued by residents, groups, and institutions. I examined the concept of value in terms of residential perceptions of property values, but also the recreational, ecological, and aesthetic value residents ascribed to the open spaces. These values are reflected in how residents, stakeholders and LFUCG employees named and described the open space. Various entities attributed different identities to the buyout properties, thus constructing a unique sense of place that resulted in a range of formal and informal land uses.

4.2.2.1 Perceptions of Property Value

Residents' perception of how the open space impacts their property values was tied to how they construct and define the open space. Residents like Lois, a homeowner in the WGPL, identified the open space as a "park" that contributes to her neighborhood's quality of life and therefore the open space increases property value. She commented that the open space "makes it feel more neighborhood like" and serves as a "unifying area" because "it's everybody's, it's ours." This strong sense of community translates to increased property value.

A homeowner, who turned down a buyout offer, explained that their property value increased following the demolition of the buyout properties, because the houses were not well maintained. They did not attribute the maintenance issue to repetitive flood problems, stating they never experienced flooding in their house, but rather that the buyout homeowners were not invested in their property. This homeowner established a normative identity claim for buyout participants as the type of neighbors who did not maintain their properties. Pushing that identity claim further, buyout participants accepted offers because they did not care about their homes as much as the neighbors who rejected property acquisition. The homeowner who turned down the buyout did indicate that the removal of the poorly maintained homes would be attractive to future residents. They commented that the potential resale value of their home improved, because the buyer is “guaranteed” that no new development will occur in the open space and therefore they will have “privacy.”

The majority of residents that I spoke with from all five study areas, indicated that the open space was a “positive” for their neighborhood, but had little impact on property value. Peter, who lives in Cardinal Valley, indicated that the open space “would not hurt [property values] at all.” Karl, a recent resident of the Skycrest neighborhood, expressed that the buyout was “a negative that maybe turned into a positive for the neighborhood,” but the open space has “negligible” impact on his property value. Rhonda, mused that “there’s a lot of things that can affect that property value...but, I have to think that the quality of life has improved.” Shelly, a former elected official who participated in buyout with her husband, Martin, rejoiced, “now it rains two inches and we don’t have to worry...

we didn't realize the stress till we were out of it." Most residents did not attribute an increase in property value because of the open space. Instead, the buyout and subsequent land use change improved the overall wellbeing of the neighborhood and the individuals who lived with the stress of repetitive flooding.

Karl reiterated that the buyouts are beneficial for current residents as well, "you are thankful for [the open space], because it keeps the water out of your backyard." Fran, long-term resident of Skycrest, explained that the open space benefits her neighbors "that live close to it" because "you don't have people's houses flooding, because...those houses were bound to be in bad shape." These attitudes suggest that without the buyout program, neighborhood values would be lower because of flood risk and repetitive damage to houses, but that the current use and appearance of the open space has minimal impact on property value. Several residents, particularly in the Cardinal Valley neighborhood, expressed that "demographic change" in their neighborhood was a more pressing concern for property resale. Although 7.73 percent of survey respondents indicated that the open space decreases their property value, none of the interview participants, residents or stakeholders, reflected this view.

4.2.2.2 Perceptions of Identity: Naming open Space

The naming of the open space reflects residents' and stakeholders' perspective on the buyout properties and how individuals identify with the land. For employees of the LFUCG, the buyout properties were described as either "open space," "green space," or "greenway." From the perspective of LFUCG, applying a term to the buyout properties must be consistent with land management practices and community expectations of how

that land can be used; a park provides recreational opportunities, a retention basin stores excess water, and floodplains are inundated with storm water. When I asked how the city defines the open space, Bill, a senior employee of LFUCG responded, “that’s how we like to phrase it, that way it’s...not so narrow that...you’re kinda locked into something, open space...is [a] very broad, generic term, it could mean a lot of things...green space has its own definition.” While Bill seemed reluctant to define the open space as green space, other LFUCG employees used the green space label to describe the properties acquired through the HMGP.

Liz explained, “at first we were putting all of the buyouts as a greenway, but then we realized, our official definition of a greenway, one of them, is it’s in a floodplain. So if a buyout wasn’t in a floodplain we removed it.” LFUCG participated in the federal HMGP to fund buyouts, but the city also purchased properties using local funds as capital projects. These capital projects are more recent and generally only included the purchase of one or two individual lots as opposed to multiple properties or neighborhood blocks. The open space created through HMGP funded buyouts, is located in the floodplain, specifically flood zone AE, but not all of the individual lots are in flood zones identified by FEMA Flood Insurance Rate Maps (FIRMs) as defined by the National Flood Insurance Program (NFIP)¹².

“we’re having a hard time defining [the open space] because our greenway...[is] just a linear green space where we have accumulated quite a bit of property. And so we’ll also have properties, just one or two parcels, that are not on the stream, they just are in

¹² An important point of clarification is that the NFIP Flood Insurance Rate Maps (FIRMs) identify flood zones not floodplains, this is often confusing for property owners and government employees. Physical floodplains, the area inducted by flood waters, often change faster than the flood insurance rate maps produced through the NFIP are updated. This is usually due to rapid urban growth and development. Therefore, **because of** land use change in a watershed a property outside of a NFIP flood zone can still be within a floodplain and experience flooding.

a low spot and they get flooded. So we consider those open space. So if it's along a creek and you got...some acreage, then we call it a greenway.” - George

Based on George's explanation, the buyouts acquired through capital projects, which are beyond the scope of this study, are classified as open space, whereas the buyouts funded through the HMGP are defined as a greenway. The LFUCG Greenway Master Plan, adopted June 2002, establishes the term green space to include “natural areas, open spaces, trails, and greenways that function for both wildlife and people.” This document, which governs LFUCG land management, does not define the term open space, but designates greenway as:

“a linear open space established along a natural corridor (such as a river, stream, ridgeline), rail-trail, utility corridor, scenic road, or other route for conservation, recreation, or alternative transportation purposes. Greenways can connect parks, nature preserves, cultural facilities, and historic sites with business and residential areas.”

By not defining open space in the Greenway Master Plan (2002), community expectations for and city responsibility of open space land management is more ambiguous than greenway management. The term open space invites interpretation, and for LFUCG employees operational definitions, like greenway, are necessary land management tools. In the Greenway Master Plan (2002) the greenway is categorized “as a flood control measure” and emphasizes that “greenway corridors serve as a primary storage zone during periods of heavy rainfall. The protected floodplain can also be used during non-flood periods for other activities, including recreation and alternative transportation” (Greenway Master Plan 2002). The duality of green space, as both a flood control measure and a site for recreation during periods of low water flow, offers residents and stakeholders the opportunity to construct the identity of the open space to

suit their interests and needs as long as they are in accordance with LFUCG land management. The accentuation of a “protected floodplain” implies that the priority of LFUCG is to maintain the natural functions of the floodplain and that all other activities, such as recreation and transportation, are secondary.

The Friends of Wolf Run actively supports the intended purpose of the LFUCG Green Space Master Plan to preserve floodplains and therefore are invited and enabled by LFUCG to participate in open space projects. Members of FWR frequently referenced the open space as “green space” and described watershed restoration projects that include native plantings and establishing “riparian buffer zones” along the creek. On the FWR website they describe themselves as “people working to reclaim the creek” and their activities are aimed at improving water quality in the watershed (Friends of Wolf Run 2012).

FWR, which includes residents and city officials collaborating on restoration goals, perceive the open space as an opportunity to build riparian buffers along the creek to stabilize bank erosion, improve water quality, and increase native flora and fauna. Their mission statement reflects these activities: “The Mission of Friends of Wolf Run is to provide educational, scientific, and community services to the residents of the watershed with the goal of improving the aquatic habitat and water quality of Wolf Run and its tributaries” (Friends of Wolf Run 2012). Stephen, a member of FWR, explained that the FWR influences land use on the buyout open space “by protecting the green space aspect, engaging adjacent property owners in maintenance, [and] opposing efforts to convert green space to active parks” which would include “hardscaping.” By operating within the

LFUCG definition of green space, the FWR furthers their own ecological restoration agenda while promoting the LFUCG Green Space Master Plan goals of floodplain protection in open space. These activities subscribe to FEMA best practices, where open space is used for the benefit of both residents and the environment.

The degree to which residents prioritize the open space as a protected floodplain varied amongst the neighborhoods. However, residents that participated in interviews revealed they engage with the open space in a multitude of ways, many of which fall within the LFUCG established boundaries of green space. Several interview participants that reside in the WGPL neighborhood view the open space as a “park.” This affluent neighborhood of higher social-economic status, values the open space as a gathering spot for neighbors, a site of recreation and as a place where parents and children spend time together.

Charles, who moved to the WGPL with his wife and young child last year, explained that having the “park” within walking distance of their home encouraged his family to “play outside more, especially in the last couple months, when the weather turned nice.” He commented that the open space is a popular site for people to play fetch or toss Frisbees with their dogs. WGPL survey respondents reiterated this sentiment about the open space: “green space that serves as a playground & park to our neighborhood” and “Love it! Play with my dog there every day. Met many of my new neighbors there.”

Lois, a married mother of three teenagers and a long-term resident, shared stories of playing with her children at the “park.” When her boys were young, they built “tree forts”

and “popsicle stick boats” to float on the creek together. As they got older, her boys played football, lacrosse, soccer, and ultimate Frisbee at the park with their friends. Her boys “live outside” she proudly explained; even in the winter, the park brings “outdoor activity” to residents of the neighborhood. Lois recounted memories of building snow forts and instigating snowball fights with her boys at the park that “[drew] people from the neighborhood to play.” As an older neighborhood in close proximity to downtown, the lot sizes in WGPL are smaller than other subdivisions. Additionally, there is not a public park within the defined boundaries of the WGPL neighborhood. The University of Kentucky Arboretum is approximately 0.80 km (0.50 mi) and the closest city park is about 2.25 km (1.40 mi) away. The open space compensates for the lack of private yard acreage and public parks in this area of Lexington.

The open space in the WGPL neighborhood offers an area for recreation and serves in the same capacity as a public park, enabling homeowners to use their backyards for other activities. Residents of the WGPL are consciously choosing to develop their private yards to serve functions beyond what is typically found in the traditional suburban landscape and instead moving activities associated with backyard playscapes to the buyout properties.

“having that open space there allowed us to treat our back yard a little differently and what we’ve allowed, a whole corner of it to do, is to be in a sense be overrun by Honeysuckle. And the reason we can do that, if you want to throw a ball or kick a ball we just go right into...the park as we call it. So that allowed us to build up some cover that sort of protects us in terms of noise, and in terms of line of sight from the commercial property behind there.” - Nick

Nick and his wife Lauren regarded the open space as a valued resource; they transformed the function of their backyard from a manicured playscape into an active

ecosystem, without limiting their family's recreational opportunities. This ecosystem benefits the entire neighborhood by increasing nutrient recycle and water quality. Nick and his family dedicated a portion of their backyard to a large compost, where household food scraps decompose into a nutrient-rich fertilizer. They also planted trees and shrubs that prefer wet soil conditions, like the Honeysuckle bush. Although many residents and stakeholders in Lexington are actively trying to remove the invasive Honeysuckle plants, Nick expressed a need for the species in their backyard.

“We do get a lot of floods, you know, as well as the field, and that's another reason we have Honeysuckles is I knew I'm getting this run off all up the street. So I figure, if I'm going to be filtering this land with every seed, for every weed, for an entire block, I'd rather have it get filtered through a batch of Honeysuckle than sitting on some lawn I'm trying to maintain like a suburban house.” - Nick

Nick and Lauren claimed responsibility, because of the location of their property within the Wolf Run Watershed, for contributing ecological services (i.e. the filtering of runoff to improve water quality) to their neighborhood. They essentially donated their private property for the benefit of the neighborhood and watershed, without sacrificing activities that are traditionally associated with the suburban backyard. Defined as a greenway, the open space in WGPL offers a place for recreational activities for their family as well as a catchment for flood waters.

Lois also characterized the open space as the place for family activities that do not fit within the confines of a backyard. She described making “baking soda and Gatorade bottle bombs” with her boys and setting off fireworks in the open space for the 4th of July. They “couldn't do [these activities] in the backyard, because you might break a neighbor's window,” but the large expanse of the open space offers the necessary area for

“experiments.” The open space serves the WGPL as an extension of the backyard and invites social interaction and recreation for “young and old.”

WGPL residents utilized the open space as play space during non-flood periods, thus embodying the LFUCG definition of green space. Survey participants from WGPL echoed the view that the open space is a “play area during dry periods,” the “detention basin acts as a park,” and the “Water basin- when dry families play in area, kids, dogs.” Nick and Lauren engage with the open space as a place for recreation with their children, but emphasized that, “it’s a flood basin that we use as a park.” A homeowner adjacent to the open space in the WGPL, with help from FWR, planted native riparian grasses in their side- yard to nurture floodplain development (Figure 14). This contribution of private property increases the no-mow area of the open space, where native grasses filter Wolf Run and act as storage for periods of excess water. WGPL residents actively protect the floodplains, while integrating recreation in the open space.



Figure 14. Photograph of the WGPL neighborhood open space taken on June 20, 2013, showing the riparian restoration along the stream. The owner of the private property in the background donates their side-yard to restoration efforts. Note the grass debris tangled around the tree base is a remnant from the storm water which flooded the open space the previous day.

Several residents that participated in interviews, particularly from the neighborhoods of Holiday Hills, Cardinal Valley and Skycrest, frame the open space as a “piece of the country” in the city or as a “nature preserve,” which coincides with the use of green space for conservation. These participants expressed an appreciation for the intrinsic value of greenery and trees in an otherwise densely developed subdivision. Peter of Cardinal Valley said the greenery is “pleasing” and suggested it relaxes those who pass by the open space. Karl, who lives in Skycrest, refers to the open space as “the field” and identifies it as “being a little bit of green within spitting distance to a lot of concrete.”

Fran, also a Skycrest resident, commented that the open space “brings some nice color” to her daily drive.

The residents who defined the open space as country-like or a nature preserve, told stories of moving from rural places to Lexington. Peter explained, “I own a little farm in a county, a nearby county, so I really like open space and when, when I retire that’s where I’m moving.” Beatrice of Holiday Hills, enthusiastically recounted memories with her grandchildren in the open space where they would “lay down a blanket, have a picnic lunch, and then go into the creek and have fun.” She described herself as a “green person...I love the green, I love the country, I, you now, I’m an outdoors person.” Beatrice identified herself as someone who enjoys being outside and engages with the open space as countryside by performing activities, picnicking and playing in the stream, traditionally associated with an idyllic country lifestyle.

Participants also emphasized that they enjoyed the quiet of the open space, an attribute associated with the peaceful countryside, not the hustle and bustle of city life. Larry who recently moved into Holiday Hills, commented that he and his family liked that there is “no loud music” and that the open space draws animals to their neighborhood. He described rabbits, hawks, bats, barn swallows, and a doe with fawns as frequent visitors. Larry and the neighbors sit outside in the evenings and “watch the wildlife.” When I asked if he would change anything about the open space, Larry commented that “we want to keep nature aspect, minus mosquitos, just mow it.” Although Larry identifies the open space as a “nature preserve,” he does not want the

properties too natural and indicates that it's the City's responsibility to regularly mow the properties; consistent with the LFUCG definition of a green space used for conservation.

Residents of the study neighborhoods constructed and interpreted the open space differently. In addition to these spatial patterns within the Wolf Run watershed, a temporal and experiential component also influences how residents engage with the open space. The participants that constructed the open space as parks, countryside or nature preserves moved into their neighborhoods after the buyout was completed; they have only known their neighborhood with the open space. Several interview participants that witnessed the transformation of flood-damaged houses to open space commented that the buyout was a positive change for their neighborhood, but they did not ascribe utility to the open spaces, such as a site for relaxation, family play, or wildlife habitat. These residents more frequently described the open space as an "empty lot" or "open area," revealing neutral to negative perceptions of the properties.

The majority of residents that described the buyout program and open space as a negative for their neighborhoods live in Holiday Hills or Cardinal Valley. A survey participant living in Holiday Hills wrote that "Homeowners were forced to sale to the city. Now the property gets no use. A place for people walking their dogs, so the dogs can crap and they don't have to pick it up." Private property that had a utility was taken away from the homeowners and neighborhood by LFUCG, only to be an underutilized place for waste. A Cardinal Valley respondent wrote that "the creek could have been fixed and saved those homes," indicating that the LFUCG unnecessarily bought out the homes. This reflects a viewpoint, which dominated land management until the end of the 20th

century that encouraged structural mitigation over nonstructural mitigation and advocated for the control of nature instead of removing people from high-risk areas. Support of the technocratic approach to hazard mitigation, yields buyout programs purposeless.

One long-term resident of Cardinal Valley, Jane, felt the buyout program was unnecessary, which influenced her perception of the open space. She stated that “I don’t know what it is good for,” when I asked if she would change anything about the appearance of the open space. Jane remarked that “there’s a park nearby” where she took her grandchildren to play, and that she “certainly wouldn’t have gone to the green space, nothing there but grass.” Jane said that the buyout program “seems like an expense to the city to have to cut the grass on it and... I see no reason why they did it.” Jane, who moved into the subdivision when it was first built, strongly expressed that there was not enough of a flood problem to warrant property acquisition. She declared that the homes only experienced flooding once in “40 years” and “you have to expect that,” suggesting the threshold, where flooding disrupted normalcy, was not met.

To Jane, the open space represented inefficient use of public money and to continue to invest into the properties is wasteful. She commented that “residents were overpaid for their homes.” Jane did not reference any of the buyout participants as friends, just that she “knew” them. The only remark she made throughout our conversation regarding a level of familiarity with the buyout participants, was that she “bowled with a girl” that sold her home to LFUCG. Jane did not identify with the residents of the buyout properties and did not deem the buyout program as necessary. Given her lack of intimacy with the buyout residents, the flood problem in Cardinal

Valley was likely more severe than Jane acknowledges, but is a representative example to her of wasteful government spending. Two additional long-term residents of Cardinal Valley expressed similar concerns regarding tax revenue funding projects they deemed unnecessary. In the margins of the survey, two different residents of Cardinal Valley wrote that the buyout program was “a waste of tax money” or “a terrible waste of tax money.” These comments likely reflected broader views on the role of the federal government, structural mitigation, and public assistance. If the open space had greater utility for the Cardinal Valley neighborhood, the buyout program might not have been viewed as such a “waste.”

However, development in the open space does not always translate as high-utility for residents of buyout neighborhoods. Port Royal, the only neighborhood to develop a land use in the open space, built a labyrinth or “maze” as one survey participant called it. Even though the residents term the open space as “green space,” the land use is not consistent with LFUCG definitions. Pam, a long-term resident of the neighborhood emphasized that “the city calls it a green space, so that’s what we usually call it.” This comment would indicate that Port Royal residents adhered to green space management, but they disregarded the LFUCG definition and intent of the green space. The labyrinth, a place of meditation and reflection, is beyond the LFUCG scope of green space; it is not for conservation, recreation, transportation, nor flood control. In reality, the cement pad that forms the base of the labyrinth, introduced an impervious surface to the open space, which might increase storm water runoff during high water flow. The introduction of non-native elements, like a marble bench and flat rock purchased from a garden supply

store further alienated the open space from its LFUCG intended goal of serving as green space.

Although Port Royal residents used the open space for informal recreation, the NA financially invested in the formal use of the open space, a labyrinth and rejected plans to build a playground or other recreation area. Pam described kids playing in the open space and a resident even erected a temporary volleyball net. During my initial site visits and fieldwork I observed more informal recreation in the open space than use of the labyrinth. Recreation is listed as a use of green space during dry periods, but recreation and floodplain health seemed to come secondary to the labyrinth. Mary, a resident of Port Royal, suggested that she would like to see the open space “[made] into a park.” The park, even informal, would be more aligned with the goals of green space and FEMA best practices which seek to improve flood management as well as provide open space utility.

4.2.2.3 Categories of Resident-Open Space Interaction

Residents of buyout neighborhoods in Lexington perceived, valued, and interacted with the open spaces differently. These distinct spatial patterns manifested in a variety of formal and informal land uses as well as identities for the open space. This variance in land use was enabled by the hands-off approach taken by the LFUCG in terms of managing open space. LFUCG is reactionary to individual citizens or NA groups led by magnetic agents rather than proactive in land management.

The WGPL was the only neighborhood that exemplified the LFUCG definition of green space and achieved FEMA’s goals of best practices. Both residents and the environment benefit, resulting in a mutualistic relationship. Residents of WGPL actively

participated in their community as environmental stewards. They donated their lawns to the community for ecological services because they had access to the open space for recreation and socialization. The NA in the WGPL and the FWR provided assistance and expertise in the form of planting riparian vegetation and reinforcing “no-mow” boundaries in the open space. LFUCG supported these activities through grants and also by enabling the intervening entity FWR access and legitimacy to LFUCG policy.

However not all activity in the open space was mutually beneficial, resulting in residential ideals imposed on the landscape in an imperialistic relationship. Port Royal built a labyrinth in the open space that has no real benefit to the neighborhood at large or the environment. In fact the concrete slab with exotic materials curtails the function of the floodplain. The labyrinth is the result of a small group of residents comprising the NA being led by one individual with strong magnetic agency. The agent was able to push the institution of LFUCG to allow the land use in the open space. FWR assists with river clean-up and native plantings in this neighborhood, but this entity is missing in all conversations pertaining to the labyrinth. The agent circumscribed FWR by going to the head of city government, thus eliminating FWR authority in the open space.

The third category of resident- open space interaction is alterity, where the land is ignored and alienated from the majority of the population. In Cardinal Valley and Holiday Hills the open space was often represented as the only suitable space for marginalized groups, the subaltern. Strong agency was also present in this category, but in this case, the individual acted to prevent open space development that could have served the greater neighborhood. These neighborhoods acknowledged FWR as a group that makes aesthetic

improvements to the open space, but wants limited engagement with the government or associated organizations. The majority of residents in these neighborhoods ascribed no utility to the open space. A small minority perceived the open space as country-like or similar to a nature preserve, emphasizing the aesthetic quality of the properties, not the ecological services the land could provide the community.

These interaction categories are a continuum, not discrete groups. In Skycrest, residents indicated interest in generating a mutualistic use, such as an organic community garden but lack the agency or support of intervening entities to enact a plan in the open space. Many residents of Skycrest perceived the land as a benefit for current residents since it stores storm water during wet periods and informally acts as a dog park during dry periods. Therefore Skycrest has not fully realized any of these three categories and is in a state of flux in the continuum. Residential attitudes will determine the future of open space in Skycrest.

V. SUMMARY, IMPLICATIONS & RECOMMENDATIONS

To the casual observer, the buyout properties in Lexington, KY appear to be vacant lots with low utility to the community; however, deeper inspection reveals that residents constructed and interpreted the open spaces in their neighborhoods through both formal and informal uses. The most frequent descriptions survey participants applied to the buyout properties characterized the open space as green, grassy, and nice. Despite the positive description, most residents reported minimal to no interaction with the buyout properties on a regular basis, yet were quite aware of the buyout program itself: 43.85 percent were very aware and 22.54 percent were aware of the buyout program in their neighborhood. These statistics, which combine the responses from all of the study neighborhoods, provide a general account of how residents perceive the open space; however, residents of each neighborhood engaged with the open spaces to varying degrees, resulting in distinct spatial patterns across the Wolf Run Watershed.

The residents of WGPL interacted with the open space more frequently than the other neighborhoods and commonly identified the buyout properties as a park or green space. Even though residents of WGPL recorded the lowest average length of residency (13.94 years), the surveys indicated a greater sense of community in WGPL than the other study neighborhoods. The community spirit likely contributed to WGPL residents being very aware (50.86 percent) of the buyout program as residents routinely interacted. This strong sense of community was also fostered by the open space, which residents used as a social gathering place. NA meetings, potlucks, and unorganized get-togethers amongst neighbors regularly occurred in the open space.

Residents of WGPL did not just passively collect at the buyout properties; instead they claimed the public open space as the site for recreation and socializing in the neighborhood. Enacting this strong sense of agency, several residents adjacent to the open space transformed their private properties from suburban yards to riparian wetlands that perform ecological services benefiting the entire watershed, thus re-defining the function of private and public land uses. The WGPL NA and residents throughout the neighborhood supported this mission by contributing time and resources to maintaining the function of the open space and respecting the “no mow” boundaries of the riparian zone. Additionally, FWR contributed knowledge and funding for these riparian zones and the “no mow” signage that seeks to protect them. Unique to WGPL, residents collectively perceive the buyout properties as a functional amenity with high-utility, which is evidenced in not just the social value residents place on the open space, but also the economic value. Approximately 32 percent of survey participants from WGPL felt that the open space increases their property values. This perception of both social and economic value that is evident in the WGPL neighborhood supports FEMA’s goal of developing high-utility open space that serves the community, thus raising adjacent property values, at least perceptually.

The perception of residents in the Cardinal Valley and Holiday Hills neighborhoods was dramatically different than the residents of WGPL. Residents in the neighborhoods of Cardinal Valley and Holiday Hills shared similar attitudes towards the open space. Holiday Hills had the longest average length of residency (26.97 years); however, 20.59 percent of participants said they were unaware of the buyout program yet 41.18 were

very aware. Cardinal Valley, the largest neighborhood in this study, reported a mean residency length of 20.5 years, the second lowest. Interestingly, 42.42 percent of the participants from Cardinal Valley considered themselves very aware of the buyout program, yet 28.79 percent of the participants were unaware of the program, the highest percentage of any neighborhood. This unawareness may be attributed to the size of Cardinal Valley and Holiday Hills, the two largest neighborhood of this study, and the fact, that several respondents did not consider themselves residents of these neighborhoods. These statistics seem to indicate that neighborhood size has a larger impact on buyout program awareness than length of residency.

To examine their overall satisfaction with the appearance of the buyout properties, I combined the very satisfied and satisfied categories, which showed that the majority of the Cardinal Valley (55.92) and Holiday Hills (74.19) respondents were content with the appearance. In fact, these two neighborhoods recorded the highest combined scores of satisfaction. This suggests that most residents appreciate the current appearance of the buyout properties in these neighborhoods which consist of grassy lots with wooded vegetation along the creek. This land use reflects the bucolic ideal of country living that many participants from this neighborhood valued. However, 14.29 percent of the Cardinal Valley and 9.68 percent of the Holiday Hills respondents marked that the current appearance of the open space decreases property values. This may reflect underlying social conflict and perceptions that the buyout properties invite crime into the neighborhood. This has led to the marginalization of the land and the subalterns who interact with it.

The survey reported a variety of experiences and attitudes in Port Royal, which may reflect the small neighborhood and response rate. Over 66 percent of respondents from Port Royal considered themselves very aware of the buyout program, the most of any neighborhood. This high level of awareness amongst the population is not surprising, given that Port Royal is the smallest neighborhood in the study and the buyout properties are located along the main access road to the neighborhood. Interesting, 16.67 percent of survey participants, the highest of any neighborhood, felt that the appearance of the open space decreases property values, despite the fact that Port Royal is the only study neighborhood with a formal land use. This supports my argument that the labyrinth is not a high-utility open space development. The construction of the labyrinth was driven by the magnetic agency of individual residents and has little utility for the neighborhood; residents, particularly neighborhood kids, use the vacant area adjacent to the labyrinth more frequently than the reflection site. This highlights how important residential perception of economic value is in relation to open space development; implementing a formal land use does not equate to economic value, especially if the neighborhood does not associate a function or utility to the land use.

Similar to Port Royal, a sizable majority of respondents in Skycrest indicated that they are unsatisfied with the current appearance of open space. Actually, Skycrest reported the largest percentage (17.65) of unsatisfied people. Through interviews and the open-response questions on the survey, it seems many people in this neighborhood would like to see the function of the buyout properties increased. Despite this low satisfaction rate, residents in the Skycrest neighborhood generally perceive the buyout properties as

an opportunity and discussed improving the open space to include a community garden or more native plants. Currently, this neighborhood seems to be lacking the magnetic agent to bolster civic action and generate a land use. Skycrest is the neighborhood to watch for future activity to determine if the increased awareness of the buyout properties, generated from my study, induces change in the open space.

5.1. How Residents of Buyout Neighborhoods Perceive Open Space

The perception of the acquired properties and open space varied amongst residents of the five buyout neighborhoods, but in general participants perceived the acquired lands as beneficial if not high-utility. The participants living in the WGPL viewed the buyouts as a positive since residents use the open space as a park or athletic field during dry periods. WGPL and Skycrest residents also recognized the storm water storage capabilities of the open space and compared the properties to a retention basin. Residents living in Skycrest cited the potential for the open space and suggested community uses including landscaping, dog park, and an organic vegetable garden. Other participants, particularly in Cardinal Valley and Holiday Hills, associated the open spaces with a bucolic country lifestyle, where families picnicked, watched the wildlife and enjoyed the greenery in an otherwise urban environment. Residents who appreciated the country-like aspects of the open space clarified that they did not want the land too natural; they still wanted LFUCG to regularly mow and maintain the buyout properties.

The most frequent complaint, across all neighborhoods, was that the open space needed more maintenance, particularly lawn mowing and dog feces clean-up. A small number of participants viewed property acquisition negatively, which influenced their

perspective of the resulting open space. Several residents in Cardinal Valley expressed that the buyout program was a waste of tax payer money and an unnecessary government program that resulted in unused land with no potential for redevelopment. These individuals, who tended to be long-term residents, preferred technocratic solutions for flood control over nonstructural mitigation. These attitudes reflect the predominant government response to hazards that was popular prior to the 1990s, where we engineered structures to control nature rather than altered human behavior. These opinions of the buyout program may be symptomatic of a larger outlook on the role of the federal government in response to disasters and appear to reflect different generational experiences.

5.2 The Values Accrued from Open Spaces

A range of values accrued from the open spaces, which are primarily defined and enacted by the residents of buyout neighborhoods. Although residents are the primary drivers of determining the identity of the open space, they ensure that identity is within the FEMA requirements of open space as perpetuated by LFUCG. Even when the Port Royal NA discussed building the labyrinth, they highlighted that it would not wash away in a flood thus adhering to the structural control of FEMA. Formally, through their Greenway Master Plan, LFUCG valued the buyout properties for flood mitigation purposes and this sentiment was echoed by residents of Skycrest and WGPL. However, the labyrinth and the rather hands-off approach to open space management, undermines this intended purpose.

In addition to LFUCG, the FWR also attributed ecological value to the open spaces. The buyout properties contributed to riparian restoration projects and improved water quality within the Wolf Run Watershed. During dry periods, the open space provided recreational or fitness value for kids, dogs, and adults, especially for residents in WGPL. Although most prominent in WGPL, all neighborhoods described some degree of social value to the open space. In the WGPL the open space was the site for informal gatherings, neighborhood block parties, and NA meetings. The open space was where new neighbors met existing neighbors and kids played together. In Cardinal Valley, Skycrest and Holiday Hills residents spoke about the aesthetic quality associated with the open space and their enjoyment of seeing greenery in an otherwise densely built environment. A relaxing value was often linked with the greenery as the open space was viewed as peaceful and calming. The greenery of the buyout properties invited walkers to use the sidewalks along the open space. Although in Port Royal, where the official land use of the open space included a labyrinth, relaxation and meditation were not often cited as a value of the buyout properties.

Equally important to note, residents also identified the economic value of the buyout properties. A minority of residents reported that the open space improved property value; most of these respondents lived in WGPL. The vast majority of survey participants, 65.24 percent, marked that the current appearance of the open space has no impact on property value. The surveys also indicated that sizable minorities in Port Royal, Holiday Hills and Cardinal Valley feel that the open space decreases property values. Yet the interviews revealed an interesting perspective. Residents, particularly in

Skycrest, acknowledged if the repetitively-flooded homes were not purchased, their poor-condition would have likely brought down property values for the whole neighborhood. So although the current appearance of the open space does not have a significant impact on property values, residents perceive the initial acquisition of repetitively-flooded homes as beneficial for neighborhood property values. This insight provides a new dimension as to how the buyout program impacts neighborhood property values and community revenue. If LFUCG did not acquire the repetitively-flooded homes, tax base might have decreased because of deteriorating property values; this argument may provide incentive for communities to participate in the HMGP and should be further explored in future work.

5.3 How the Values Manifest in Buyout Land Use Approaches

The values residents identified and constructed dominated the land use approaches in Lexington. The name residents gave to the buyout properties reflected their own land use approaches and how they valued the open space. While LFUCG enforced FEMA's open space management policies, the city has taken a hands-off approach to open space management and development, thus allowing the interests of the individual agents to determine land use. LFUCG has been more reactionary to individual residents than proactive in land use decisions. This hands-off approach may be explained by the different divisions within local government wanting different uses for the open space.

Both past and present LFUCG government initiatives reflect a variety of ideas as to how the open space should be used. These ideas range from recreational to ecological to aesthetic and seem to reflect the various goals and interests of different departments

rather than a cohesive voice from LFUCG. Without a clear policy, these inconsistencies can confuse residents as to use of the open space. In the past, Parks and Recreation and the associated LFUCG boards supported the development of a Frisbee disc golf course in Cardinal Valley to keep kids active. This initiative was met with resistance and residents (inaccurately) argued the course was a violation of FEMA regulations. Another past action, included a former mayor and various LFUCG departments approving the construction of a labyrinth in Port Royal, which does not violate FEMA regulations but it is inconsistent with the intended goals of FEMA open space management.

The land use goals stated in the Greenway Master Plan (2002), which includes the management of the buyout properties, are subject to interpretation. This interpretation reflects differing values within the government. The Storm Water Management Department seeks to implement riparian buffer zones and native vegetation to improve water quality, yet the Planning Department is trying to establish trails, corridors, and green infrastructure throughout the city. These two goals generally align unless disagreement emerges over establishing paved trails in place of un-mowed riparian wetlands. Both uses exemplify FEMA best practices of open space management, but reflect different land use values, recreational or ecological. Further complicating the issue, some LFUCG employees want to lease or sell buyout properties acquired through capital projects to adjacent homeowners to reduce LFUCG expenses,¹³ yet others within LFUCG do not want to lose acquired land that may be needed for future flood mitigation. Despite the Greenway Master Plan, different departmental interests prevent LFUCG from

¹³ LFUCG employees only support selling the properties with deed restrictions that prevent the construction of any structures or other development of the land.

presenting a united land use metanarrative for open space that engages with resident and community goals, thus allowing individual agents to determine land use.

Even with dissidence amongst LFUCG departments, the external and internal agencies support the LFUCG Greenway Master Plan. The EPA mandated that LFUCG improve the water quality of local waterways, including the Wolf Run Watershed. In response to this mandate, many of the remediation projects are occurring in the buyout properties. Some of these activities, such as not-mowing native vegetation along riverbanks, actually assist in defining the open space as a greenway. In combination with this external mandate, the FWR, which seeks to advance an agenda of riparian restoration, adheres to the greenway definition and perpetuates the use of open space as established by the LFUCG Greenway Master Plan. This internal support from FWR is extended to the NAs and residents who share the ecological value of the open space. The activities of FWR, including stream clean-up, native plantings, and “no-mow” wetlands, were most noticeable in WGPL, Skycrest, and to a lesser extent Port Royal. FWR has had the most obvious success in WGPL where residents actively engage in ecological services and achieve the best practices goal established by FEMA. In the other neighborhoods, some individual residents support FWR activities, and others are complacent by not actively opposing riparian restoration. These external and internal agencies are forcing LFUCG to adhere to its own Greenway Master Plan, thus defining the role of the buyout properties in Lexington.

5.4 Implications & Recommendations

My study advances our knowledge on the long-term management of buyout properties as well as serves as contributes to the hazard geography literature the first account of how residents interact with open space created through a buyout program. Additionally this body of work incorporates a theoretical framework relatively uncommon in the hazard geography sub-discipline. By extending the cultural landscape tradition to the sub-discipline of hazard geography, my study expands how we critically analyze disaster reconstruction and mitigation. This is significant as we cannot build more resilient communities without in-depth understanding of how power influences and perpetuates social vulnerability to disaster. My study also introduces the idea of buyout properties a recycled landscape; a landscape that returned to open space through public policy. This reopened space is influenced and managed by a variety of social and political systems. To understand the dynamic transformation of a land use from private residence to public open space requires the examination of not only the land use change but also the how the economic, social, and ecological values of the property. Without informed understanding within a critical framework, we cannot effectively manage the buyout landscape and preserve its function of open space.

Effective open space management is of principle concern for practitioners and floodplain managers. By providing the first account of how residents value and perceive this open space, municipal leaders can better plan and manage buyout landscapes. My study also highlights the importance of involving community members, particularly magnetic agents into the land use planning process. By incorporating magnetic agents as

allies instead of advisories, municipal leaders can develop community projects that not only are supported by residents and stakeholders but also serve the greater community.

To achieve these goals, LFUCG should conduct an educational outreach program aimed at informing residents of buyout neighborhoods the possible FEMA-approved land uses for the buyouts properties, particularly in neighborhoods like Skycrest where residents expressed interest in the potential of open space development. Educational outreach needs to also include a component highlighting the value of wetlands and no-mow native vegetation zones. Given the current community-wide concern on water quality, this is an important time to stress the importance of urban wetlands and riparian buffers as a low-cost compliment to the other water improvement projects. LFUCG should highlight their open space management expenditures to the community (*i.e.* \$45,000 to mow buyout properties annually) and run a cost-benefit analysis on increasing wetlands in the open space versus the cost to mow. By including the Friends of Wolf Run into these community-based projects and education outreach, a more economically and ecologically sustainable land use may be implemented in the open spaces. However, regardless of the land use it is imperative that city leaders work with residents and neighborhood associations, particularly magnetic agents, instead of handing down a land use plan without community involvement. This increased government presence and involvement with residents will likely reduce buyout management strategies that only reflect the desires of a couple individuals and instead reflect the greater community.

This research project details the experience of Lexington, KY and highlights the lack of local government involvement which resulted in individual magnetic agents

determining the utility of the open space. A similar case study could be implemented in a location where the local government was more actively involved in the development of open space to identify whether magnetic agency persists in that environment. The research from my study also revealed underlying racial/ethnic issues associated with the open space. Future work should include interviewing residents living in the apartment complexes adjacent to the buyout neighborhoods to understand their perspective of the open space. This would provide a more holistic picture of access to the open space as well as a more robust account of crime and safety perceptions for the neighborhood. Additionally, a follow-up study would be beneficial to determine if any changes occurred following this project because of increased awareness of the open space amongst LFUCG and the residents of these five neighborhoods in Lexington, KY.

In the larger scope of floodplain management, this case study raises questions pertaining to whether or not local governments have the necessary financial resources to maintain buyout properties as open space in perpetuity. Without needed resources, local government may give way to lucrative land development options that violate FEMA open space management rules. To reduce costs, some communities have implemented buyout property leasing programs, which removes the maintenance burden from the local government and to private land owners. This again blurs the line between public-private investment, ownership, and land use. Additionally, many communities have implemented buyout programs without the assistance from the federal government as capital projects. Although many of these programs still follow open space management practices as established by FEMA, they are not subjected to federal mandates on land use. This sub-

category of floodplain property acquisition, as well as buyout property leasing programs, have received little attention to date from the academic community, yet have far reaching implications for floodplain management.

Finally, my case study calls attention to the need for continued research on the post-buyout landscape, particularly studies that address the planning, implementation, and residential reception of open space development. Once the floodplain is cleared of structures the land is recycled to reopened space. New social issues arise in these reopened spaces that require further analysis. By increasing our understanding of how these spaces are perceived, managed, and used in relation to social systems, we can contribute to the development of high-utility reopened spaces that meet community needs and are of value to the residents of buyout neighborhoods.

APPENDIX SECTION

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Appendix A: Letter to City Leaders Explaining Study

April 23, 2014

Dear _____,

I am a doctoral student in the geography department at Texas State University- San Marcos and for my dissertation I am examining the long term impacts of property acquisition due to flooding. This is the first study that will analyze how communities have implemented open space land management techniques and the impact of property acquisition on residents remaining in the buyout neighborhoods. In the summer of 2011, I conducted a pilot study where I created a catalogue of various land uses on over 60 buyout sites throughout the central United States. As part of the study, I visited the City of Lexington and the acquired properties in the Wolf Run watershed.

I selected the City of Lexington as my dissertation case study to understand the long term experiences with the buyout program and open space management. I would like to interview past and present city leaders, including yourself, members of homeowners associations, and also members of Friends of Wolf Run. I want to hear the experiences of the people who have shaped and influenced the implementation of the buyout program and subsequent open space land use.

Additionally, a short survey will be mailed out to residents currently living in the neighborhoods of Port Royal, Cardinal Valley, Holiday Hills, Skycrest, and WGPL. The survey will ask questions pertaining to how, if at all, the buyout and subsequent open space land use have impacted their property values, recreational opportunities, and overall quality of life. This will be the first study to date that asks residents of buyout neighborhoods about their long term experiences with the program.

As more and more communities are implementing buyout programs, it is important to understand the long term experiences from cities, such as Lexington, that have successfully acquired flood prone properties and maintained open space. I would greatly appreciate the support of the City of Lexington for my study and the participation of city leaders such as yourself. I will call your office to discuss the study in further detail and answer any questions.

Sincerely,

Elyse Zavar
Department of Geography
Texas State University, San Marcos
601 University Dr.
San Marcos, TX 78666
(512) 245-5586
ez1027@txstate.edu

Appendix B: Interview Request Letter - Neighborhood Associations & NGO

April 23, 2014

Dear _____ ,

I am a doctoral student in the geography department at Texas State University, San Marcos and for my dissertation I am examining the long term impacts of property acquisition due to flooding. This is the first study that will analyze how communities have implemented open space land management techniques and the impact of property acquisition on residents remaining in the buyout neighborhoods. In the summer of 2011, I conducted a pilot study where I created a catalogue of various land uses on 52 buyout sites throughout the central United States. As part of the study, I visited the City of Lexington and the acquired properties in the Wolf Run watershed.

Building on the pilot study, I selected Lexington as a case study to understand the city's experience with open space management and am focusing on the neighborhoods of Cardinal Valley, Holiday Hills, Port Royal, Skycrest, and WGPL. I am interviewing past and present city leaders, members of Friends of Wolf Run and neighborhoods association members. Additionally, a short survey will be mailed out to residents currently living in those four neighborhoods. The survey will ask questions pertaining to how, if at all, the buyout and subsequent open space land use have impacted property values, recreational opportunities, and overall quality of life. I want to hear the experiences of the people who have shaped and influenced the implementation of the buyout program and helped maintained the open space of those properties. I would like to invite you to participate in a short interview about your experiences with the buyout program and open space.

As more and more communities are implementing buyout programs, it is important to understand the long term experiences from cities, such as Lexington, that have successfully acquired flood prone properties and maintained open space. I would greatly appreciate the opportunity to discuss your perspective of the program. I will call you to discuss the study in further detail and answer any questions.

Sincerely,

Elyse Zavar
Department of Geography
Texas State University, San Marcos
601 University Dr.
San Marcos, TX 78666
(512) 245-5586
ez1027@txstate.edu

Appendix C. Household Letter Announcing Survey

Date

Dear Resident,

I am a doctoral student in the geography department at Texas State University- San Marcos. For my dissertation research, I am examining the long term impacts of floods on communities. In the late 1990s, your neighborhood experienced flooding that resulted in the city of Lexington purchasing severely damaged homes and converting the properties to open space along Furlong Dr., Roanoke Rd., Kilrush Dr., Deauville Dr., and Goodrich Dr. In a couple weeks, you will receive a short survey in the mail asking about your experiences with the open space today.

Through your participation, we will learn about the present day impact of the open space on you and your neighborhood. This knowledge will help other communities make informed long-term planning decisions as they recover from flooding. Your participation in this project is completely voluntary and the information collected will be kept confidential. If you have any questions about the nature of my research, please feel free to contact myself or my advisor, Dr. Ron Hagelman at (512) 245-8847 or via email: rh46@txstate.edu.

Your time and effort is greatly appreciated.

Sincerely,

Elyse Zavar

Phone: (512) 245-0325

Email: ez1027@txstate.edu

This project has been reviewed and approved by the Texas State University-San Marcos Institutional Review Board (Exemption EXP2012G9947). Questions concerning your rights as a participant in this research may be addressed to the Institutional Review Board, Texas State University, 601 University Dr., San Marcos, TX 78666-4684.

Appendix D. Household Letter & Survey

Date

Dear Resident,

I am a doctoral student in the geography department at Texas State University, San Marcos. For my dissertation research, I am examining the long term impacts of floods on communities. In 1997, your neighborhood experienced flooding that resulted in the city of Lexington purchasing severely damaged homes and converting the properties to open space along Furlong Dr., Roanoke Rd., Kilrush Dr., Deauville Dr., and Goodrich Dr. Enclosed is a short survey that asks about your experiences with and opinions of the open space in your neighborhood today.

Through your participation, we will learn about the present day impact of the open space on you and your neighborhood. This knowledge will help other communities make informed long-term planning decisions as they recover from flooding. The survey will only take about 5 minutes to complete. The information collected will be kept confidential and data from this research will only be reported as a collective combined total. The survey is anonymous, unless you indicate that you want to participate in a short interview regarding your survey responses. If there are any questions you prefer not to answer, just leave them blank and move on to the next question. Please return the questionnaire in the enclosed business reply envelope.

If you have any questions about the nature of my research, please feel free to contact myself or my advisor, Dr. Ron Hagelman at (512) 245-8847 or via email: rh46@txstate.edu.

I sincerely thank you for taking the time to assist with this research.

Elyse Zavar

Phone: (512) 245-5586

Email: ez1027@txstate.edu

This project has been reviewed and approved by the Texas State University-San Marcos Institutional Review Board (Exemption EXP2012G9947). Questions concerning your rights as a participant in this research may be addressed to the Institutional Review Board, Texas State University, 601 University Dr., San Marcos, TX 78666-4684.

Housing Characteristics:

1. Housing Type:

- ☐ Single family primary residence
- ☐ Single family vacation home
- ☐ Duplex
- ☐ Other _____

2. Home Ownership:

- ☐ Own
- ☐ Rent
- ☐ Other

Neighborhood Characteristics:

3. Which of the following neighborhoods to you live in?

- ☐ Cardinal Valley
- ☐ Holiday Hills
- ☐ Port Royal
- ☐ Skycrest
- ☐ WGPL
- ☐ Unsure

4. Approximately how long have you lived in your neighborhood? _____ years

5. My neighborhood has a strong sense of community:

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

6. My neighborhood offers amenities for me and/or my family to use:

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly disagree

7. Please check all the available amenities offered in your neighborhood:

- ☐ Playground
- ☐ Park
- ☐ Athletics (soccer, baseball, basketball, etc.)
- ☐ Walking path
- ☐ Picnic table/pavilion
- ☐ Fishing access
- ☐ River views
- ☐ None of the above
- ☐ Other (please list) _____

Flood of 1997 and Open Space:

8. Did you live in your neighborhood during the flood of 1997?

- ☐ Yes
- ☐ No

9. How aware are you that some of your neighbors that had extensive flood damage sold their properties to the city and now those properties are open space?

☐ Very aware

☐ Somewhat aware

☐ Unaware - This survey is the first I've heard about it.

10. How satisfied are you with the current appearance and use of that open space?

☐ Very satisfied

☐ Somewhat satisfied

☐ Unsatisfied

11. If you are a property owner, how does the current use of the open space impact your property value?

☐ Increases my property value

☐ Decreases my property value

☐ Has no effect on my property value

☐ I am not a property owner

12. How does the current appearance of the open space impact your daily life?

13. Is there anything you would change about the open space in your neighborhood?

Socio-Demographics:

14. Gender:

☐ Male

☐ Female

15. Age: _____

16. Education Level

☐ High school diploma or equivalent

☐ Some college

☐ Bachelor's Degree

☐ Graduate Degree

☐ Other

17. Are you willing to participate in an interview regarding your survey answers? If so, please provide your contact information below (first name, phone and/or email):

Appendix E. Household Letter Follow-up

Date

Dear Resident,

A couple weeks ago, you received a short survey in the mail asking about your experiences with and opinions of the open space in your neighborhood today. If you have already completed the survey, thank you, I greatly appreciate your help. If you have not completed the survey yet, I ask you to take a few minutes to complete it. Through your participation, we will learn about the present day impact of the open space on you and your neighborhood. This knowledge will help other communities make informed long-term planning decisions as they recover from flooding.

If you have any questions about the nature of my research, please feel free to contact myself or my advisor, Dr. Ron Hagelman at (512) 245-8847 or via email rh46@txstate.edu.

I sincerely thank you for taking the time to assist with this research.

Elyse Zavar

Phone: (512) 245-5586

Email: ez1027@txstate.edu

This project has been reviewed and approved by the Texas State University-San Marcos Institutional Review Board (Exemption EXP2012G9947). Questions concerning your rights as a participant in this research may be addressed to the Institutional Review Board, Texas State University, 601 University Dr., San Marcos, TX 78666-4684.

Appendix F. Interview Protocol: Residents in Buyout Neighborhood

Date: _____

Community: _____

Participant: _____

Hi, my name is Elyse and I appreciate you sitting down and talking with me today. I am a doctoral student in the geography department at Texas State University-San Marcos and I study how natural hazards, like floods, have impacted communities over the long term. Currently, I am talking with your local government leaders and neighbors to learn about how Lexington created open space in your neighborhood to minimize the effects of flooding. I'd like to talk about your neighborhood and the open space created after the flood of 1997. My goal is to use your experiences, and those of your neighbors and community, to help other cities create their own open space to reduce the impact of floods. The interview will take about an hour. Do you have any questions for me at this point?

Your participation in this research project is completely voluntary, at any point you have the right to stop the interview or decline to answer a question. There are no known risks to participating in this interview beyond those encountered in everyday life. The interview will be audio-recorded and then transcribed or typed out into a word document. This information will be kept confidential and stored in a locked filing cabinet in my locked office. No names or identifying information will be kept with the audio-recordings or transcriptions. These documents will be kept for 2 years then destroyed. This research project is part of the requirements for completion of my doctoral degree and could be published in an academic journal. If this research is published, your identity would be protected. To indicate your voluntary agreement to participate in the interview, please say, "yes."

I. Personal History in Neighborhood

1. Can you tell me what you do for a living?
2. When did you move into your neighborhood?
 - a. If prior to 1997: So you decided to stay in the neighborhood after the flood of 1997?
 - b. If after 1997: Did you know about the flood history of this neighborhood before you moved here?
3. Tell me what attracted you most to your neighborhood.
4. Including yourself, how many people live in your home?
5. Does your neighborhood have a neighborhood association?
 - a. Is it active?
 - b. How are you involved?

II. Open Space

Deauville Dr in Cardinal Valley; Kilrush Dr in Holiday Hills; Roanoke Rd in Port Royal; Furlong Dr in Skycrest; Goodrich Dr. in WGPL

6. How familiar are you with the open space along street in your neighborhood?
7. Did you know the open space in your neighborhood was the result of flooding?
8. How satisfied are you with the current appearance of the open space in your neighborhood?
9. What does the open space mean to you/your family?
10. Would you change anything about the open space if you could?
11. Do you see the open space as a positive or negative to your neighborhood? Why?

III. Value

11. Can you tell me about how you interact with the open space? (i.e. see it, use it, etc.)
 - a. How frequently do you use it?
12. How does the current appearance of the open space impact your property value?
13. How could changes to the open space benefit you and your neighborhood?
14. Does the current open space impact your quality of life? How?
15. Is there anything else you'd like to share about the open space in your neighborhood?

Appendix G. Interview Protocol: Community Leaders

Date: _____

Community: _____

Participant: _____

Hi, my name is Elyse and I appreciate you sitting down and talking with me today. I am a doctoral student in the geography department at Texas State University-San Marcos and I research how natural hazards, like floods, have impacted communities over the long term. Currently, I am talking with local government leaders and residents to learn about how Lexington created open space in the Wolf Run watershed to minimize the effects of flooding. I'd like to talk about the open space created after the flood of 1997. My goal is to use your experiences, and those of your community, to help other cities create their own open space to reduce the impact of floods. The interview will take about an hour. Do you have any questions for me at this point?

Your participation in this research project is completely voluntary, at any point you have the right to stop the interview or decline to answer a question. There are no known risks to participating in this interview beyond those encountered in everyday life. The interview will be audio-recorded and then transcribed or typed out into a word document. This information will be kept confidential and stored in a locked filing cabinet in my locked office. No names or identifying information will be kept with the audio-recordings or transcriptions. These documents will be kept for 2 years then destroyed. This research project is part of the requirements for completion of my doctoral degree and could be published in an academic journal. If this research is published, your identity would be protected. To indicate your voluntary agreement to participate in the interview, please say, "yes."

I. Role in the Government/Community

1. Please tell me about your current role in the government? How long have you worked with the city?
2. Are you a resident of Lexington? If so, how long?
3. Can you tell me about other past or current positions or roles you've held in the city?

II. Buyout Program

4. Were you a member of the community or government during the flood of 1997 and subsequent buyout?
5. If yes: Can you tell me about how the buyout program started in your community?
 - a. Whose idea?
 - b. Was the community supportive of the program?
 - c. Timeline?

- If no: How did you learn about the buyout program in Lexington?
6. Do you consider the buyout program to be successful? Why?
 - a. What did/didn't make it successful?

III. Creating and maintaining Open Space

7. Where there any people, agencies, or other sources, which gave guidance about managing the open space once the homes were demolished?
 - If yes: Can you tell me about that guidance?
 - If no: Could you have used more support/guidance? In what way?
8. When the city decided to move forward with the buyout, was a plan already in place for the open space?
 - a. When in the buyout process did the open space plan develop?
9. How did the current open space use come about?
10. How do you feel about the current open space use/plan?
11. Has there been resident input into the use or appearance of the open space?
12. What impact has the open space had on the community?
13. Would you change anything about the current open space?
14. Is there anything else you'd like to share about the open space or buyout program in general?

Appendix H. Interview Protocol: NGO

Date: _____

Community: _____

Participant: _____

Hi, my name is Elyse and I appreciate you sitting down and talking with me today. I am a doctoral student in the geography department at Texas State University-San Marcos and I study how natural hazards, like floods, have impacted communities over the long term. Currently, I am talking with local government leaders and residents to learn about how Lexington created open space in the Wolf Run watershed to minimize the effects of flooding. I'd like to talk about the open space created after the flood of 1997. My goal is to use your experiences, and those of your community, to help other cities create their own open space to reduce the impact of floods. The interview will take about an hour. Do you have any questions for me at this point?

Your participation in this research project is completely voluntary, at any point you have the right to stop the interview or decline to answer a question. There are no known risks to participating in this interview beyond those encountered in everyday life. The interview will be audio-recorded and then transcribed or typed out into a word document. This information will be kept confidential and stored in a locked filing cabinet in my locked office. No names or identifying information will be kept with the audio-recordings or transcriptions. These documents will be kept for 2 years then destroyed. This research project is part of the requirements for completion of my doctoral degree and could be published in an academic journal. If this research is published, your identity would be protected. To indicate your voluntary agreement to participate in the interview, please say, "yes."

I. Role in Friends of Wolf Run

1. Please tell me about your role with Friends of Wolf Run.
2. How long have you been a part of the organization?
3. How did you become involved?
4. Are you a resident of a neighborhood in Wolf Run watershed? If so, how long? Which one?
5. Were you a member of the community during the flood of 1997?
6. Can you tell me about other positions or roles you have in the community (i.e. jobs, neighborhood associations, etc.)?

II. Friends of Wolf Run & Open Space

7. Can you tell me about the role of FWR in the community?
 - a. How does FWR interact with city government?

- b. Neighborhood Associations?
 - c. Residents?
8. Can you tell me about how the Friends of Wolf Run got involved with the open space?
 9. How has the FWR influenced current open space development within the watershed?
 - a. What are the short/long term goals of FWR within the Wolf Run watershed?
 10. Do you consider the current open space land use to be successful? Why?
 - a. What did/didn't make it successful?
 11. Are there any changes the FWR want to make to the open space?
 12. Is there anything else you'd like to share about the open space?

Appendix I. Interview Protocol: Neighborhood Association Members

Date: _____

Community: _____

Participant: _____

Hi, my name is Elyse and I appreciate you sitting down and talking with me today. I am a doctoral student in the geography department at Texas State University-San Marcos and I study how natural hazards, like floods, have impacted communities over the long term. Currently, I am talking with local government leaders and residents to learn about how Lexington created open space in neighborhood name to minimize the effects of flooding. I'd like to talk about the open space created after the flood of 1997. My goal is to use your experiences, and those of your community, to help other cities create their own open space to reduce the impact of floods. The interview will take about an hour. Do you have any questions for me at this point?

Your participation in this research project is completely voluntary, at any point you have the right to stop the interview or decline to answer a question. There are no known risks to participating in this interview beyond those encountered in everyday life. The interview will be audio-recorded and then transcribed or typed out into a word document. This information will be kept confidential and stored in a locked filing cabinet in my locked office. No names or identifying information will be kept with the audio-recordings or transcriptions. These documents will be kept for 2 years then destroyed. This research project is part of the requirements for completion of my doctoral degree and could be published in an academic journal. If this research is published, your identity would be protected. To indicate your voluntary agreement to participate in the interview, please say, "yes."

I. Role in the Community

1. Can you tell me what you do for a living?
2. How long have you been a resident of Lexington? A resident of neighborhood?
3. Please tell me about your current role in the neighborhood association?
4. How long have you been involved with the neighborhood association?
5. Would you characterize your neighborhood association as active? Why/why not?
 - a. Examples of typical activities?

II. Buyout Program

6. Were you a resident of neighborhood during the flood of 1997 and subsequent buyout?
7. If yes:

- a. Can you tell me about how you first learned about the buyout program in your neighborhood?
 - b. Was the neighborhood association active during the buyout?
 - c. Did the neighborhood support the program?
- If no: How did you learn about the buyout program in your neighborhood?
8. Do you consider the buyout program to be successful? Why?
- a. What did/didn't make it successful?

III. Creating and maintaining Open Space

9. Was the neighborhood association active in determining how the open space would look or be used?
10. Did the city ask for input from the neighborhood?
11. How do you feel about the current open space use/plan?
12. What impact has the open space had on the neighborhood?
- a. Impact on property values?
 - b. Impact on quality of life?
13. Would you change anything about the current open space?
14. Is there anything else you'd like to share about the open space in your neighborhood?

Appendix J. Internal Review Board Exemption



Institutional Review Board

Request For Exemption

Certificate of Approval

Applicant: Elyse Zavar

Request Number : EXP2012G9947

Date of Approval: 09/04/12

Assistant Vice President for Research
and Federal Relations

Chair, Institutional Review Board

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