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The intent of this multifold mixed methods study is to understand the impact Kirkbride planned hospitals made on the American landscape, to measure how the building type changed over time, and to assess the adaptive reuse potential of the building type today. A database was generated recording attribute data for all Kirkbride complexes identified. The thematic mapping method was employed to map the geographic distribution of these buildings, the chronological order of development, and to display the distribution of the assigned current status code(s). In addition to historical research and Kirkbride Legacy Database methods, the research utilized quantitative analysis, and case studies taking advantage of various strategies within each method.

Across the United States, 73 Kirkbride complexes were identified. Of the 73, 40 were demolished, 24 preserved, and nine adaptively reused. Of the nine, the defined uses include multi-family residential, correctional facility, and mixed use. Of these, the character defining features of highest significance were retained in all cases except one and six alteration types were observed. All projects required some planning and funding actions for successful rehabilitation, yet these processes were most complex in a mixed-use program. Through this research, lessons learned from each of the nine reuse cases are presented to inform communities how other developers achieved successful rehabilitation.

PRESERVING THE KIRKBRIDE LEGACY:
AN ANALYSIS OF THE EXTANT STATE
OF THE PLAN AND CHALLENGES
OF ADAPTIVE REUSE

by

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To my loved ones. Thank you for all the support.

APPROVAL PAGE

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CHAPTER I

INTRODUCTION

Across American landscapes, grand institutional complexes were built to serve the mentally ill. They remain as iconic testaments to our nineteenth and twentieth-century approach to mental illness. The Kirkbride Plan emerged as a novel building type to solve what had been perceived as a social conflict (Schneekloth, Feuerstein, & Campagna, 1992). During the mid-nineteenth century, the responsibility of caring for the mentally ill shifted from private families to the state governments, increasing the sense that it was a social problem (Yanni, 2007). For this reason, a unique building type was created to provide support for the institution moving forward (Schneekloth et al., 1992). The emergence of a new treatment theory and the demand for this social institution resulted in the Kirkbride Plan. As such, this novel building type was central to the treatment strategy of the field in the second half of the nineteenth century.

Today, the results of that effort survive in the existing Kirkbride buildings. This irreplaceable evidence remaining on American landscapes stands as a reference to who we were as a society and how we have addressed certain issues and, thus, is of great value and should be managed responsibly. Kirkbride complexes have the potential to serve as sites for fostering community revitalization through adaptive reuse uniquely tailored to this building type. More than reviving communities whose industries are changing, these campuses would also serve as a reminder of Kirkbride's theory and the

distinct buildings it produced, serving as landmarks in social and humanitarian history. This advocacy thesis examines the development of this building type nationwide and the current status of the remaining Kirkbride campuses to understand how the buildings and campuses have changed since their heyday. Further investigation of the few existing adaptive reuse case studies will illustrate the challenges inherent in reutilizing these structures.

Moral Treatment

Psychiatric medicine evolved into a new ethical realm during the late nineteenth century (Goshen, 1967; Grob, 1994; Talbott, 1980). At the forefront of this movement were psychiatrists such as Thomas Story Kirkbride, who profoundly influenced professionals in the field, treatment theory, and hospital design. As one of the original 13 founders of the American Psychiatric Association, Kirkbride wrote the association's first official standards for hospital design by 1853 (Johnson, 2001). The following year, he published a book detailing specifications for the hospital and grounds to support developing treatment theories. This publication would advance the theory of "moral treatment" into a nationwide phenomenon.

Moral treatment theory was a rising therapeutic approach which dominated psychiatric treatment of the mid-1800s. The key to the moral approach centered on the curative effects of removing patients from the outside world and immersing them in a regimented schedule amidst an inspiring setting that included "moral architecture" and elaborate ornamental gardens (Kirkbride, 1854). Kirkbride (1854) begins describing the site selection process, "It is now well established that this class of hospitals should

always be located in the country, not within less than two miles of a town of considerable size, and they should be easily accessible at all seasons" (p. 37). Kirkbride's philosophy of hospital design and landscaping dominated the era of asylum expansion in the United States, based on the investment of most states in psychiatric facilities built to Kirkbride's specifications (Tomes, 1984). In a way, the stately architecture helped legitimize the field of psychiatry by providing rising psychiatrists with superintendent positions at state facilities. Additionally, the elaborate features, scale, and aesthetic of the buildings granted the sense of class superiority assumed in hospital administration. This shift represented the first time architecture served as a treatment strategy for psychiatric care worldwide. When states approved the campaign to fund such facilities, these grand, civic structures provided jobs for young psychiatrists nationwide. In this respect, the facilities themselves represented revolutionary psychiatric care developments and a political statement to financially support the mentally ill community.

This moral treatment movement led to significant collaborations between psychiatrists, architects, and landscape architects. Many notable architectural professionals were responsible for the designs of these complexes and grounds, among them Fredrick Law Olmstead, Samuel Sloan, and Calvert Vaux (Yanni, 2007). Equally important to the expertise brought to these projects were the skilled labor and advanced technology implemented on the sites (Ziff, 2012). The buildings projected civil presence with their grandeur, state-of-the-art heating and ventilation, and fresh water delivery systems among many other advanced amenities. Innovation truly drove the development of these institutional complexes making their significance irrefutable.

Historic Institutional Buildings

Institutional buildings account for almost 25 % of all buildings listed on the National Register of Historic Places through the National Park Service in 1992. A district, site, building, structure or object recognized on this list indicates the United States federal government deems it worthy of preservation because it has measurable local, state, and/or national significance. Beyond designation, a multilayered process is typically necessary in preparing obsolete historic institutional buildings to meet new demands. One Kirkbride case clearly demonstrates the process intricacies of institutional preservation in the United States.

The City of Buffalo, New York has one of the largest and more significant Kirkbrides in the nation, now branded as the Richardson Olmsted Complex. Interested community members for many years placed their attention on producing reuse plans for the landmark. That action pooled efforts from several organizations and state and local governments to support studies to prepare the vacant complex for a new life. It is apparent from the Richardson Olmsted Complex case study that the redevelopment of Kirkbride complexes is a common challenge across the United States, and many states have faced or will face this preservation challenge with these assets. Even more, the same challenges are felt nationwide for many forms of large-scale, historically significant institutional buildings. The redevelopment process requires diverse groups' efforts to generate a feasible approach plan. This grassroots preservation effort eventually influenced a Governor-appointed advisory council for the Richardson Complex at the Buffalo Psychiatric Center in Buffalo, NY in 1984. The council implemented a design competition to generate a reuse proposal followed by a grant to aid in planning with

assistance from the State University of New York at Buffalo School of Architecture and Planning. A lecture series titled: "Historically Significant Institutional Buildings and Grounds: Buffalo Psychiatric Center" was the first step. Four years later, a symposium was held discussing the same topics and challenges across the U.S., corroborating that the Buffalo Psychiatric case was not the sole example of the waste of historic institutional buildings (Schneekloth et al., 1992). In fact, together the participants determined there were hundreds or thousands of complexes across the country of equal scale and significance. Among them are post offices, courthouses, hospitals, and school buildings. Due to the sheer scale and frequency of these structures and sites along with the challenges that they carry with them, many buildings of social and cultural significance of nineteenth century America are currently vulnerable.

According to Lerner (2002) discussing philosophical models of development, in the contextual model, "every behavior and incident in the world is a historic event, and, thus, change and novelty are accepted as fundamental" (p. 71). As we consider our ever-changing environment, we must consider the shifting contexts surrounding the remaining institutional complexes. Due to change in institutional goals, knowledge, and experiences, the viability of the Kirkbride building type is currently challenged. The artifacts, buildings, and grounds, which once served our social institutions, are now obsolete. The environment around Kirkbride sites is complex with many variables contributing to their current situation. For instance, the field of psychiatric medicine now supports modern state-of-the-art facilities. Since the late 1990s to present day, institutional building forms transitioned into large modern single buildings housing all the functions of the hospital. The buildings tend to be two or three stories tall and have a

radical architectural form that is a tremendous departure from anything seen in prior institutional buildings. In many cases, the state voted to vacate these complexes in the late 1900s for modern spaces leaving the Kirkbride vacant and under-maintained. The financial burden on states to invest in the rehabilitation of these buildings is overwhelming, especially after years of neglect and deterioration. States were also discouraged to invest in maintenance of these immense structures especially when the perceived value waned. Over time psychiatric hospitals accrued negative associations from the public because of the buildings' difficult past. Stigma can expand in a community limiting the building potential for redevelopment. Consequently, there is a dilemma--what can we do with underutilized buildings that no longer suit their social purpose? How do we approach places with stigma due to unfavorable circumstances at one or multiple points of that building's life, and what challenges arise when planning to rehabilitate these buildings? A primary objective of this project is to identify responses to these questions to provide communities and property owners struggling with a historic white elephant with a resource to inform their approach and process.

Research Goals

Asylum literature frequently references Dr. Kirkbride and his plan. Despite the thorough research achieved by scholars in multiple disciplines, a comprehensive database of all Kirkbride buildings that existed in the United States does not exist. This thesis research provides a record of all Kirkbride buildings with specific details on each complex. With this data assembled, it becomes easier to measure the significance of this building type on the American landscape. Future researchers will be able to use this

database as a foundation for further inquiry. Moreover, a gap occurs within the research especially in understanding how the character of this building type has changed over time. Similarly, little research has surfaced on the adaptive reuse potential of these buildings. Exploring the Kirkbride building type, its evolution throughout history, and how it has changed demonstrates the impact the Kirkbride building typology had in the United States. Thus, a focus of this study is exploring adaptive reuse potential, highlighting successful precedents and identifying what factors made these case study sites so successful.

Research Questions

Five research questions guide this thesis.

1. How frequently, over what time frame and in what locations did mental hospitals, specifically designed and built in the Kirkbride plan, manifest on the American landscape?
 - What is their geographic distribution?
 - What development trends emerge over time?
2. What has happened to the buildings and campuses since their decline in use?
 - How many were demolished?
 - How many were reused?
 - If reused, what are the now defined uses?

3. Of those adapted for new uses, how were the buildings and the campus altered?

- If altered, what character-defining features of the buildings and grounds were preserved?

4. What are the common patterns in these new uses and related alterations?

- What comprehensive planning measures and funding structures occurred for the adaptive reuse of these properties?

5. Of the selected case studies, what factors impacted the success of Kirkbride adaptive reuse?

CHAPTER II

LITERATURE REVIEW

In support of this study's objective, the literature review will present ideas resting under three major themes: Institutional Settings and Context; Defining Kirkbride Architecturally; and Preservation Theory and Practice. The first theme frames theories on Institutional Building Types and Settings, Environmental Determinism, Contributing Humanitarian Reform, and Moral Treatment. The second theme deepens the investigation into a subset of the institutional building type, the Kirkbride Plan. The third theme, Preservation Theory and Practice, introduces current ethics and best practices for maintaining buildings for multiple reasons, discusses the potential approaches for this building type due to their historical significance, and explains the challenges of reusing Kirkbride plan complexes. The literature review discussion is intended to build the context around these complexes to acknowledge the contributing factors to their development.

The Literature Review chapter features certain terms that were utilized in the past that may seem insensitive or politically inaccurate in contemporary times. Following the example of certain predecessors in asylum literature, terms will appear in chronological order. This method will assist readers in understanding the cultural context and its development over time (Gamwell & Tomes, 1995; Johnson, 2001; Yanni, 2007).

Table 1. Literature Review Thematic Structure.

Literature Review Themes		
Institutional Settings & Context	Defining Kirkbride Architecturally	Preservation Theory & Practice
Institutional Building Types & Settings	The Kirkbride Plan	Current Ethics & Best Practices
Environmental Determininism	Site	Preservation approaches for the Kirkbride building type
Contributing Humanitarian Reform	Exterior	Challenges of Adaptive Reuse
Moral Treatment	Interior	

Institutional Settings and Context

Institutional Building Type and Settings

The Institutional Building Type encapsulates several subtypes for organizing structures: government, prisons, schools, hospitals, and specifically asylums. This building type tends to be grand in design as it pronounces societal stability to the public (Compagna, 1986; Rothman, 1971; Schneekloth et al., 1992). The institutional building type expanded after the American Revolution as citizens' interest in dependent behavior and its relationship to crime, poverty, and insanity increased. The growing interests were sustained by the belief that the root cause rested in the organization of the community (Rothman, 1980). In fact, since Americans did not have existing buildings to serve mentally ill populations, governments designed and built for those particular

purposes. Hence, new forms of institutional buildings emerged such as penitentiaries, asylums, and orphanages (Compagna, 1986). Each institution produced its unique building form and method of organization to best fit the community it served. This connection conveys the significance of the institutional building type to the social framework to which it is tied and the effect of this building type on America's built environment.

The National Register of Historic Places, a program of the National Park Service, is a resource that can validate the effect the institutional building type has on America's cultural resources. The mission of the National Register of Historic Places is to identify, evaluate, and protect historic and archeological resources, deemed significant. In 1992, Jandl reports about 50,000 individual listings on the National Register of Historic Places, 11,000 are categorized as institutional buildings (Schneekloth et al., 1992). Undoubtedly higher today, but at 22% in 1992, institutional buildings make a noteworthy contribution to American places (Schneekloth et al., 1992).

Environmental Determinism

During the 1970s, scholars began to consider and research the connections between architecture and human behavior. Porteous defines four theoretical standpoints based on this connection: a free-will approach, a possibility approach, a probabilistic approach, and a deterministic approach (Lang, 1987; Porteous, 1977). Rooted in the theory of evolution, Determinism is defined as the view that people's behavior is controlled by heredity and environment rather than free will. Closely related,

Environment Determinism is the theory that the environment including architecture, strongly influences behavior; environment here encapsulates geographical, social, and cultural context (Lang, 1987). A more specific related theory, Architectural Determinism, refers to the idea that alterations in built forms such as architectural and landscaped elements in an environment will influence and alter behavior, especially social behavior (Lang, 1974, 1987).

An effective environment is measured by its use. Scholars Izumi and Saarinen propose a spectrum to organize the body of knowledge on the topic. At one end rests Anthropomozemic buildings constructed for nonhuman functions such as housing machines and equipment. On the other end the classification, Anthropophilic structures, were established as buildings for a human oriented use in particular residences, hospitals, and penitentiaries. In the later case, human needs are of supreme priority. For the Anthropophilic structures, the space, form and related equipment must conform to the inhabitants' conditions (Lang, 1987; Saarinen, 1976). The Kirkbride plan hospital exists on the Anthropophilic extreme of the continuum because the design and intent of the building was dictated by the needs of a specific group of people. At the most basic level, human needs can be narrowed to include shelter and basic services according to Maslow's hierarchy (Maslow, 1943). Later psychologists expound upon Maslow's theory to include considerations of social, cognitive, and aesthetic necessities (Kenneth, 1980; Maslow, 1943). These theories and principles are appurtenant when considering the design of a building for a particular community.

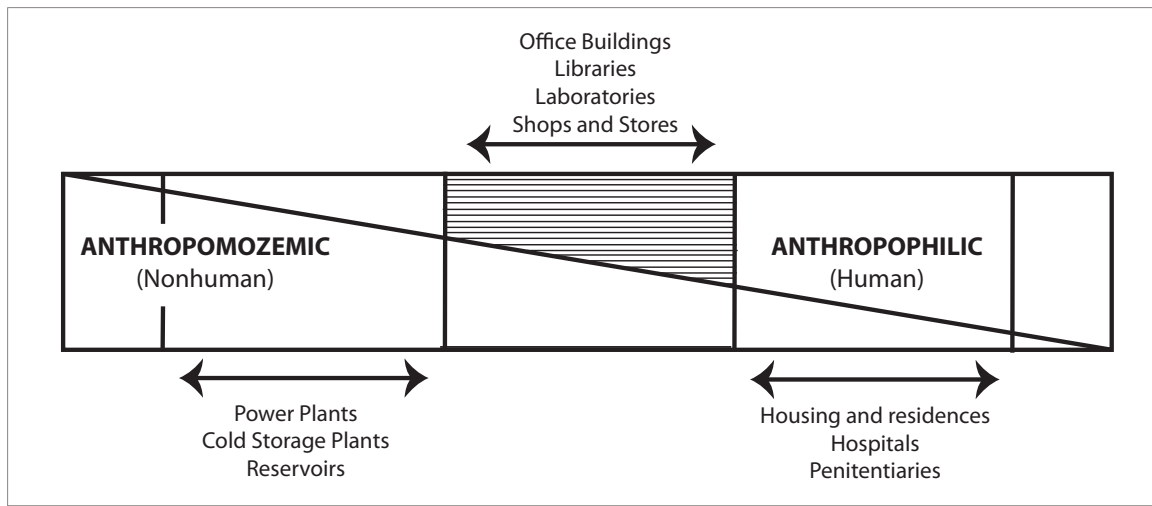


Figure 1. Anthropozemic and Anthropophilic Buildings Diagram (Lang, 1987).

Built environment practitioners and scholars grew to regard and accept the idea that the built environment played a key role in determining human social behavioral patterns and principles. Over the nineteenth century, the rising Industrial Revolution resulted in extensive migration patterns of rural families into urban cores. The migrant movement spawned overcrowding issues culminating in general concern and interest in unpleasant working and living conditions in relation to their social and psychological states. In fact, social and humanitarian theories such as Ebenezer Howard's garden cities movement and similar settlement housing schemes permeated society, generating the platform for architectural and environmental deterministic theories and associated research (Hall & Ward, 1998; Howard, 1902; Lang, 1987).

The theory of environmental determinism connects the asylum building type with other institutional building types. Carla Yanni (2007) establishes relationships between four building types: asylums, schools, prisons, and medical hospitals. All of these subtypes were generated to house recently developed institutions in an attempt to

influence social behavior by monitoring, organizing, housing, and controlling their occupants.

Contributing Humanitarian Reform

The American Enlightenment and the subsequent American Revolution radically altered societal values due to several factors including reactionary responses to the disarray of the nineteenth-century city and industrialization (Grob, 1994; Schneekloth et al., 1992). Urbanization was one of multiple changes that transformed "individual and class relationships and reshaped family structure in America" (Grob, 1994, p. 23). As families needing jobs migrated from widespread small communities to urban life, the prevalence of deranged persons escalated public health and safety concerns. The outcome was public attention to social matters such as crime, poverty, and insanity.

Greenberg outlines contributing social, ideological, and scientific factors that appear to have impacted the genesis of the state hospital system in the United States (Talbot, 1980). Scholars indicate the Industrial Revolution as the most significant social power influencing the development of the state hospital system, reaching its peak at the onset of the state hospital program (Compagna, 1986; Hecker, 1970; Stewart, Lafave, Grunberg, & Herjanic, 1968; Talbot, 1980). As for ideological influences, scholars point to social Darwinism and social Calvinism. Scientific advancements in tissue pathology and etiology led to a new perspective and understanding of the condition of insanity and thereby a new approach (Talbot, 1980). Grob offers a convincing point that interest and development of the state mental hospital system emerged because two-thirds of the American Psychiatric Association (APA) physicians pre-World War II were employed in

mental hospitals (American Psychiatric & Jaques Cattell, 1941; Grob, 1994; United et al., 1938). Grob (1994) presents figures proving the increase of persons concerned for the treatment of mentally ill persons. In 1875, there were only 60 public institutions in 32 states but, less than ten years later, in 1883 the American landscape hosted 265 public institutions housing a collective population of over half a million patients (American Psychiatric & Jaques Cattell, 1941; Grob, 1994; United et al., 1938).

Moral Treatment

Humanitarian reform significantly contributed to the nineteenth-century climate, which embraced the ideals and sentiments of the moral treatment approach to psychiatric care. Responding to European thinking and practices in the past, psychiatrists in the developing field began to address the mentally ill community with new perspectives. As America matured into the Enlightenment movement, a common sense of civic and religious responsibilities resulted in a moral ideal. Reformers hoped to modify all of society's institutions such as schools and colleges, prisons, insane asylums, and medical hospitals precipitating new structures to support the current social theories (Yanni, 2007). The work of doctors Pinel, Tuke and other progressives' led to a consensus that insanity was not a chronic condition, but rather, a curable phenomenon. Recovery was possible through sensitive care and a proper retreat like environment (Grob, 1994). This philanthropic caretaking method intended to gently guide an individual to stability became moral management (Yanni, 2007).

Moral management sought to restore the ill person to reason by way of a system of rewards and negative reinforcement to instill civility similar to how one teaches youth a

moral code (Scull, 1981). In addition to reclusion in a desirable environment, moral treatment also meant a regimented life, eating healthy foods, plenty of exercise, visitation with the superintendent daily, and separation from the merciless city (Kirkbride, 1854, 1880). Patients were encouraged to perform occupational tasks such as farming, carpentry, sewing, and laundry. With attendant supervision, patients were allowed to stroll the landscaped grounds (Yanni, 2007).

Defining Kirkbride Architecturally

The Kirkbride Plan

Standing on the shoulders of the moral influences of Pinel and Tuke, Dr. Thomas S. Kirkbride generated a collection of principles to guide the organization of the asylum in the 1850s. Kirkbride's interpretation of moral management was implemented through the hospital he supervised, Pennsylvania Hospital for the Insane, noted as the masterpiece of American psychiatry of the nineteenth century (Tomes, 1984; Ziff, 2012). The Kirkbride system was the earliest scientific reaction to the challenge of treating insanity as a disease (Schneekloth et al., 1992). Before this acknowledgment, insane persons were commonly housed in rural almshouses and prisons where inhumane behavior was a common practice (Dain, 1964; Deutsch, 1949; Grob, 1972). Like his reformist predecessors, Kirkbride concluded that insanity was curable and capable of reason, restraints were unnecessary, and finally that a specific environment would support the individual's rehabilitation (Ziff, 2012).

Society and the field of psychiatry placed a great deal of stock in the curative possibilities of a therapeutic environment. In 1854, Kirkbride published *On the Construction, Organization and General Arrangements of Hospitals for the Insane*. Shortly thereafter, the Association of Medical Superintendents of American Institutions for the Insane (AMSAI) adopted the guidelines (Kirkbride, 1854). During the nineteenth century and early segments of the twentieth century, the presence of asylums grew rapidly. The era of the asylum is framed by 1848 to 1890 when the largest concentration of Kirkbride hospital construction materialized on the American landscape (Ziff, 2012). According to Dr. Henry M. Hurd's assessment in 1917, there were 297 institutions for the insane in the United States including both public and private facilities. Of accounted sites, close to 80 of that total were built to the Kirkbride plan specifications (McElroy, 2001; Ziff, 2012).

The plan carried many specification and details that Dr. Kirkbride obviously considered in depth. To reconnect patients to the natural landscape, he began with site details suggesting that hospitals should be located in the country setting, on the periphery of cities and towns. Land quality was of utmost importance to Kirkbride; he specified the land that could be easily tilled, the scenery be diverse and inviting, and the adjacent neighborhood be similar in character. Dr. Kirkbride also considered how the sites were apportioned to properly zone the site to accommodate spaces required to implement moral treatment. Buildings should be positioned on the site to take advantage of prevailing winds through large and frequent windows. Kirkbride stressed quality building materials and construction and advanced building systems in his guide. Interiors specifications include general dimensions, materials, vertical and horizontal

programmatic zoning, and proper hardware. Despite the inherent architectural control, patients were not to be restrained but respected. Moral treatment theory steered the rationale behind the design of the building and the prescribed interior amenities.

All buildings were to be three stories and house 250 patient beds with wards organizing patients by sex, severity of illness and class. The building plan included a central administration building operating as the grand entrance. The administration building held offices for superintendents or directors, doctors, and staff as well as living quarters on the upper floor (Thompson & Goldin, 1975). This building typically held the chapel for the complex. An ornamental dome capping the central building was utilized as a storage space for iron tanks to collect and store water that would later be relayed to each connecting ward. The dome space was also intended as an observation deck, offering a panoramic view of the complex and surrounding landscape. For the building, Kirkbride outlined the corridor widths to be 16 feet with ceilings also reaching 16 feet high (Yanni, 2007). The facades presented a repetitive sequence of windows along with a portico positioned in front of the director's office and parlors for family use. The rear of the central building also had porches overlooking the courtyard and complex center. The intent of this feature was to connect patients with the outdoors for fresh air and restorative effects.

Flanking wings should be offset to the rear allowing corridors to be open to the sun and wind on both sides. Ward interiors consist of corridors of sensible length with bay windows in the middle so the double loaded corridor layout would not inhibit light and ventilation (Kirkbride, 1854, 1880; Thompson & Goldin, 1975). Ten feet was required to be left free of program at the joint of the wings and the central structure with windows

that could be opened from floor to ceiling on both exterior walls on all stories (Thompson & Goldin, 1975). This detail was required so daylight and natural air filtered into the darkest space in the ward allowing fresh air to circulate throughout the pavilions, as if they were freestanding structures (Kirkbride, 1854, 1880). According to Kirkbride, pavilion corridors should reach 12 feet in length with movable glazed sash extending from floor to ceiling which can either be accessible to patients or secured by ornamental wire grilles. Ceilings in pavilions should be 12 feet as well; high ceilings and spacious corridors increase building ventilation capabilities. Since buildings were connected and because these were medical facilities, fireproofing was extremely important. Kirkbride required fireproof building materials such as stone and brick as well as fireproofing from cellar to roof with fireproof doors making the attached wards as safe as free-standing structures (Kirkbride, 1854, 1880; Thompson & Goldin, 1975).

Parlors and dining rooms were employed centrally in each ward level to break up the perceived length and monotony of corridors. These spaces and other large rooms on each floor were 20 feet square. Patient rooms were left small to discourage placing more than one patient in each room in the case of future overcrowding. Kirkbride specified patient rooms be at least 100 feet square, but an eight by ten foot space would be acceptable if required. Elegant carpeting covered the floors especially in the wide corridors for acoustic buffers. Interior stairs were constructed entirely of iron and were built six feet in width. Most windows were constructed of cast iron with 6" x 15" windowpanes. The window material and construction specifications allowed the absence of bars or extra sashes. Details such as this suggested an image that the asylum was important for all users (Kirkbride, 1854, 1880; Tomes, 1984; Yanni, 2007).

Interiors were well furnished and spacious. To pull nature in, Kirkbride suggested atriums on each floor presenting beautiful evergreens and flowering plants, singing birds, jets of water, and various other objects (Thompson & Goldin, 1975; Yanni, 2007). The building characteristics composed a healing environment embodying moral treatment theory. Doctors of the time believed daily schedules would make patients internalize self-control and the interior spaces reflected this level of control. Despite the inherent architectural control, patients were not to be confined but met with compassionate care. Moral treatment theory steered the rationale behind the design of the building and the prescribed interior amenities.

Table 2. Kirkbride Character Defining Features.

Kirkbride Character-Defining Features						
Site	at least 100 acres for all uses and privacy	Minimum of 50 acres for Farmland	Farm Buildings (seed and tool house, stable, carpenter or workshop)	Minimum of 50 acres of landscaped Gardens	Railroad	Access to Water
Building	Positioned to maximize views and prevailing winds for ventilation	Form resembles wings. Central Administration Building with Wings directing out on both sides then adjoining wing extends back en echelon*	First range of wings are separated from central building by a fireproof space ten feet wide with movable glazed sashes on both sides	Ornamental Dome tops Center Building to house boiler iron water tanks	Provided height specified an above ground basement and two principal stories above	Fireproof construction and materials: brick, stone, and iron. Roof should be made of slate or tin, with cornice projecting far over walls.
Interiors	12 feet corridors in pavilions; 15 feet in CAB	12 feet Ceilings in pavilions, 16 feet in Central Administration Building	Patient rooms 100 square feet	Iron Stairs	Heated and Ventilated	6' by 2'-8" doors. 6' by 3' windows: two sashes each containing 5.5" by 18" panes

Preservation Theory and Practice

Preservation Theory

Emerging preservation scholarship demonstrates that the connections between people and place are multifarious and complex. Tom Mayes' "Why Old Places Matter" essay and blog series eloquently frames the depth of that connection through exploration by visiting historic places, reading articles and books on the topic, and conducting interviews with people outside the preservation field such as artists, developers, and businessmen. In his blog, Mayes has identified 14 reasons why old places matter including continuity, memory, individual and civic identity, beauty, history, architecture, sacredness, learning, creativity, sustainability, ancestry, community, and economics. When discussions arise around places that conjure memories of difficult events, the response may be to disregard the place altogether. Yet, to retain an unfiltered history, the acknowledgement of every place is important. Place creates a space to reflect, gaining a greater understanding and generating conversations about the past and future. For instance, Mayes notes that Confederate memorials can be instigators for broader discussion of race and why those memorials were erected at that time and in that place. Interactions like these cause recognition and rediscovery of history, motivating good stewardship of societies' links to place (Mayes, 2015).

Historic preservation is the undertaking of safeguarding the existence and aesthetics of historic elements in a community. Historic value resides in the materials and collective products of our past. Perhaps that object or product conveys an example of notable architecture, an industrial process, or a theory, which our current body of

knowledge now rests upon. Diane Lea explains that the heart of preservation is about nurturing grassroots and helping communities preserve their history in the form of physical structures, objects, and settings that tell the story of the collective experience (Lea, 2000). Historic buildings are irreplaceable as they impart a sense of responsibility to society and community to protect and preserve our heritage (Tyler, Ligibel, & Tyler, 2009).

While historic preservation protects the historic, architectural, and aesthetic character and heritage of a community, it also provides a sense of place and continuity. In the 1960s, Jane Jacobs underlined the necessity for diversity in inner cities and displaced communities to enhance quality of life (Jacobs, 1961). To this point, maintaining existing buildings retains the heterogeneous American landscapes while preserving the indication of our past. An awareness of one's history is an orientation tool.

Preservation has also proven to be an exceptional economic development and revitalization tool to fading communities or neighborhoods (Rypkema, Cheong, Mason, United, & Advisory Council on Historic, 2011). According to the *Federal Tax Incentives for Rehabilitation of Historic Building 2015 Annual Report*, the National Park Service approved 1,283 proposed projects representing an estimated \$6.63 billion of investment to restore and rehabilitate historic buildings. Since 1976, the commencement of the federal program, the rehabilitation investment reached \$78.3 billion and generated 2.36 million jobs (NPS annual report, 2015).

In recognition of the value of America's cultural resources, Congress established the National Historic Preservation Act (NHPA) in 1966 sanctioning historic buildings to be utilized for public benefit and to preserve the national heritage. Buildings,

archeological sites, structures, objects, and historic districts all qualify as cultural resources according to the National Register for Historic Places. Lowenthal notes, "Labeling a relic affirms its significance; displaying it enhances its appeal" (Lowenthal, 1985, p. 271). The National Register of Historic Places is the official record of significant historic places worth recognizing and preserving. Shortly after the NHPA, the Secretary of the Interior established the Standards for the Treatment of Historic Properties to encourage and guide the sensitive treatment of historic buildings and to safeguard irreplaceable cultural resources (Paradis, 2010). This federal regulation produced theoretical frameworks for various preservation approaches to historically significant properties and proper treatment strategies.



Figure 2. Broughton Hospital, Morganton, NC.

Adaptive Reuse

The most central Historic Preservation approach to this thesis is rehabilitation. Adaptive reuse or rehabilitation refers to reutilizing an older structure for an economically viable purpose other than its original use (Compagna, 1986). Typically, buildings eligible for adaptive reuse have historical, architectural, and/or social significance. When considering the feasibility of a building's or complex's reuse, there are a few preliminary steps to take: an historical, environmental and building conditions analysis. External market forces offer another guiding force for new use development decisions (Compagna, 1986). Even considering the necessity of preliminary analyzes, ultimately, the greatest parameter is one set by the building type and its forms.

The National Register for Historic Places and the National Historic Landmark program issues fundamental protection to historic properties. Again, the US Department of Interior issued Standards for Rehabilitation and Guidelines, providing guidance on sensitive and appropriate rehabilitation. These guidelines are utilized by the Secretary of the Interior to assess whether a rehabilitation project qualifies as a "certified rehabilitation" following the Tax Reform Act of 1976 (The Secretary of the Interior's Standards for the Treatment of Historic Properties, 36 C.F.R. § 68, 1995). Federal, state and local governments offer incentives for preservation of historic buildings if the rehabilitation follows the Secretary's Standards. Additionally, standards are intended to guide professionals and individual property owners in consistent rehabilitation planning.

Many historic institutional buildings with obsolescent uses are prime candidates for adaptive reuse. Sometimes the issues are few, but often they include a myriad of factors including market, location, design, and construction. Social context is another

factor to consider. Anthony D. King, sociologist and historian, establishes how critical it can be to develop an understanding of what will happen socially when buildings are adapted or reused (Compagna, 1986). According to the limited literature, the adaptive use of Kirkbride complexes is particularly challenging due to their unique institutional form and vast scale.

Socially Challenged Buildings

Monuments communicate various messages. Historic preservation broadens today to recognize that when addressing these relics, there is not one right way to manage cultural resources. Historic artifacts exist both as a concept and a physical product. As Randolph Langenbach, states, "It is rarely recognized that historic artifacts are often worth saving, not because of their artistic value or historical connections per se, but because of the intangible, powerful emotional responses which they elicit" (Schneekloth et al., 1992, p. 162). This response can be realized most especially when monuments connect to unfavorable historical events. Buildings or sites included in this group are prisons, slave houses, battlefields and insane asylums. The images surrounding these buildings are generally negative evoking impressions of inhumane acts and group exploitations (Compagna, 1986). The issue is that some of these negative memories have greater strength in current society despite other positive events or times that may have occurred there as well. Langenbach makes the point that the negative aspects of the building or site may offer a more complex history while providing instances such as concentration camps, slum settlements, or factory towns (Compagna,

1986; Langenbach et al., 1978). The layering of diverse events enriches the experience of a place. Thus, the connection between people and place memory can be an additional challenge with asylum rehabilitation. Scholars urge that adaptive reuse projects be sensitively designed to retain the emotional content of the monuments ultimately embedding the story within the new design (Appleyard, 1979; Compagna, 1986). Such is the challenge in the successful adaptive reuse of Kirkbride complexes across the country.

CHAPTER III

METHODOLOGY

This research project is an exploratory investigation in a sequential mixed method format. The mixed method research approach to exploration and analysis integrates multiple forms of data. Both qualitative and quantitative methods are utilized as well as specific research designs built from theoretical frameworks or assumptions (Creswell, 2003). A mixed method approach is a methodology beginning in the 1980s based on multidisciplinary fields like sociology, health services, and education. By bringing multiple methods together, one can reduce the shortcomings related with each approach when employed individually. Further, the results offer various perspectives of a topic producing an enriched understanding of the subject. Also, due to the multidisciplinary nature of architectural research, utilizing combined strategies is a practical choice in the field. This research design embraces historical, quantitative, qualitative, and case study approaches. Here, posed complementary questions are addressed by different methods. The historical method produces a survey providing the indication of the prevalence of a phenomenon through quantitative analysis. The qualitative features and case studies are used to gain insight into explanatory processes, revealing the underlying Kirkbride adaptive reuse process. The expectation is that the mixed methods design will yield a more complete understanding of necessary changes for a marginalized building type (Creswell, 2003).

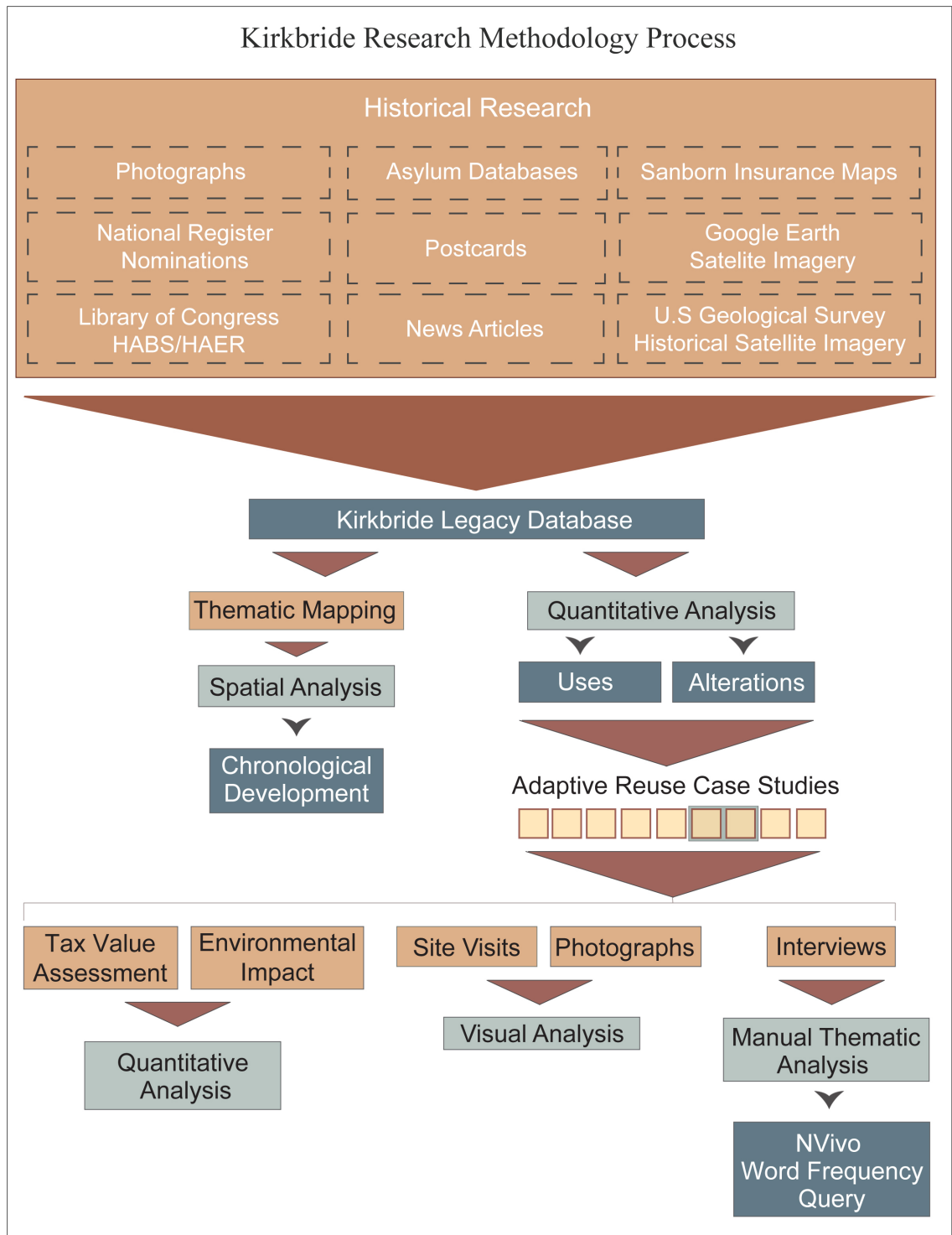


Figure 3. Kirkbride Research Methodology Process Diagram. Generated by the author.

Initially, the researcher employed historical research to show patterns in the Kirkbride building typology development over time. To achieve this step, a database was generated recording information on all identified Kirkbride buildings in the nation. The recorded data includes historical particulars, national and local designation status, and their current status with special attention to alterations. The metrics recorded in the database are grouped into three categories: National Historic Register and National Historic Landmark Nomination data, current contact information and status of the hospital in regards to use, and data to facilitate further research on this topic. A list of alternate names given to each hospital over time is an example of a research particular.

Table 3. Database Attribute Thematic Categories

Columns A-Y	National Historic Register and National Historic Landmark Nomination data
Columns Z-AG	Current Data including contact, use, percentage occupied and adaptive reuse proposals, plan hybrid, and notes.
Columns AH- AI	Research particulars

From this data, the standard character-defining features associated with the Kirkbride plan and grounds were extracted. These features were identified using the data within the National Register Nominations of the designated Kirkbride properties. This information can be used to add perspective when examining current events and practices towards similar circumstances (Groat, Wang, John, & Sons, 2013). For example, the features provide a way to measure the approach and concurrent changes to Kirkbride buildings. To generate this database, two established websites were used: asylumproperties.com, which lists asylums in the United States and kirkbridebuildings.com, a database created by Ethan McElroy that highlights high-profile

and threatened Kirkbrides. McElroy states his list is by no means a complete record of all Kirkbride asylums (McElroy, 2001). The data was collected on each state's Kirkbride resources moving alphabetically. First, data is recorded from kirkbridebuildings.com for all state Kirkbride assets and then recorded from asylumproperties.com in the same manner. National Register Nominations, state historic preservation office database information and Google Earth imagery were then utilized to verify and complete data collection on the defined metrics for each Kirkbride property.

Table 4. Kirkbride Database Metrics. Kirkbride database metrics organized by theme.

Database Metrics		
Columns A-Y NRN & NHL Data	Columns Z-AG Current Data- Use	Columns AH-AI Future Research
Name	Contact	Alternative Names
Construction Start Date	Current Use	Links
Date Opened	% occupied	Related Literature/ Cultural Effects/ Film
Address	Adaptive Reuse Proposals	American Memory Web Site- Historic American Buildings Survey (HABS)
Coordinates	Fate	HABS/HALS/HAER
City	Note	
State	Plan Hybrid	
County	Details	
Architect		
Landscape Architect		
Original Acreage		
Architectural Style		
Materials		
Condition		
Historical Summary		
Significance		
NHR		
Reference #		
Details:Nomination		
NHR Date		
NHL		
Reference #		
NHL Date		
Public/Private		

The web based database asylumproperties.com is a collaborative wiki database providing data on asylums of all types on an international scale. Ethan McElroy is the amateur photographer/historian and web designer responsible for the web site kirkbridebuildings.com. As the web site name suggests, the intent of the site is to document the remaining Kirkbride buildings in their current state facing an unstable future. Both websites provide great information, but are not comprehensive Kirkbride data sets. Also, the two web sites were active and updated during 2015-2016.

After verifying the current number on the National Register, the final figure then becomes the data sample for analysis. The analysis measures how many of the roughly 80 properties have been adapted for new uses versus demolition or neglect. This division creates five possible codes: in use, partial demolition, demolition, vacant, adapted. The thematic mapping method is employed to map the geographic distribution of these buildings, the chronological order of development, and to display the quantity of each site's assigned code(s). Spatial analysis is a method for studying geographic features, such as Kirkbrides buildings, on the basis of their locations (Nelson, 2013). The technique can reveal how multiple geographic features relate to each other spatially.

Next, a smaller sample selection, consisting of all Kirkbride properties that have been reused, is separated out. For this sample of approximately ten properties, the investigation deepens to determine whether their character-defining features were retained, compromised, or lost. Implemented in this project, the case study method allows examination of reuse process, lessons learned, and building value changes over time. To collect this information, visual analyses of photographs, Sanborn Insurance maps, and architectural drawings, Google Earth maps, and fieldwork are applied.

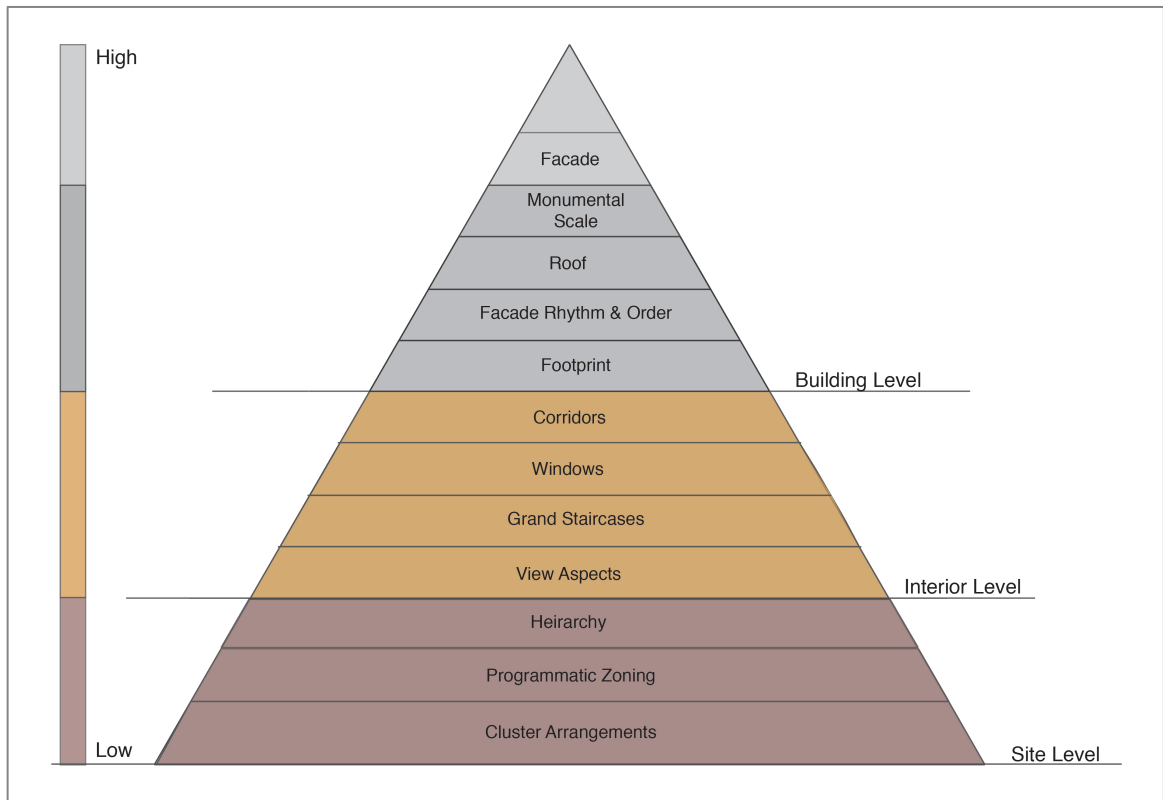


Figure 4. Kirkbride Character Defining Feature Hierarchy through a Multi-scaled View.

For case studies, interviews with the owner, developer and/or planners engaged in the reuse projects are incorporated as an additional strategy. In-depth interviews provide rich and comprehensive information about the experiences of the teams participating. The interview sessions are transcribed, a common data management strategy promoting the analysis and interpretation of the data. Transcription of interviews helps the researcher to ensure the accuracy of the content. The interview transcripts are examined using both a manual and an automated method. The manual analysis extracts common ideas presented by both case studies. NVivo, data analysis software, provided powerful query tools, which reveal subtle trends. Both transcriptions are comparatively

analyzed using a word frequency query capturing words with five letters or more. The results are then mapped creating a visual cloud giving greater prominence to words that appear more frequently in the source text. This portion of the research analysis examines how each adaptive use was initiated, planned and funded. Additionally, the case studies reveal factors that were key to the successful adaptive reuse of the Kirkbride building type.

Additional measurements are calculated to determine success and importance of the adaptive reuse projects. First, the goal is to record the assessed building value twice: before intervention and current (2015) value for each property in the final sample. Next, gross floor area in square feet is calculated using Geographic Information Systems (GIS) and collected interview data. Interior square footage data functions, most importantly, as a variable used to calculate embodied energy investment and demolition energy. The result of the first calculation is the amount of energy "embodied" in each building. The result of the second calculation indicates the amount of energy required to raze, load, and transport construction materials to a landfill. Calculations are performed through use of the Embodied Energy Concept Model calculators on <http://thegreenestbuilding.org/>. Donovan D. Rypkema, Principal at PlaceEconomics, developed the site as a resource for measuring the environmental impact of decisions made in the built environment industry.

The data from the described observations and document analysis highlights lessons learned in adapting Kirkbride properties for new uses. The holistic technique of utilizing multiple methods to examine these questions adds strength to this thesis. This

research can also apply to similar historically significant institutional buildings because of their plan and ownership similarities.

CHAPTER IV

DISCUSSION

The Discussion reexamines the research questions as well as provides findings for each question. Data was collected and processed in response to the questions posed in Chapter One. Two fundamental goals drove the collection process of the data and the subsequent data analysis. These objectives were first, to identify all Kirkbride buildings that existed along with data regarding their location and current status to understand the significance of the built form on the American landscape. The second objective was to delineate the adaptive reuse potential of Kirkbride planned complexes and to present lessons learned for communities with a Kirkbride asset. A detailed discussion of the findings will follow subdivided into themes: Emerging Development Patterns; Nationwide Kirkbride Status; Building Alterations & Character Retention; Planning & Funding; Use and Alteration Patterns; and Substantial Challenges.

Data Analysis Overview

Research Question 1: How Frequently, Over What Time Frame and in What Locations did Mental Hospitals, Specifically Designed and Built in the Kirkbride Plan, Manifest on the American Landscape?

73 Kirkbride complexes were built across the United States located in 31 of the 48 contiguous United States from 1845-1910. The secondary questions, 1.2 and 1.3

were: what is their geographic distribution and what development patterns emerge? The majority of Kirkbride planned hospitals cluster in the Midwest and Northeast U.S. Census regions. Initial development began in New Jersey (1845), Indiana (1846), Illinois (1847), Kentucky (1848), Pennsylvania (1848), and Ohio (1852), and then spread out from the horizontal line easily drawn across these states into adjacent regions. The Mountain and Western U.S. regions did not build Kirkbride planned hospitals but adopted other architectural models to support evolving treatment strategies. A few exceptions to this pattern exist in three states within the Western region of the U.S.: California, Oregon, and Washington. These states combined formerly possessed a total of five Kirkbride complexes, a small percentage of the total.

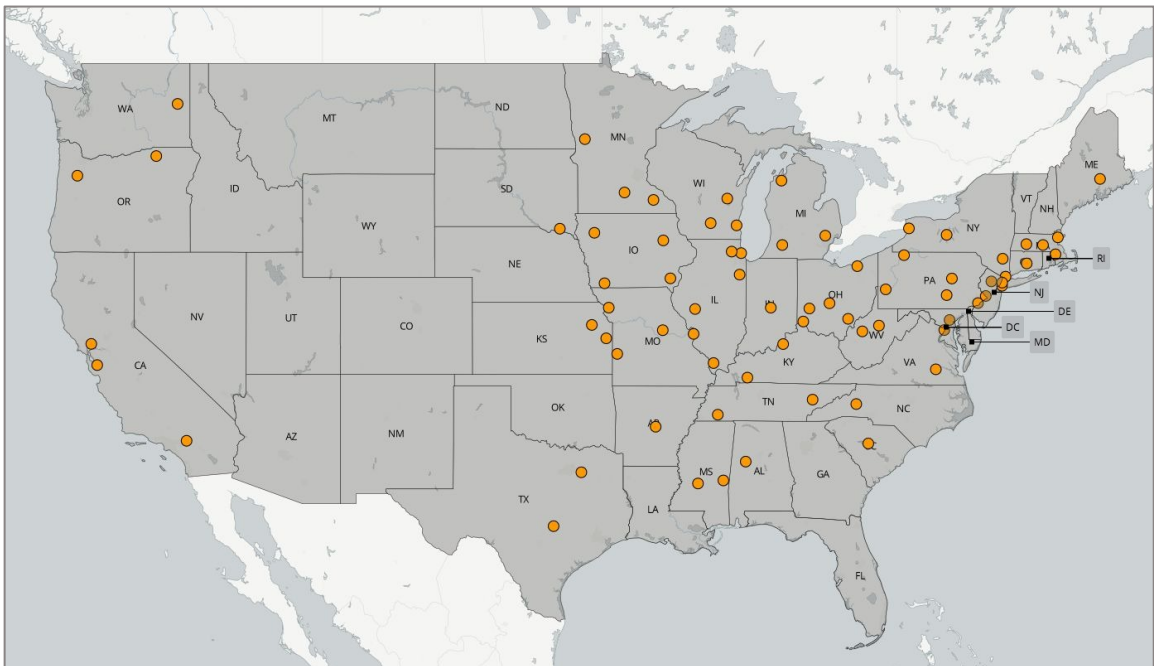


Figure 5. Kirkbride Complex Location Map. Generated by the author.

Research Question Two: What has Happened to the Buildings and Campuses Since their Decline in Use?

This principal question supports these secondary inquiries: specifically how many are demolished, how many are reused, and if reused, what are the defined uses? All 73 Kirkbride complexes were altered to some degree. More specifically, 40 (55%) of all identified Kirkbrides have been removed from the American Landscape, receiving a demolition code. The building type presented such immense challenges that property owners selected to invest in razing the historic buildings rather than allocating resources to explore alternative actions. Demolition causes varied greatly, some caused by disaster related incidents proving all were not lost to mismanagement. Two Kirkbrides were demolished due to earthquakes, both located in California. Three were demolished due to fire. Four were demolished due to neglect and deterioration. Three properties were demolished to utilize the land for another purpose such as state park land, Department of Transportation hub, and new residential development. A staggering 26 Kirkbrides were demolished for the rebuilding of modern facilities.

24 (33%) of Kirkbride complexes were coded as preserved indicating that the building is still standing and still in use, at least, in part. Eleven of the 24 preserved properties received secondary condition codes of deteriorating, vacant, partial demolition or a combination. Almost half of the preserved group face challenges with occupying the building to its full capacity and maintaining the massive complexes. The remaining nine Kirkbride complexes (12%) have been adaptively reused.

Reuse start dates marked by the transfer of the property to the developer; range from 1983 to 2004. The reuse cases are found in Michigan, Ohio, New York, Missouri,

Oregon, Massachusetts and West Virginia. The uses of the nine reused properties are residential, correctional facility, and mixed-use. The following graphic provides a detailed breakdown of reuse.

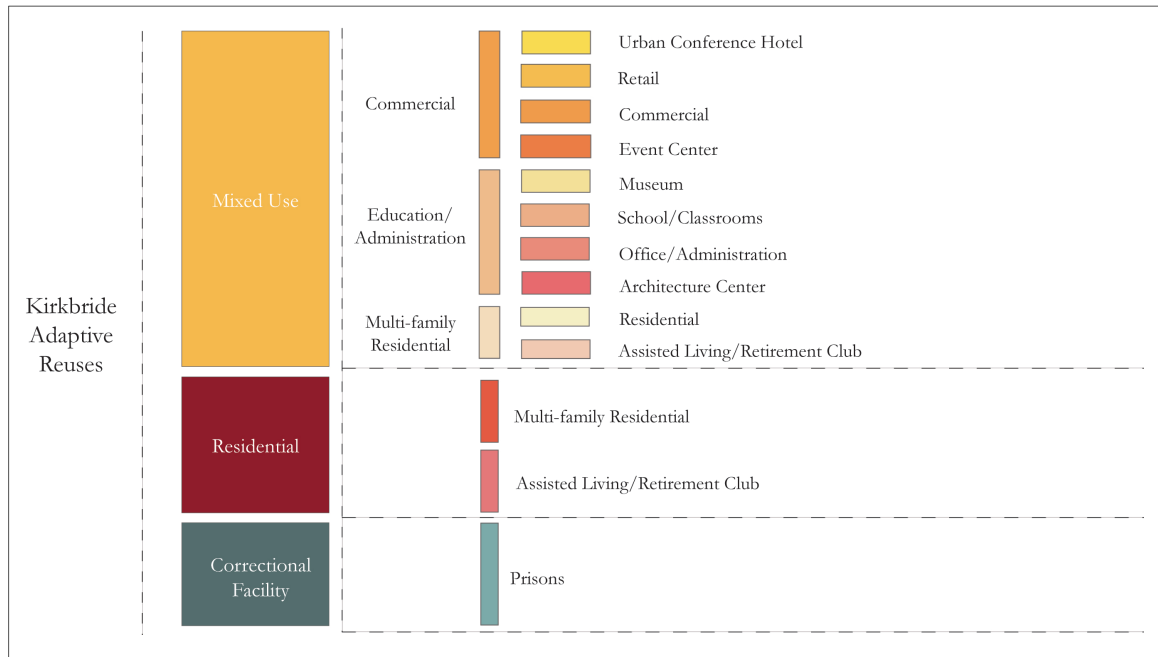


Figure 6. Defined Kirkbride Adaptive Reuse Diagram.

Research Question Three: Of Those Adapted for New Uses, How were the Buildings and the Campus Altered?

All nine properties were altered to some degree. The alteration categories represented in this group include Disaster Related, Buildings System Upgrade, Expansion Additions, Partial Demolition, Restoration/Rehabilitation, and Roof Alterations. Eight alteration types were defined across the 73 Kirkbride complexes, but of the reused Kirkbrides, six of the eight alteration types were represented.

Table 5. Alteration Category Types Identified within the Adaptive Reuse Sample.

Alteration Category Types & Occurrence		
Alteration Types	Meanings	Occurrence in Reuse Sample
Building System Upgrade	Mechanical systems upgrade or building code related alterations. Includes dropped ceilings, I-beams inserted to support mechanical equipment, insertion of elevation shafts	9
Restoration/Rehabilitation	Repairs, restoration, & alterations to accommodate new use	9
Partial Demolition	Removal of buildings, cupolas, ornamentation, original facades	7
Disaster Related	Fire or Earthquake related damage	5
Roof Alterations	Roof type or roof finish replaced	5
Expansion Growth	Construction of additions	3
Demolition by Neglect	Property owner intentionally allows a historic property to suffer severe deterioration, potentially beyond the point of repair	0
Demolition for Modern Facilities	Demolition to rebuild Modern Facilities on site or adjacent site	0

Changes Over Time

The sub-question of the third question was: if altered, were the character-defining features of the buildings and grounds preserved? In nearly every reuse case, the

majority of character-defining features are still intact. Loss of significant interior features, entire ward or center buildings, and roof ornamentation are the most prevalent alterations. A hierarchy of character-defining features of the Kirkbride building type was created to exhibit the significance of the change to the complexes. The hierarchy was generated using data extracted from the National Register Nominations and the case study evidence. Refer back to Figure 4 for the visual breakdown of these relationships.

All rehabilitation projects required some planning. However, significantly less planning measures were required when the property ownership remained with the State. More diverse programs needed more time in planning, and the developers phased the projects over longer periods of time. Seven of the nine properties received funding from more than one source. The remaining two solely used state funds to change the building's function. Of the seven projects with similar funding structures, six established a goal early to set up a use that would generate revenue for future redevelopment phases.

Research Question Four: What are the Common Patterns of these New Uses and their Related Alterations?

Four of the nine projects qualify as mixed-use development. Two serve institutional purposes and are, therefore, state-funded and operated. Three sites qualify as multi-family residential use, one of which is a senior living facility. Ownership structure varies across the sample cases. Two are not-for-profit organizations while four are for-profit companies, two are state-owned, and a state funded university owns one.

The ownership structure directly affects funding opportunities. The state affiliated owners did not seek outsider-financing options, whereas the remaining six all have more complex funding structures. Some of these sources include state and federal tax credit programs, Housing and Urban Development (HUD funding), tax abatement zones, foundation donations, and local and state government contributions. As institutional uses are comparable, the related alterations necessary to accommodate this use type are minimal. Comparatively, both residential and mixed use redevelopments require additional modifications.

Research Question Five: Of the Two Mixed-Use Case Studies, What were the Greatest Challenges for Successful Kirkbride Redevelopment?

Site visits and in-depth interviews were conducted for two mixed-use Kirkbride redevelopment projects. These cases possessed the most robust building program, planning process, community partnerships, and funding structures of the nine reused Kirkbrides. Additionally, the selected case studies are not state-owned and operated. The case study method exposed many commonalities across the Village at Traverse Commons and Richardson Olmstead Complex redevelopment experiences. The pair pursued complex funding structures both utilizing critical state and federal subsidies such as tax credits. Both owner/developers expressed their primary challenge was working within the National Park Service's Secretary of Interior Standards for Rehabilitation. As phasing and uses grow, the management of practical site functions like parking becomes more complex. Every stage of redevelopment has its challenges,

and most were recognized as unique to the situation due to the novelty of the building type and its reuse.

Analysis Discussion

Emerging Development Patterns

A total of 73 Kirkbride complexes are located in thirty states and the District of Columbia. Mapping site locations revealed evidence of regional favoritism for the Kirkbride Plan. The majority of Kirkbride hospitals cluster in the Midwest and Northeast U.S. Census regions. Aside from these areas Kirkbrides only existed in the Southeast regions and three states representing the Western region. Initial development began in New Jersey, Illinois, Indiana, Ohio, and Pennsylvania along the southern banks of the Great Lakes. Kirkbride theory adoption spreads east to west into the adjacent regions.

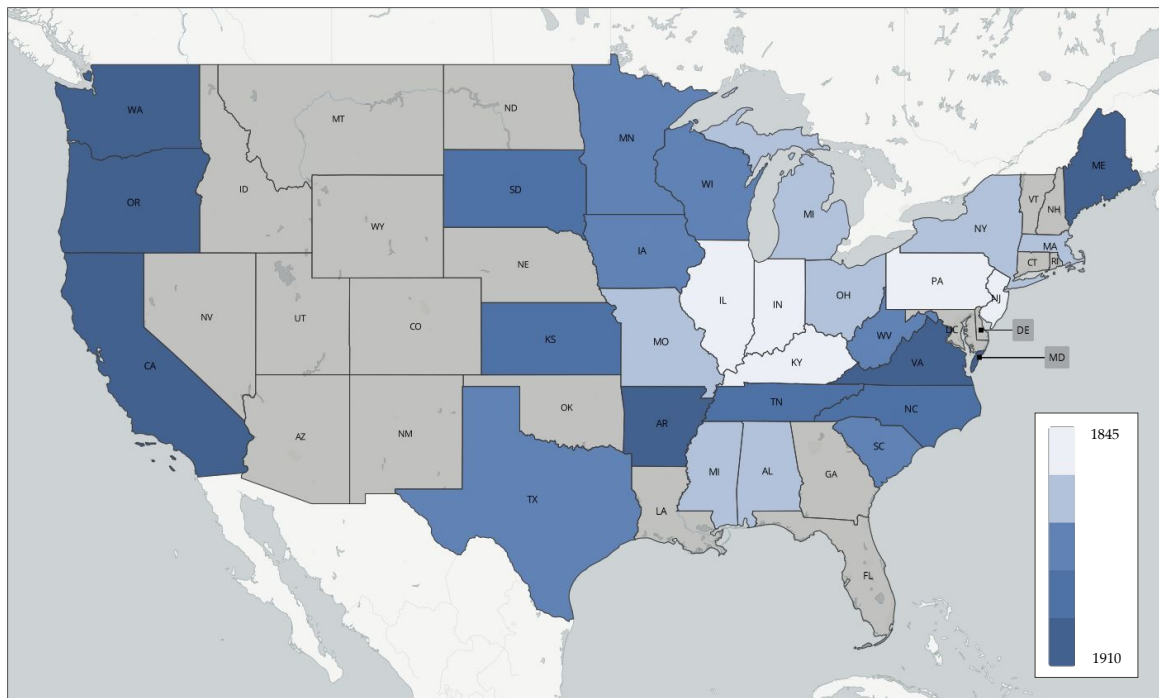


Figure 7. U.S. Building Type Development Over Time. Graduated Color Symbology for Construction Start Date Value.

Illinois, Indiana, Ohio, and Pennsylvania also claimed more Kirkbride assets than others resulting in higher density regions. States with four or more Kirkbrides include New York, Illinois, Ohio, Pennsylvania, Iowa, Massachusetts, and Missouri. The density of the building type correlates to state population changes and migration patterns in the United States at the time. Where population increased, the number of Kirkbride facilities increased proportionately. Significant population changes occurred during the 1800s as Americans moved into the more northern and western regions of the U.S. According to the 1870-1910 U.S. Census population density maps, major population shifts occurred in the Northeast as Americans moved northward and westward (Walker & Gannett, 1880). Copies of the U.S. Census population density maps are available in Appendix F.

The population trend is connected to migration patterns from the New England region, along the banks of the Great Lakes, establishing settlements in Ohio, Illinois, Michigan, and Minnesota (Routes, 2016). The northern populations far outweighed the Southern populations making the migration patterns from east to west less apparent. The southeast region claims less than one percent of the total Kirkbrides. Regardless of this observation, the development of Kirkbride planned hospitals follow the same trend of population migration towards the west coast. Areas west of Texas, considered both the western and mountain regions of the United States, are not represented.

As U.S. manufacturing industries progressed so did transportation networks and city development. Populations increased in these urban zones as industry attracted individuals for job opportunities (Congress, 2016). As large populations gathered in urban centers, the prevalence of persons experiencing mental illness became more apparent. An aspect of moral therapy acknowledged the additional challenges and stressors applied by daily living in the chaotic city environment. There is a direct relationship between U.S. population density, urbanization zones, and the presence of Kirkbride facilities. Of the 73 Kirkbride facilities, 51 (69.8%) of all Kirkbrides exist in the Midwestern and Northeastern regions of the United States. These areas were also developing industrial centers at the time. The railroad boom of the nineteenth century provided jobs laying tracks connecting the East to the Western frontier. Railroad development allowed settlers to move west more conveniently than previously possible. Railroads offered land at bargain prices to encourage settlements that required rail service. According to railroad development maps, the expansion of railroad services grew notably between the years 1860 and 1890 (Museum, 2014). Likewise, the railroad

networks first concentrated in these states near progressing industrial nodes. Maps comparing population density and railroad network development during the nineteenth century are available for reference in Appendix F.

The California Gold Rush, framed by 1848-1855, began to draw populations west with the hope of the following prosperous industry. In 1848, gold was discovered for the first time in Coloma, California (Rohrbough, 1997). Two of the three Kirkbride asylums in California are positioned close to Coloma but are more likely located there due to proximity to larger urban areas like San Francisco. The third California Kirkbride is located just outside of Los Angeles center. These Kirkbrides were established in 1885, 1872, and 1893 with the first Kirkbride development in California occurring 37 years after the end of the California Gold Rush era. Therefore, the geographic locations of the western-zoned Kirkbride facilities are determined by their proximity to large, highly populated urban centers. However, the population density shifts toward the west coast were partly driven by the American Gold Rush migration.

Of all the states with Kirkbrides, the State of New York claims the greatest number, six echelon complexes. Even more interesting, is that one of those complexes, Willard State Hospital, has four Kirkbride planned buildings on the hospital grounds. So, technically speaking, New York claims 10 Kirkbride planned hospitals within six complexes. Illinois, Ohio, and Pennsylvania claim 5 Kirkbride complexes. Elgin State Hospital in Elgin, Illinois is another hospital with more than one Kirkbride building on one hospital site. Specifically, Elgin had two Kirkbride facilities: one served the men entirely, and one only served the women. Also, a hospital in Indiana and one in Kansas built more than one Kirkbride building on its grounds. Refer to the condensed Kirkbride

Legacy Database in Appendix D for a note showing all hospitals with multiple Kirkbride facilities on their grounds. As State populations rose, the government established new asylums to serve their growing number of constituents. Multiple asylums were positioned to serve regions of the state landscape relieving pressures on the first state hospitals. The following graph illustrates the density of Kirkbride facilities in states with 4 or more within its borders.

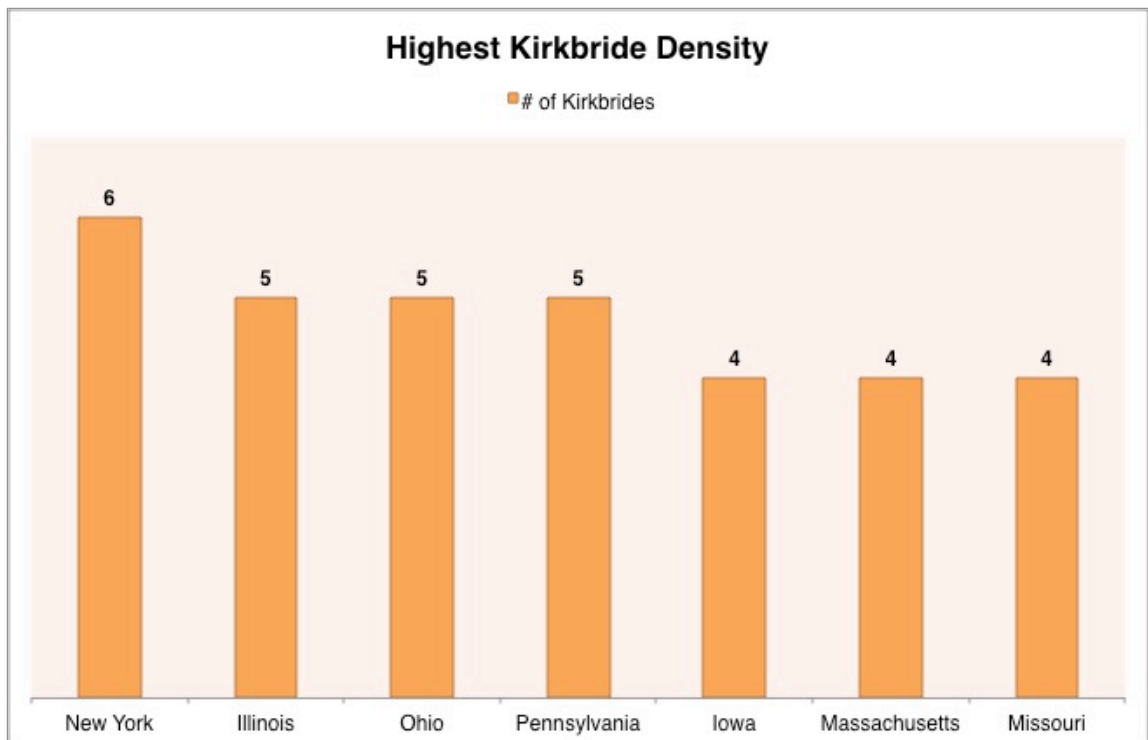


Figure 8. Highest Kirkbride Density.

National Register and National Historic Landmark designation statuses were recorded as a data attribute in the Kirkbride database. Of the 73 complexes, 33 are designated on the National Register and seven are listed as National Historic Landmarks. All National Historic Landmarks are also designated on the National

Register. Nearly half (45%) appear on the NRHP, and 9.5% are found in the NHL program. All of these buildings are significant to these programs based on NR Criterion A significant events, Criterion B important persons based on Social/Humanitarian history, and criterion C significant architecture. Dr. Thomas S. Kirkbride's set of guidelines for the construction of these facilities was quickly accepted by the AMSAI, which drove the pervasive adoption of the architectural form. Kirkbride founded the AMSAI, a precursor to the American Psychiatric Association, and served as president from 1862 to 1870. This organization, AMSAI, held annual meetings, published a journal (the American Journal of Insanity, AJI), and assisted states in the establishment of hospitals (Yanni, 2007). The AMSAI's adoption is important because their support materialized in their journals and consultations to states, driving the actualization of their current theories. A powerful group set precise architectural standards to serve as a primary treatment strategy. These events suggest the significance of this plan regarding asylum architecture. Kirkbride's architectural prescriptions drove the grandeur of the buildings leading to a series of prime and innovative architectural resources.

Looking solely at the states with more than four Kirkbride complexes, Massachusetts has 100 percent (four of four) facilities listed on the National Register. Ohio and Pennsylvania have 60 percent of their Kirkbride assets designated. 50% of New York's properties are on the National Register for Historic Places. Missouri claims 25%, Illinois 20%, and Iowa had zero listed. Geographically speaking, these states form two clusters: one in the northeastern region (Massachusetts, New York, Pennsylvania, and Ohio) and one in a more Midwestern position (Illinois, Iowa, Missouri). The

Northeast cluster, the largest concentration of Kirkbrides, has a significantly higher presence on the National Register of Historic Places than the Midwestern cluster.

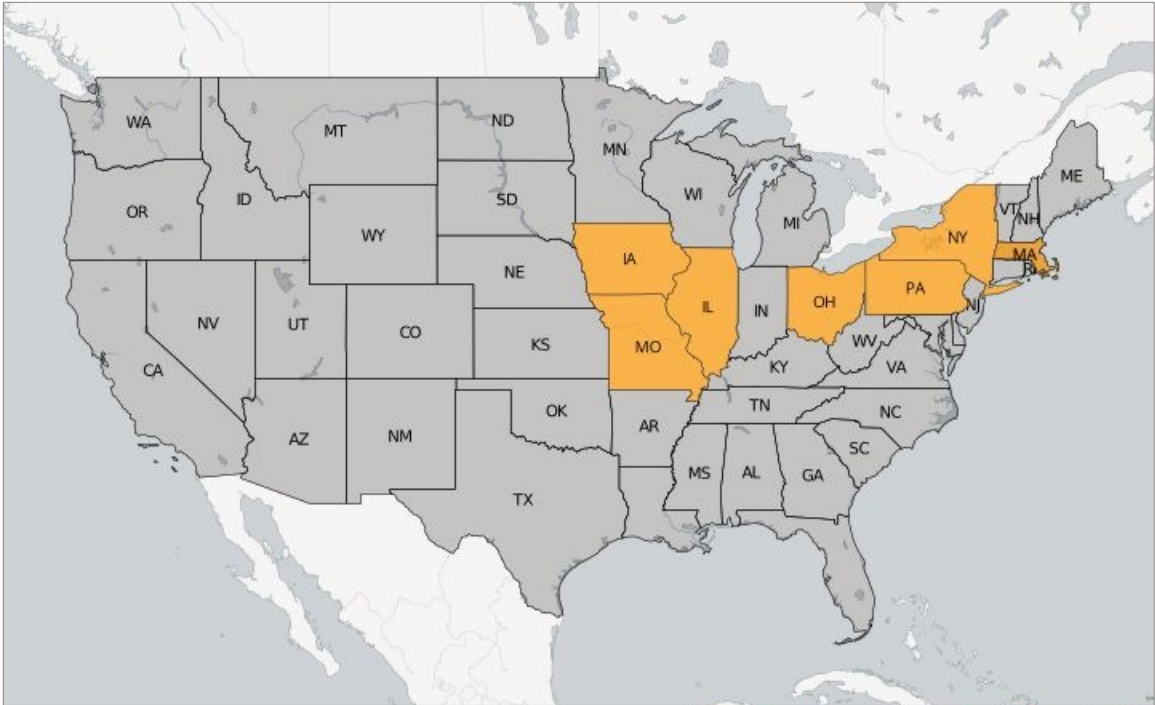


Figure 9. Map showing States with Highest NR Representation.

Development first occurred in New Jersey in 1845, the spread through the Midwestern belt. The range of Kirkbride construction start dates is 65 years, 1845-1910. An equal interval data classification method was used to establish equal size classes of ten-year time spans. This method works best on data generally spread across an entire range. The highest concentrations of construction commencement occur equally over two decades: 1850-1860 and 1870-1880 with 18 instances each. There is a huge drop in construction start dates during the 1860-1870 decade. A significant national event contributed to the decrease in construction rates and perhaps the increase of patient

populations during this decade, the American Civil War (1861-1865). Both Union and Confederate regions experienced increased patient populations during this decade. States involved in the war redirected funding originally allocated to the construction of Kirkbride asylums to war-related expenses. The Civil War officially ended slavery nationwide and fueled the growth of new industries ward (Ward, Burns, & Burns, 1992). Industry growth attracted people to regions with industry or jobs. Furthermore, the end of the war freed African Americans creating an inundation of people eligible to receive state-funded mental healthcare.

The data range for Kirkbride opening dates is 1848-1913, 65 years. Twenty Kirkbride asylums were officially opened and accepted patients during 1870-1880. This decade had the highest concentration of Kirkbride openings. The 1880-1890 decade held 16 instances of Kirkbride facilities opening. The third largest amount of Kirkbrides opened fell within 1850-1860. There is a significant drop during 1860-1870, again due to challenges triggered by the American Civil War. During this decade, only eleven Kirkbrides were opened.

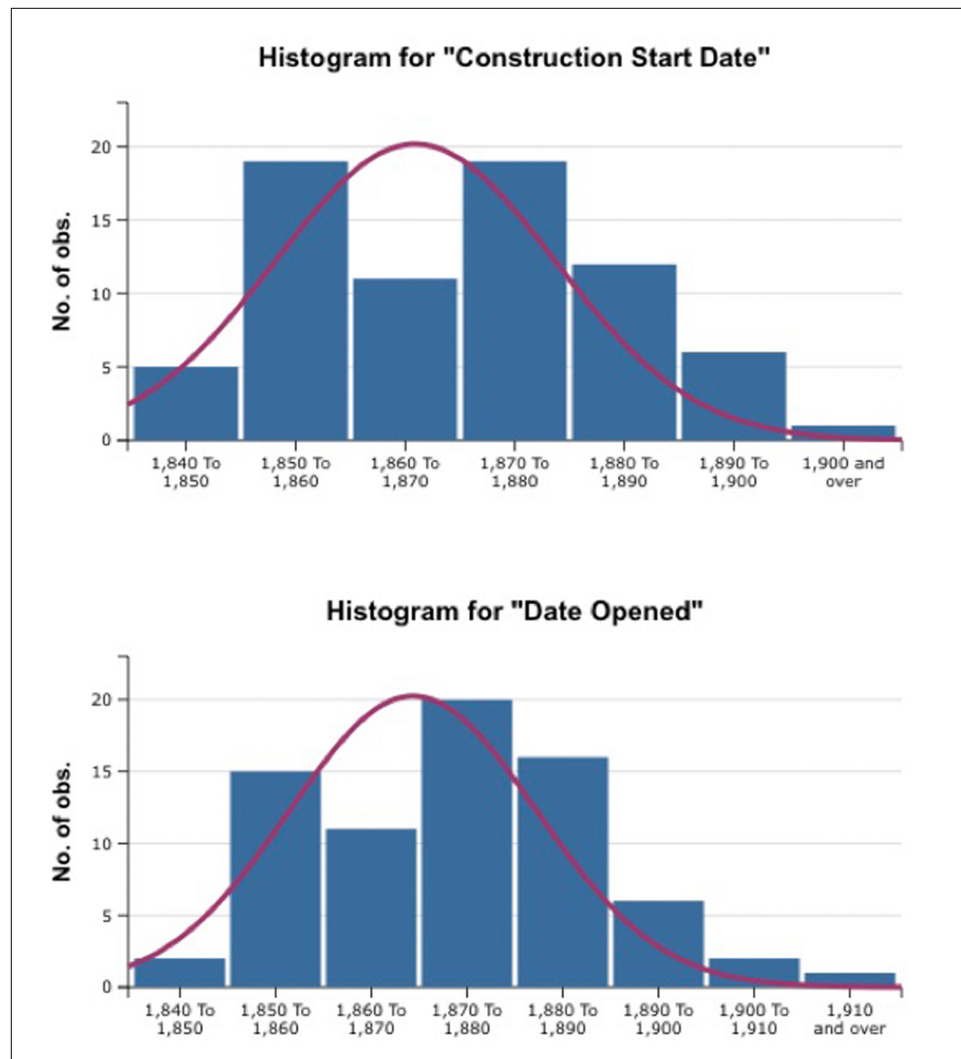


Figure 10. Comparison of Histograms Charting the Construction Start Date and Hospital Open Date.

With 73 Kirkbride facilities established over a period of sixty-five years, the Kirkbride plan dominated asylum design during this time period. The histograms in Figure 10 show the peak construction manifested during decades 1860-70 and 1880-90 and date opened peak occurred during 1870-1880. The adoption of the Kirkbride plan declined, as many physicians grew frustrated with this building type turning to new architectural approaches to mental treatment. These dissatisfactions were driven

primarily by a single continuous structure in conjunction with the hospitals housing far more patients than the buildings were designed to support. The advent of the next psychiatric building plan generated excitement for a different space to accommodate the mentally ill population. Building plans for psychiatric hospitals continued to evolve, but the first official establishment of a specific architectural form to support the mentally ill was the Kirkbride plan.

Nationwide Kirkbride Status & Uses

Overall, 55% of all Kirkbride buildings that existed are entirely demolished. The loss of 40 valuable historic and cultural resources indicates the challenges felt nationwide addressing the use of Kirkbride facilities.

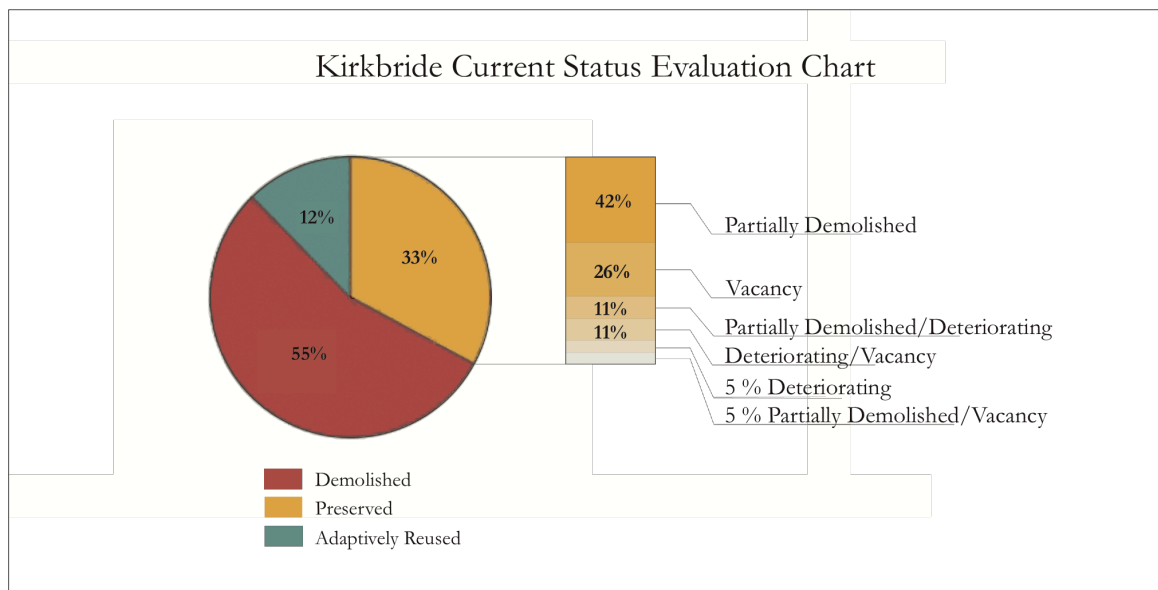


Figure 11. Kirkbride Current Status Evaluation Chart.

The most frequent cause of demolition was the decision to raze in order to then build modern facilities. In 1936, 1991, 2007, fire caused demolition of three Kirkbride facilities. Earthquakes on the west coast destroyed two, both in California, one in 1906 and another in 1933. Therefore, of the 40 demolished, five were caused by natural disaster. Four buildings (10%) were lost to demolition by neglect. The demolition by neglect action signals the states abandoned the facilities after investing in new construction to support their mentally ill communities. In addition to abandonment, the lack of maintenance suggests the property was low on the state's agenda and/or the financial burden was overwhelming for a property that drains on the local tax base. Three properties were demolished to free the site for alternate uses. The new uses include a state park (1996), Ohio Department of Transportation Hub (2000), and new residential development (2015). In these cases, the land was considered more valuable than the package. Of the 40 lost, 26 were demolished to construct modern facilities. The dates of demolition range from 1906 to 2015 with the highest concentration, 10 occurrences, falling in the 1960-1980 interval. Five demolition dates are unknown or difficult to frame tighter than two decades. Therefore, the demolition sample date analysis consisted of 35 variables because five were null.

Of those demolished, nine (23%) were on the NRHP. However, all Kirkbride buildings recognized as NHLs are still standing. Nearly a quarter of the demolished sample were designated and recognized as historically significant. The following photo shows an example of a case coded as demolished.



Figure 12. Demolition Code Example. Greystone State Hospital, New Jersey. 2015.

This research determined that 24 Kirkbrides are still in use to some degree, and, therefore, their current status category assignment is preserved. The preservation code is the most complex and varied sample. A secondary code system was employed to better define the particular variations within the preserved sample. 11 of the 24 protected properties were assigned secondary conditions of deterioration, vacant, partial demolition or a combination. For example, Hudson River State Hospital in Poughkeepsie, New York received a secondary status of deterioration in the survey. This secondary status indicates that the building is currently vacant and suffering from exposure to the elements. Hudson River State Hospital is a National Historic Landmark and is one of the few Kirkbrides in a ruinous state. Because of fire damage, the upper levels of the Kirkbride would require extensive reparations. Further, the building remains

untouched leaving the landmark building interiors exposed to the elements and rapidly deteriorating.



Figure 13. Hudson River State Hospital, Poughkeepsie, NY. State of the buildings in 2015 showing fire damage to the ward buildings.

Interiors exposed to the elements create a real concern for the remaining properties currently recognized as preserved, especially considering almost half of that sample are falling into neglect. Six of the eleven Kirkbrides now vacant, at least partly, or deteriorating are recognized as significant to the NRHP. Although the research shows these buildings have a strong presence and are therefore considered significant, the National Register program does not automatically provide protection. The program is extremely valuable for tax credit incentives and a higher level of recognition, but only once property ownership is transferred outside of state hands. Property owners are not

held responsible for neglect because there is not a system currently in place to enforce that kind of regulation. The NRHP and NHL programs are intended to reward preservation with incentives but have few tools established to enforce rules against neglect or demolition without a due diligence process.



Figure 14: Preservation Code Example. Danville State Hospital. Danville, Pennsylvania. 2013. This hospital is the prime example of the preservation code; the administration section is almost fully original.

Nine of the 73 Kirkbride complexes have been successfully adapted for new uses. All of the reused properties are listed on the NRHP except for two, both of which are owned and operated by the state and are currently used as prisons. Two of the nine are National Historic Landmarks. Both the states of Missouri and Ohio are represented twice in this sample. While New York, Michigan, West Virginia, Oregon, and

Massachusetts are recognized once. The redevelopment date range of this sample is 24 years beginning in 1983 to 2007. The defined uses include residential, correctional facility, and mixed-use. The residential uses vary considerably over the reused Kirkbride properties.



Figure 15. Rehabilitation Code Example. Center Building Interior at TALA, formerly Weston State Hospital. Restored interiors illustrate the organization of the spaces to supplement historical tours. Source: <https://www.flickr.com/photos/41658249@N02/19418746804>. Photo credit: Frank Grace, 2014.

Now Defined Uses

The subtypes of residential uses vary and are primarily driven by the needs of the local economic market. Two Kirkbrides were redeveloped for residential purposes in the

year 1983. Castle Park Apartments in Normandy, Missouri was planned as an affordable housing program to enrich the local market with varied housing options. This project presents a unique existing space for affordable housing and the program served the local market, hence its lasting success. The second residential development that year was 10 Wilmington Place Retirement Community in Dayton, Ohio. Dayton's entire Kirkbride complex houses a retirement community with services provided for assisted living, independent living, and, now, memory care for individuals experiencing Alzheimer's and dementia (10 Wilmington Place, 2014). The existing architecture in both scenarios allowed for a variety of individual space scales and floorplans. The third residential redevelopment began in 2005 providing luxury one, two, and three-bedroom apartments and two-bedroom attached townhomes. The luxury apartment program was considered one site development, Avalon Danvers, while the townhome site development, Aria Hathorne Hill, only neighbored the existing Kirkbride site (Alliance, 2013). Avalon Danvers is the redevelopment of interest because it occurred on the Kirkbride state hospital site. However, the dual development strategy was part of the perceived necessity for site redevelopment success.

An institutional program is a more affordable transition for a use-built form like Kirkbride planned hospitals. In both reuse cases, the evidence of change in these cases is modest because of property ownership and use similarities. Although, such proof could indicate there were few alterations required or just insufficient communication of those modifications, given how the process remained in-house without apparent oversight from another agency. Despite the ownership remaining in the state's hands, some legislative action is common to transfer use. Less planning and fewer interior

alterations to the buildings eliminate a meaningful amount of rehabilitation costs. These cases occurred in 1983 and 1997.

Four of the reused Kirkbrides are mixed-use redevelopment projects; the majority use representation. The four mixed-use developments have various levels of use diversity and all cases, except The Ridges, have more potential to attract outside investors to contribute to a divergent mix of uses. This exception is solely driven by the ownership factor and the related funding sources. Selection of programs, in this sample, is primarily motivated by immediate community and market demands. The mixed-use group required more complex planning and funding structures. Also, these projects are phased and therefore demand long-term redevelopments. The mix of uses allows opportunities to generate community amenities and cultivate full-time activities on the site.

Building Alterations and Character Retention

Sample Overview

The discussion pertaining to research question three follows a unique format compared to the other sections. This chapter section presents profile graphics for the sample of nine adaptively reused Kirkbride complexes.

Table 6. Adaptive Reuse Sample

Adaptive Reuse Sample			
Name	Vacancy Duration (Years)	New Use	Redevelopment Date
10 Wilmington Place Dayton State Hospital	6	Retirement Community	1983
Eastern Oregon Correctional Institution Eastern Oregon State Hospital	2	Correctional Facility	1983
Castle Park Apartments St. Vincen'ts State Hospital	5	Affordable Housing Complex	1983
Western Reception, Diagnostic, & Correctional Center St. Joseph's State Hospital	3	Correctional Facility	1997
The Ridges Athens State Hospital	11	Mixed use	2000
The Village at Traverse Commons Traverse City State Hospital	11	Mixed use	2000
Richardson Olmstead Complex Buffalo State Hospital	30	Mixed use	2004
Halstead Danvers Danvers State Hospital	13	Multi-family Residential	2005
Trans-Allegheny Lunatic Asylum (TALA) Weston State Hospital	12	Mixed use	2007

Adaptive Reuse Sample Profiles

Nine reuse profiles were generated providing information on the major project characteristics. Each profile serves as a detailed snapshot of one of the nine Kirkbride Adaptive Reuse Cases. Organized into sections, the profiles present information on the

following topics: Significance Statement, Building Alteration, Planning, Funding, and Lessons Learned. The profile sequence is structured chronologically from redevelopment start date. This organizational method illuminates the evolution of Kirkbride reuse approaches.

10 WILMINGTON PLACE RETIREMENT COMMUNITY DAYTON STATE HOSPITAL, DAYTON, OH



YEAR BUILT: 1854

NRHP: 1979

SCALE: 500,000 GROSS SQ FT
34 ACRE

PROPERTY OWNER & DEVELOPER:
BARRY HUMPHRIES, COLUMBUS

REDEVELOPMENT DATE: 1983

Significance

Dayton State Hospital was the State of Ohio's second major institution for the insane. As a result of the Dayton building, similar institutions were constructed in almost every state in the union. Introduction of this innovative design and many other subsequent improvements to the theory of mental health care environment, put into practice by Southern Ohio Lunatic Asylum superintendents, placed the Dayton institution at the forefront of asylum care in the United States for many years (Survey, 1979).

Building Alterations

The building sustained some expected building system upgrades during its time as a psychiatric hospital. After closing, the building was vacant for nearly ten years within which it sustained severe water damage. When Humphries purchased the property, the building had openings in the roof where water infiltrated the interior. The excessive amounts of water saturated the horsehair plaster resulting in deterioration beyond repair. During the planning stages, a disastrous fire broke out in the center administration building and the roof and center cupola were destroyed. However, the damage to the rest of the administration building was comparatively minor. The center dome was never replaced, but the redeveloper retained the roof massing along with two cupolas on two ward buildings. The entire roof finish was replaced with asphalt shingles during rehabilitation. The roof finish change only slightly diminishes the integrity of the roof feature. There

is archival documentation of the center cupola in the case the owner/developer chooses to pursue construction of a replica.

Selective demolition was part of the rehabilitation strategy. In February 1985, 3D/Group, Inc., Architects president, Antonio Colosimo prepared mitigative documentation for the employee/staff lunchroom and kitchen wings of the Southern Ohio Lunatic Asylum. Section 106 of the National Historic Preservation Act of 1966 triggered the documentation process because the Department of Housing and Urban Development, a federal government agency planned to fund the demolition. This alteration does affect the original footprint of the Kirkbride. It is worth considering that this building was of lower significance because of its service-oriented functions (Survey, 1979). Meanwhile, the five-story center building interiors were entirely demolished leaving only the outer walls standing. The redeveloper replaced 1500 large and unique original windows during rehabilitation. The remaining interior character-defining features were lost entirely to demolition (Burroughs, 2013). Leaving another Kirkbride rehabilitation case that essentially uses the shell of the structure for marketability. Financial factors drove the decision to demolish the interior features to keep redesign costs down.

Site Alterations

The site began as a 300 acre tract now condensed to 63 acres. The original hospital farm is now Kettering's Miami Valley Research Park, and other hospital land is now the site of private

Figure 16. Dayton State Hospital Reuse Profile. Page One.

10 WILMINGTON PLACE RETIREMENT COMMUNITY DAYTON STATE HOSPITAL, DAYTON, OH



homes and Hospice of Dayton. Dayton State Hospital cemetery is located on the backside of Woodland Cemetery on undeveloped land and is not accessible to the public.

Necessary Planning Measures

The historic building and its 34-acre campus at 10 Wilmington Avenue sat vacant for years before Columbus-based developer Barry Humphries purchased the property. Humphries engaged the local community and city officials, generated reuse feasibility studies, and selected a senior housing program. A \$20 million renovation construction began in 1984. The development team exposed the community and visitors to the extensive renovations the building underwent to build awareness of the redevelopment and to attract prospective client buy-in. During the first year, 20,000 visitors toured the building. Based on popular demand, the leasing structure increased to a typical lease-up pattern for senior housing. The facility, which has 151 independent living apartments, 58 assisted living apartments and 22 memory care units, employs 100 individuals and provides housing for roughly 200 residents.

Funding & Subsidies

Although a single private developer is behind the initial action that cultivated the Kirkbride rehabilitation, the community contributed a significant amount financially. The City of Dayton gave the project ten years of tax abatement. The Dayton Chamber of Commerce provided \$75,000 for early

feasibility studies. Additionally, the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), a national trade union center and the largest federation of unions in the United States, lowered its hourly union wages so union labor could complete the project construction. The total project cost was \$19,800,000 in 1986 (Burroughs, 2013). Announced in February 2016, Dayton's Kirkbride facility will be undergoing a three million dollar renovation, its largest set of updates in many years (Navera, 2016).

Lessons Learned

- There is a real financial incentive to demolish the interiors to reduce rehabilitation costs in some instances.
- The historic character of the buildings and grounds improve marketability for new uses.
- Support on the local level alone can be significant for funding and subsidies.
- A developer willing to stay connected to the development for the long-term increases sustainability.

Figure 17. Dayton State Hospital Reuse Profile. Page Two.

CASTLE PARK APARTMENTS ST. VINCENT'S INSTITUTION, NORMANDY, MO



YEAR BUILT: 1891

NRHP: 1982

SCALE: 252, 697 GROSS SQ FT
10.6 ACRE

PROPERTY OWNER & DEVELOPER:
COMMUNITY HOUSING CONCEPTS,
INC. (CHC)

REDEVELOPMENT DATE: 1983

Significance

St. Vincent's Institution was founded as a private hospital for care of those with mental diseases and administered by the Sisters of Charity of Vincent de Saint Paul. Initially, this order ran the Mullanphy Hospital in St. Louis where they witnessed the increasing number of patients afflicted with mental diseases. Due to these observations, the order saw the need to build a new facility. In 1891, 97 acres of land were purchased in St. Louis County one mile beyond city limits. Under the supervision of Sister M. Magdalene, plans were quickly drawn up for the new building following the Kirkbride Plan (Hamilton, 1979).

Building Alterations

The Kirkbride experienced building system upgrades while in use as a private in-patient mental health facility. New kitchen building additions were attached to the rear of the Kirkbride between 1908 and 1924, expanding the footprint. St. Vincent's Kirkbride sustained two major renovations. In 1982, when the building was converted into an apartment complex, State, and Federal tax credits were utilized for redevelopment. Taking advantage of the Historic Preservation Tax Credits indicates the renovation was relatively sensitive to the historic character of the property. The first developer opened and removed interior walls, inserted structural beams to create apartment spaces, but maintained relationships to the corridor. Structural engineer oversights specified point loaded beams which did not calculate for the structural loads placed on the masonry walls by the beams. In 2010, the building underwent an intense renovation by a new property owner. The new redeveloper found extensive structural damage

sustained from insufficient changes to the interior of the building in 1982. The team repaired the foundation and corrected the issues caused by the steel I-beams on the interior to ensure the building's longevity (VanAernam, 2016). The exterior historic rehabilitation included new windows, masonry repair, foundation repair, and copper metal repair, including replacement of coping metals, gutters, and downspouts. Interior construction included a complete rehabilitation of apartment interiors. All apartments received new kitchens and bathrooms including new fixtures, cabinets, flooring, and energy efficient appliances. Though the property has been preserved and improved for continued affordable housing, the historic nature and appearance of the building remain intact. The building still contains original Italian marble floors, French tile slate roof, and several original fixtures including copper gutters.

Site Alterations

About 132.66 acres of the original grounds and the adjacent Marillac College property were sold to St. Louis County for use as a park, while the remaining 21.11 acres, including the building were leased to private developers.

Necessary Planning Measures

The property housed in-patients until 1982 when it sold. Meanwhile, 132.66 acres of the grounds and the adjacent Marillac College property were sold to St. Louis County for use as a park, while the remaining 21.11 acres, including the building, were leased to private developers. Redevelopers renovated the hospital buildings into

Figure 18. St. Vincent's Institution Reuse Profile. Page One.

CASTLE PARK APARTMENTS ST. VINCENT'S INSTITUTION, NORMANDY, MO



affordable housing apartments. The Castle was not updated again until Community Housing Concepts, Inc. (CHC), a Denver-based nonprofit acquired the property in 2007. Castle Park re-opened as a 209-unit multifamily and elderly Project Based Section 8 property.

Funding & Subsidies

The Kirkbride renovation cost \$27 million. Castle Park Apartments was developed and operates with Federal housing financing. The property utilizes the Project Based Sec. 8 Federal housing program to make rent affordable to lower income tenants. Hence, Castle Park Apartments has a project-based Section 8 contract. This agreement means that 100% of the renter households in the property pay no more than 30% of their adjusted income for rent. The project utilized four percent tax credit equity, state and federal historic tax credits and bond financing with U.S. Bank. The U.S. Bank partnership provided the private placement on the bonds. The tax-exempt bonds offered a large piece of the financing, roughly \$14 million. That debt is acting as a construction loan that will be paid off from the tax credit proceeds. Additionally, the bank's community investment subsidiary, U.S. Bancorp Community Development Corporation, invested approximately \$11 million of affordable housing and historic tax credit equity.

The nonprofit also stepped in to provide \$3.4 million in loans to the project. The Department of Housing and Urban Development (HUD) Mark-to-Market program transferred the second and third mortgages. Before CHC's ownership, the property went through the program, which aims to preserve the rental affordability on properties by restructuring HUD-held mortgages. The program was important

because it allowed the deal to avoid hard or "foreclosable" debt, a point that was relevant to the financing team and that helps ensure long-term preservation of the vital housing resource (VanAernam, 2016).

Lessons Learned

- A single-use is most successful when the long-term program is sustained with consistent federal funding, such as an affordable housing model.
- The building was vacant for approximately five years, which kept deterioration to a minimal. The sooner the buildings can be stabilized the lower the overall redevelopment will require.

Figure 19: St. Vincent's Institution Reuse Profile. Page Two.

EASTERN OREGON CORRECTIONAL INSTITUTION EASTERN OREGON STATE HOSPITAL, PENDLETON, OR



YEAR BUILT: 1912

NHR: NOT DESIGNATED

SCALE: 500,000 GROSS SQ FT
34 ACRE

PROPERTY OWNER & DEVELOPER:
THE STATE OF OREGON,
OREGON DEPARTMENT OF
CORRECTIONS

REDEVELOPMENT DATE: 2000

Significance

Immediately after completing construction, 325 patients were relocated to the Eastern Oregon State Hospital in 1913 to relieve patient population increases in the State. The new hospital's purpose was to provide "care for the Insane from the counties comprising what is known as Eastern Oregon..." (Rockwood, 1946). The Kirkbride sits a few miles west of Pendleton in Umatilla County. Since hospital construction technically occurred outside of the Kirkbride building era, the hospital building was styled in a modern fashion and with far less Victorian treatment than the majority of Kirkbride complexes.

Site Alterations

The site retains all significant original site features today.

Necessary Planning Measures

The hospital closed in 1983 due to a decline in patient population. The State of Oregon handled all planning for the transfer of use internally. Therefore, there are few public details regarding the planning measures taken to prepare this building for a new use. However, the catalyzing and civil action for use change was the 1983 Legislative Assembly authorized the establishment of a 350-bed medium security prison at the Eastern Oregon Hospital and Training Center. The facility opened in 1985 as the Eastern Oregon Correctional Institution.

Funding & Subsidies

The State of Oregon funded all building and site renovations.

Lessons Learned

- Planning and funding strategies are less elaborate when ownership essentially stays in the same hands, still state owned and operated.
- Less time was required for building and use turnover.
- The local community members were not engaged in the planning process due to ownership never reaching out.
- Fewer alterations and therefore less funding is required to redevelop a Kirkbride for a new, parallel institutional use.



Figure 20. Eastern Oregon State Hospital Reuse Profile.

WESTERN RECEPTION, DIAGNOSTIC AND CORRECTIONAL CENTER PROFILE ST. JOSEPH'S STATE HOSPITAL, ST. JOSEPH, MO



YEAR BUILT: 1874

NRHP: NOT DESIGNATED

SCALE: 137.30 ACRES

PROPERTY OWNER & DEVELOPER:
STATE OF MISSOURI,
MISSOURI DEPARTMENT OF
CORRECTIONS

REDEVELOPMENT DATE: 1997

Significance

In 1872, the Missouri General Assembly approved the creation of a second state asylum, and a location east of Saint Joseph was selected. Beginning with 25 patients, the first hospital superintendent described the institution as "the noble work of reviving hope in the human heart and dispelling the portentous clouds that penetrate the intellects of minds diseased" (Museums, 2016). The hospital buildings were one of few Kirkbride complexes built in the Gothic Revival architectural style. Before complete closure, a portion of the Kirkbride housed a museum dedicated to raising awareness of mental health and to presenting the history of St. Joseph's (Multiauthored, 2015).

Building Alterations

Fire damaged much of the Kirkbride building in 1879, but it was repaired soon after and re-opened in 1880. The state is responsible for the partial demolition of the Kirkbride. What remains is utilized as a State correctional facility. Archival photo documentation from 1907 exhibits the Kirkbride with four long wings flanking the center building on the north side and three on the south side. Sometime between 1955 and 1991 most wards were demolished. Today only one on either side of the center building remains. The decorative porch, most likely made of cast iron, was removed during the same 40-year time span when the state demolished the ward.

The partial demolition alteration type, in this case, also includes some roof feature changes. The state of Missouri removed the original roof finish and ornamentalations. The roof finish was then

replaced with a standing seam metal roof. Cupolas, ventilators, finials, and chimneys were all removed. However, the roof massing and form of the buildings were retained. Based on these alterations, the features adversely affected are the building footprint, facade, facade rhythm, monumental scale, and roof.

Site Alterations

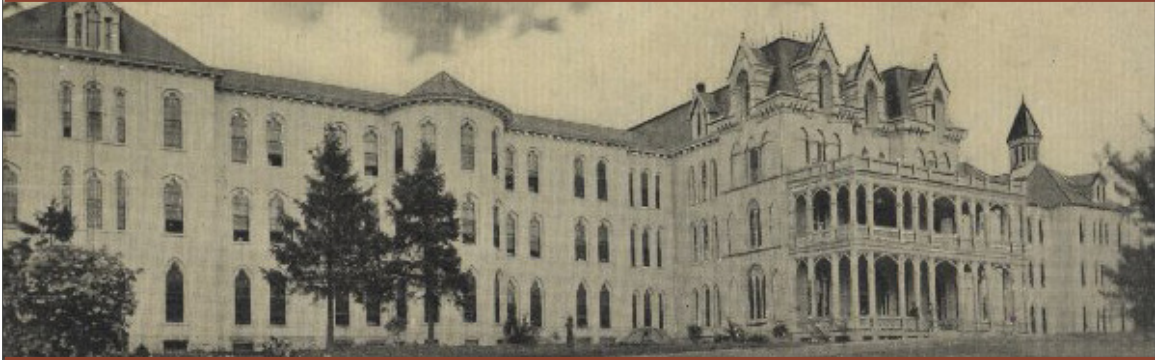
The site has decreased in scale by roughly 100 acres. Over the course of the 1900s, large, highrise modern hospital buildings were constructed to the rear of the Kirkbride. A great deal of the original landscape design is no longer intact. Many site level character-defining characteristics are compromised by the modern hospital structures built around the remaining Kirkbride.

Necessary Planning Measures

The State of Missouri handled all planning for the transfer of use internally. Therefore, there are few public details regarding the planning measures that were taken to prepare this building for a new use. An important event allowed for the property owner to move forward with redevelopment with some liberties, a state approved bond action. In August 1994, the state of Missouri passed a bond that allowed the conversion of the large asylum campus and hospital to a correctional facility. By July 1997, a new state-of-the-art building was completed across the street from the original campus, and the new Northwest Missouri Psychiatric Rehabilitation Center opened with 108 beds. Glore's Psychiatric Museum, previously housed in the mostly vacant Kirkbride facility, was

Figure 21. St. Joseph's State Hospital Reuse Profile. Page One.

WESTERN RECEPTION, DIAGNOSTIC AND CORRECTIONAL CENTER PROFILE ST. JOSEPH'S STATE HOSPITAL, ST. JOSEPH, MO



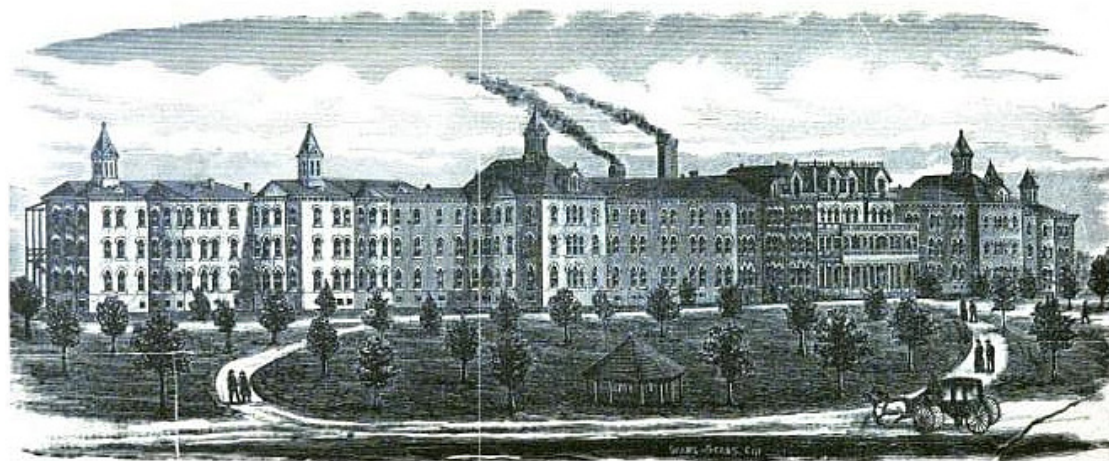
forced to move from the campus. The Museum relocated to a 1968 building that once served as a clinic for patients at the mental hospital, which currently sits just outside the prison fence. The Western Reception, Diagnostic and Correctional Center opened on the old asylum campus in 1999, now confining over 1,800 inmates (Multiauthored, 2015).

Funding & Subsidies

The State of Missouri funded all building and site renovations. The instituted government bond provided some financial freedom for the State.

Lessons Learned

- Aside from decreases in patient population numbers, there is no additional evidence pointing to a reason why so many ward buildings were demolished.
- A state bond approval activated the use change, a critical planning measure.
- Decorative architectural features are often deemed impractical when the primary use is largely utilitarian.



STATE LUNATIC ASYLUM No. 2, ST. JOSEPH, MO. 1881

Figure 22. St. Joseph's State Hospital Reuse Profile. Page Two.

THE RIDGES PROFILE

ATHENS STATE HOSPITAL, ATHENS, OH



YEAR BUILT: 1874

NRHP: 1980

SCALE: 600,000 GROSS SQ FT
800 ACRE

PROPERTY OWNER & DEVELOPER:
OHIO UNIVERSITY

REDEVELOPMENT DATE: 2000

Significance

The complex is located on a hill across the Ohio River from the main campus and has sweeping views to the adjoining countryside. The Athens State Hospital is a well-preserved complex of buildings that is regionally significant for its architecture and its history as a center for the treatment of the mentally ill in southeastern Ohio. The complex retains sufficient integrity despite the sustained alterations and additions to the buildings and their surroundings. Hence, the site still conveys the sense of the late nineteenth and early twentieth centuries.

Building Alterations

Over the years, the buildings and grounds at the Athens Mental Health Center underwent many changes, yet most character defining features have been retained. In the 1920s, a fire destroyed the grand ballroom/chapel space. The building stood vacant for several years while Ohio University prepared to renovate it into a museum, office, and classroom space. In 2001 renovation work was completed on the main building, which today is known as Lin Hall and houses music, geology, and biotechnology offices, as well as the Kennedy Museum of Art. Nearly all of the dozens of hospital buildings have been remodeled and put to use by the University. The building appears to be in exceptionally good condition, although the cupolas that used to crown parts of the roof are now missing. The ward interiors reportedly retain little of the nineteenth-century architectural details. The east wings roof finish materials have been replaced with asphalt shingles.

Site Alterations

The Ridges is currently a 800 acre site indicating continuous site growth since the original development planned on 344 acres. Athens State Hospital's site level defining characteristics remain in place today.

Necessary Planning Measures

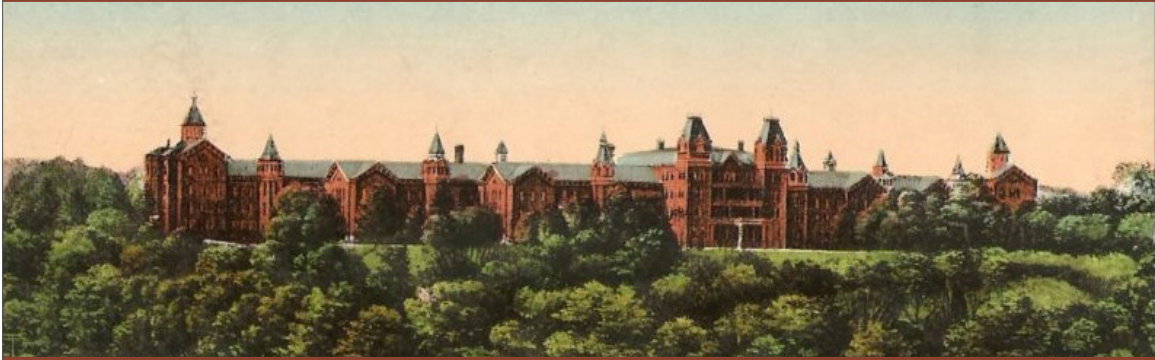
"The Ridges" at Ohio University was transferred to Ohio University from the State in the late 1980's. The building's program was driven by the basic expansion needs of the University due to the proximity of the complex to Ohio University (OU) campus. A Master Plan study was conducted and executed to some degree. Today, Ohio University occupies approximately 35% of the Kirkbride structure. The Administrative Tower building and adjacent wings house performance and event spaces and art galleries.

The unique nature of the complex and its proximity to OU campus cultivated an environment for the main building's use as a destination for many university-affiliated cultural events and programs. Office functions operate well in the ward buildings, and there is additional room for expansion. Graduate art studios and general storage for the university now occupy some ward buildings. This project required phasing because of rehabilitation cost considerations. Many of the outbuildings were the first projects to be rehabilitated due to their modest scale and disconnection from the main campus.

Multiple reuse strategies emerged over time, but OU had to defer the maintenance and stabilization of the buildings due to high costs. Ohio

Figure 23. Athens State Hospital Reuse Profile. Page One.

THE RIDGES PROFILE ATHENS STATE HOSPITAL, ATHENS, OH



University's Physical Plant and on-site infrastructure feed the Kirkbride site with its utilities. Mothballing is a strategy applied to the untouched areas of the property until additional appropriate uses can be identified. Rear cottage buildings are utilized for a Conference Center, Academic Institutes, and Laboratories with some newer additions to increase the capacity of those buildings. Meanwhile during the fall of 2013, Ohio University established a Ridges Master Plan Committee. The committee's responsibility was to address the limitations of previous reuse plans that no longer supported the University's strategic goals. In October 2015, the Ridges Master Plan Committee released the final report, a culmination of many months of evaluation, analysis, and public engagement and also describes the key findings of the historic buildings and surrounding land.

Funding & Subsidies

Ohio University has not disclosed their strategy for allocating funds to the redevelopment of Athens State Hospital.

Lessons Learned

- The Administration Tower is an active event space for university functions and art gatherings.
- The proximity of the complex to the Ohio University campus is ideal for many academic and administrative uses.
- Space on "The Ridges" is highly desirable, but numerous plans for reuse have stalled due to cost considerations.

- Senior Housing, additional offices, and academic-related housing are being considered.
- Space is mothballed until an appropriate reuse strategy or next phase is identified and developed.

Figure 24. Athens State Hospital Reuse Profile. Page Two.

VILLAGE AT TRAVERSE COMMONS PROFILE

TRAVERSE CITY STATE HOSPITAL, TRAVERSE CITY, MI



YEAR BUILT: 1885

NRHP: 1978

MSHS: 1985

SCALE: 400,000 GROSS SQ FT
63 ACRE

PROPERTY OWNER & DEVELOPER:
THE MINERVINI GROUP

REDEVELOPMENT DATE: 2000

Significance

The expansive, buff brick Kirkbride rests on a hilltop within a rolling landscape that is still largely undeveloped. The Traverse City State Hospital, Michigan's third oldest public institution for the mentally ill, still preserves both the notable natural setting and the Victorian architectural details of the state's only surviving examples of the Kirkbride plan. Buildings have undergone changes reflecting efforts to adapt the facilities to modern building codes and changing treatment strategies.

Building Alterations

The character-defining features of the complex were retained, but the building facade and site hierarchy were compromised. The State of Michigan deemed the building's administration building a fire hazard and funded demolition of the administration building in 1963 (Minervini Group, 2016). A strictly utilitarian structure typical of the mid-twentieth century public architecture replaced the large center building. This significant change alters the facade, facade rhythm, scale and hierarchy of the Kirkbride. New construction added to the northeast region of the site compromised site level character-defining features. The modern hospital buildings are visible from the front lawn of the Kirkbride, but they are well screened by several original large growth trees.

Openings were inserted or widened with beams added to support structural loads in approved locations. The developer added interior partitions with lites to divide larger spaces like corridors. This solution created a series of manageable spaces to accommodate tenants with various space needs while still retaining the view aspects of the corridors.

Main level facade windows were expanded to insert doors creating additional public entrances in the center of the southern wing series. Attic spaces were converted to residences to expand residential offerings. Dormers and skylights were inserted to introduce natural daylight and ventilation to the previously unutilized spaces. Inserting features on the roof changes the original rhythm of the roofline. The dormers are of similar scale and form of the original roof dormers. Michigan State Historic Preservation Office was most protective of the following features: corridors, windows and roof.

Site Alterations

Most of the site is intact today. Some parcels were cut and sold to the local hospital and Traverse City government. Buffers and landscaping help protect the significant site features.

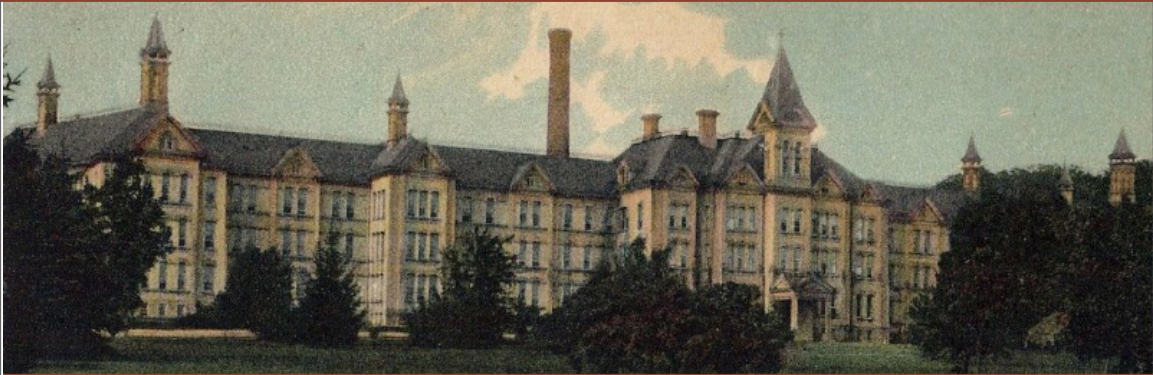
Necessary Planning Measures

In 1980, the State of Michigan threatened to demolish the complex. Charter Township of Garfield (CTG) and Traverse City (TC) established The Coalition for Logical Land Use and developed a lawsuit to halt the demolition. Negotiations continued between the state and local advocacy groups and public officials about the future intent for the site for nine years. However, after years of discussion, the hospital officially closed in Traverse City.

Grand Traverse Commons Redevelopment Corporation was developed in 2000 to steward the property to safe hands. Shortly thereafter the Minervini Group began negotiating redevelopment agreements with the Grand Traverse Commons

Figure 25. Traverse City State Hospital Reuse Profile. Page One.

VILLAGE AT TRAVERSE COMMONS PROFILE TRAVERSE CITY STATE HOSPITAL, TRAVERSE CITY, MI



Redevelopment Corporation. This period was primarily a time the group conducted a broad range of feasibility studies, including engineering, architectural, marketing and environmental analysis for review and approval by the Commons Board, the City Manager of Traverse City, and state and federal agencies (Minervini Group, 2016). On May 6, 2002, The Minervini Group acquired the property. Immediately after acquisition of the property, work began to re-roof the quarter-mile long roof of Building 50, the Chapel and two cottages, with completion nearly 11 months ahead of schedule. The action of reroofing demonstrated The Minervini Group's commitment to the preservation and rehabilitation of the Traverse City State Hospital.

Funding & Subsidies

The Minervini group utilized several multi-scaled funding sources for site redevelopment. The developer used Federal and State Historic Preservation Tax Credits, Brownfield Tax Credit, and Affordable Housing Tax Credits offered by Michigan State Housing Development Authority. The complex sits within a Michigan Renaissance Zone, regions of the state designated as tax-free for any business or resident for up to 15 years. The developer, condominium owners, and retail tenants all benefit. The Brownfield Tax Credit and a Michigan Environmental Grant were leveraged to help fund site cleanup, specifically lead and asbestos abatement. The Minervini Group has invested \$110 million to the rehabilitation efforts. Revenue from condominium sales and leases assists in reimbursements and sustaining the next phase of development.

Lessons Learned

- The roof renovation occurred first to demonstrate commitment to rehabilitation of the larger complex.
- The significantly deteriorated outermost ward building and one of the cottages were developed first to demonstrate the potential of the project and establish a model for the remainder of the complex.
- Initial projects concentrated on a mix of uses, heavily emphasizing retail, and the result has been a gradual aggregation of reuse projects that propagate this initial vision.
- Developers can take advantage of the economies of scale in redeveloping small outbuildings early in the process. Rehabilitation of the ward buildings is more incremental.
- Numerous economic incentives that help offset the high price of renovations are available on both the state and federal level. The project was identified as a Michigan Tax Free Renaissance Zone. Residents and businesses pay no state or local personal property or income tax for 15 years. Investors can also qualify for historic tax credits for rehabilitation.
- The perception of the project in the community as a mixed-use, public destination makes it attractive to a variety of user groups and the project continues to garner increased development interest.
- Interior building layouts lend themselves to a variety of housing configurations and sizes helping to create a wide variety of price points.

Figure 26. Traverse City State Hospital Reuse Profile. Page Two.

RICHARDSON OLMSTEAD COMPLEX PROFILE

BUFFALO STATE HOSPITAL, BUFFALO, NY



YEAR BUILT: 1880

NRHP: 1973

NHL: 1986

SCALE: 500,000 GROSS SQ FT
51.90 ACRES

PROPERTY OWNER & DEVELOPER:
RICHARDSON CENTER
CORPORATION

REDEVELOPMENT DATE: 2004

Significance

The Richardson Olmsted Complex represents some of the greatest ideas in architecture, landscape, and mental health treatment practiced in the 1800s. The building's architect, H.H. Richardson, is internationally known for what became known as the Richardsonian Romanesque architectural style. It was because of this complex, Richardson's largest design, that the style gained notoriety. Primary materials consist of Medina sandstone, a ubiquitous architectural material in Buffalo, New York. Frederick Law Olmstead and Calvert Vaux collaborated on the planned landscapes of the original 203-acre site. Both designed and well recognized for landscapes throughout the City of Buffalo, the acclaimed Central Park in Manhattan, New York City, and other grounds nationwide. The Buffalo State Hospital is one of the largest hospitals of its type and is a prime example of the Kirkbride Plan (Pitts, 1973).

Building Alterations

Construction of the Buffalo State Hospital took decades due to interim delays caused by funding constraints. Like most state hospitals, the patient populations grew to require building expansion. Hence, the extremity wings were constructed later and of red brick rather than Medina sandstone due to financial restrictions. The most eastern ward buildings were demolished to make space for modern hospital facilities during the 1960-70s. The loss of the three ward buildings affects, to a small degree, the sense of the original monumental scale. After approximately 30 years of deterioration and neglect, the Kirkbride buildings went through abatement, restoration, and rehabilitation.

During the rehabilitation process, the design team chose to insert a series of "bump-outs" into the corridor to provide ample space for guest rooms in the ward buildings. The new corridor features, meant to resemble furniture, allow for an 'L' configuration in the guest room space and provide more area for the bathroom. Since the corridor space is a priority character-defining feature, this addition generated debate between the State Historic Preservation Office, National Park Service, and the RCC. The rear of the center building had a 1920s porch style addition. Based on the need for the boutique hotel to have a grand, accessible entrance, the design teams proposed retaining the form and footprint of the addition but sheathing the form in a modern curtain wall. The transparent quality of the curtain wall exposes previously hidden, features. The rear entrance is level with the ground floor level and the front, and original grand entrance is level with the main floor level. The rear porch was an opportunity to add a modern complement while exposing significant architectural features, creating an accessible transition to the main floor level, and provide the hotel with a unique entrance feature. The corridor was a point of debate because the bump-outs changed the original corridor rhythm and view sheds. The requirement for the rear addition was that the changes stay within the original addition footprint.

Site Alterations

The site is now subdivided for various public services. The immediate grounds around the Kirkbride have been restored.

Figure 27. Buffalo State Hospital Reuse Profile. Page One.

RICHARDSON OLMSTEAD COMPLEX PROFILE
BUFFALO STATE HOSPITAL, BUFFALO, NY



Necessary Planning Measures

Former Assembly member, Sam Hoyt, local preservation organizations, and others filed a demolition by neglect lawsuit against the state in 2004. Advocates for preservation lost the lawsuit, but this was a pivotal moment for the Buffalo State Hospital site. Following this event, \$5 million in state funds were allocated for the stabilization of the buildings. Two years later, Governor George Pataki pledged \$100 million in state funds to the site's rehabilitation and appointed the Richardson Center Corporation (RCC) Board to guide the redevelopment process. The RCC board consists of 18 members advising the not-for-profit's rehabilitation leadership. This funding led to several comprehensive-planning studies such as the Urban Land Institute Advisory Panel Report, Historic Structures Report, Cultural Landscape Report, and Master Plan. The reports established a detailed plan of action for Phase I. The RCC board required the documents be followed carefully because community stakeholders approved them (Corporation, 2016).

Funding and Subsidies

In 2006, the State of New York pledged \$100 million for rehabilitation of the site, which was divided amongst the Burchfield Penney Art Center, Darwin Martin House Complex, and conservation activities on Buffalo State Hospital. The first phase of redevelopment involves establishing a hotel and conference center and an architecture center. Phase I construction was funded with \$69 million in state support and the RCC also leveraged \$16 million in state and federal Historic Tax Credits. Empire State development provided grants for the preconstruction,

stabilization, and the re-greening of South Lawn activities. Additionally, generous donations were accepted from the John R. Oishei Foundation, the Community Foundation for Greater Buffalo, the Margaret L. Wendt Foundation, the Western New York Foundation, and the First Niagara Foundation (Corporation, 2016).

Lessons Learned

- Significant state funding is a game changer for a large-scale complex redevelopment. It is helpful for an influential advocate to make asks for funding from state and local governments.
- A not-for profit organization governing a redevelopment project opens opportunities for additional funding avenues.
- Developed the property as close to the plans as possible because the community vetted the predetermined actions.
- A long-term development with phases is necessary. The primary use should be largely income producing to prepare for future phases. Property owner leases spaces under long-term contracts with profit shares benefits.
- Supplement primary income producing use with community priorities such as museums, art centers, and public park spaces.
- Delicate balance between utilizing the usable interior square footage for income producing property and protection of the character defining features.

Figure 28. Buffalo State Hospital Reuse Profile. Page Two.

HALSTEAD DANVERS PROFILE DANVERS STATE HOSPITAL, DANVERS, MA



YEAR BUILT: 1878

NRHP: 1984

SCALE: 700,000 GROSS SQ FT
77 ACRE

PROPERTY OWNER & DEVELOPER:
AVALON BAY DEVELOPMENT

REDEVELOPMENT DATE: 2005

Significance

The former Danvers State Hospital was designed by Nathan J. Bradlee and sits atop Hathorne Hill in Danvers, Massachusetts, just 20 miles north of downtown Boston. The building was characterized by its steeply pitched roofs and towers, which were visible from many surrounding communities. Its intricate Gothic designs in granite, copper, and red brick produced a castle-like structure on a historically significant site (Candace Jenkins, 1982).

Building Alterations

Besides deterioration by neglect, the complex's integrity before redevelopment was highly intact. All alterations to this building were sustained during the redevelopment process in 2005-6 except building system upgrades. The demolition of two-thirds of the original Kirkbride structure significantly disrupts the facade and its original rhythm. All the main character-defining features were altered extensively including the building footprint, monumental scale, rhythmic, symmetrical ordering of building facades, and roof. All interior features were demolished since only one-third of the original building's shell was retained. In 2005, a fire erupted in the new construction zones which caused the disaster-related damage to portions of the remaining historic gables. During rehabilitation, the original roof finish was replaced with asphalt shingles.

Site Alterations

Danver's site has changed drastically along with the building. The cemetery and the original layout of the site is still existing. Even prior to redevelopment,

the State of Massachusetts developed modern buildings in front of the the expansive Kirkbride compromising hierarchy and scale.

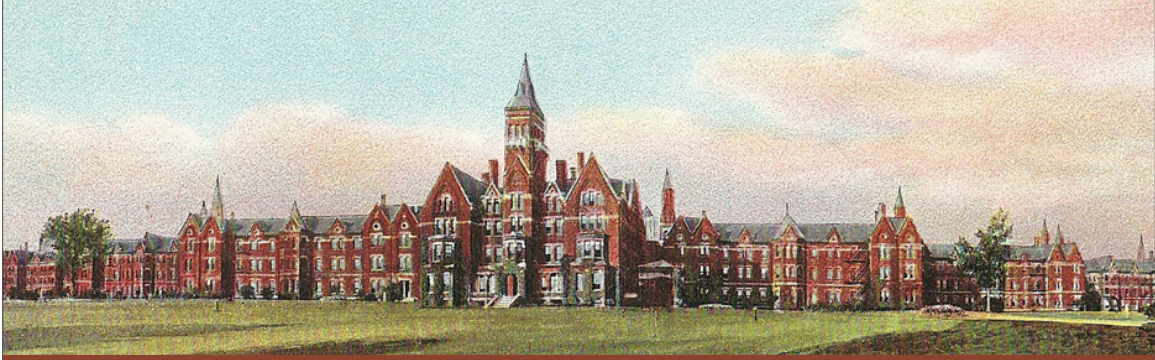
Necessary Planning Measures

The property was initially sold in 2001 to Archstone Developers, who proposed a mix of homes and office space for the hospital site. They planned to preserve the central building of the state hospital and two adjoining wings; however with the costs associated with the preservation and the market downturn, the developers abandoned the project. Three years later the site was sold to AvalonBay Communities for \$18.1 million and in 2006 they embarked on one of the largest state hospital land redevelopments (Alliance, 2013). Before state legislation was passed, the Danvers State Hospital Re-Use Committee worked closely with the planning board and the community to come up with alternative ways to reuse and rezone the existing site for redevelopment.

The final plan recognized the input of town residents and officials by rezoning the whole site as the Hathorne West District, which would allow for a diverse array of mixed use developments on the site. The new plan allowed for residences and special care facilities for elderly as well as hospital and medical facilities, service businesses and research labs. Offices, commercial space, and residential developments would be allowed by special permit only. The plan reduced the amount of density on the site to help calm density concerns. In addition to the Avalon Danvers residential component, the Beverly Hills Hospital was also built on the site. The Town of Danvers, the State and developers worked closely to ensure the success

Figure 29. Danvers State Hospital Reuse Profile. Page One.

HALSTEAD DANVERS PROFILE DANVERS STATE HOSPITAL, DANVERS, MA



of this district to both reap the benefits of boosting the tax revenue and creating jobs for the town of Danvers.

A mix of one, two, and three-bedroom luxury apartments, and two-bedroom attached townhomes were proposed for the site in two developments, called Avalon Danvers and Aria Hathorne Hill. Sadly, because renovation costs far exceeded costs of new construction, developers made the determination--to make the project financially feasible, a significant amount of demolition was necessary. Today, approximately one-third of the original complex still stands including the iconic Administration Tower building and two adjacent wards. Groups of citizens attempted to obtain a preliminary injunction from Superior Court to stay the demolition of the former Danvers State Hospital. The amount of demolition in this project is overwhelming. However, some things can be learned from the developer's experience. The development was initiated in the short term, and the site is now home to many residents willing to pay above-market rent and sales prices. The project was more marketable because of the unique historical value of the site and remaining buildings.

Funding & Subsidies

Avalon Bay Development was the sole funder for this redevelopment project. The developer spent over \$80 million dollars on the large residential project with an end product of 497 luxury apartments and condominium units, including market rate and affordable apartment units as well as an adjacent condominium community by a different developer, Aria. In 2014, AvalonBay Communities sold the development at Danvers to DSF Group of Waltham, a multifamily residential property investor throughout

the northeast. DSF Group paid \$108.5 million to acquire AvalonBay Communities marking the single largest transaction ever recorded by the Southern Essex County Registry of Deeds (Alliance, 2013).

Lessons Learned

- This project serves primarily as a guide of what not to do because of the sheer compromise of the Kirkbride character.
- A mix of uses can help compensate the renovation costs ultimately making the project more economically viable.
- Using conventional financing strategies, a residential development that subsidizes extensive renovation was not possible, even in a healthy real estate market.
- Demolition was deemed necessary due to market conditions with the selected use plan.
- Priorities and objectives must be set early in the process, in tandem with the creation of an informed financing structure, in order for development to occur without the need for demolition.
- The project was made marketable because of the historic character of the property and the uniqueness of the existing structures.

Figure 30. Danvers State Hospital Reuse Profile. Page Two.

TRANS-ALLEGHENY LUNATIC ASYLUM (TALA) PROFILE WESTON STATE HOSPITAL, WESTON, WV



YEAR BUILT: 1858

NRHP: 1978

NHL: 1978

SCALE: 250,000 GROSS SQ FT
307 ACRE

PROPERTY OWNER & DEVELOPER:
JOE JORDAN AND DAUGHTER
REBECCA JORDAN GLEASON

REDEVELOPMENT DATE: 2007

Significance

The main building at Weston as designed by Richard Snowden Andrews and built of blue sandstone blocks in all exterior walls. Weston State Hospital, formerly known as the "Trans-Allegheny Lunatic Asylum," has been identified as "America's largest hand-cut stone building" and second largest in the world next to the Kremlin. Construction of the building went on for two decades. The delay was due primarily to interruption by the Civil War, the problems associated with the creation of the new State of West Virginia, and the impressive size of the project itself (Pitts, 1978). The National Historic Landmark is located directly adjacent to the small town of Weston, West Virginia. During the institutions prime, the hospital was the largest employer in the city at the time.

Building Alterations

Works Progress Administration funds were used to rebuild one wing following a fire started by a patient in 1935. All primary character-defining features are intact with one exception; the ward cupolas and roof ornamentation were removed. The roof rhythm has changed, but original roof materials and massing is still intact. Volunteers and local high school students assisted with much of the initial cleanup as community service activities. The Kirkbride sustained some deterioration while vacant. For example, in 1999, all four floors of the interior of the building were damaged by several city and county police officers playing paintball, three of whom were dismissed over the incident. The primary historic structure is clean, and some roof stabilization work was completed to allow the building to be inhabited.

Minimal work was needed prior to the reopening in 2007.

Site Alterations

Weston State Hospital's site is entirely intact compared to its original site configuration, level of development, and orientation to the town of Weston.

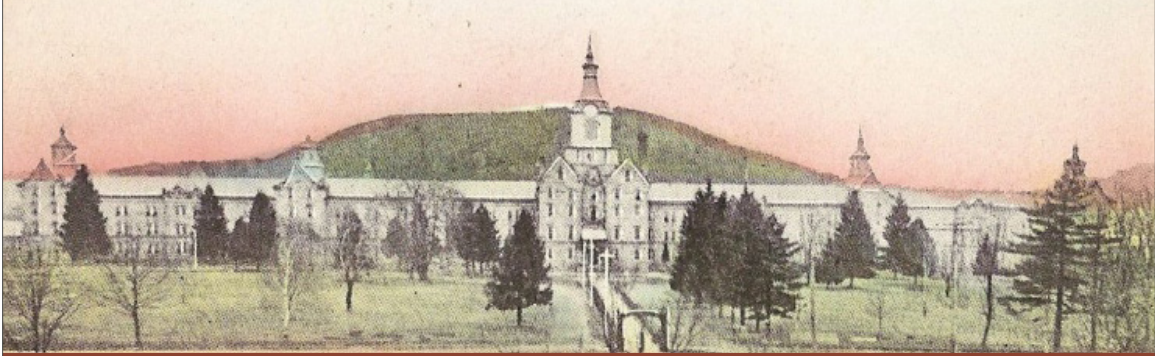
Necessary Planning Measures

Construction of a new facility, the William R. Sharpe Jr. Hospital was completed in 2004, and the historic facility was closed and vacated. Efforts toward adaptive reuse of the building have included proposals to convert the building into a Civil War Museum, hotel, and golf course complex. A non-profit 501(c) 3 organization, the Weston Hospital Revitalization Committee, was formed in 2000 for the purpose of aiding in preservation of the building and finding appropriate tenants. Three small museums devoted to military history, toys, and mental health were opened on the first floor of the building in 2004 but were soon forced to close due to fire code violations. The building and its grounds were mostly vacant, aside from local events such as fairs, church revivals, and tours until 2007. The hospital was auctioned by the West Virginia Department of Health and Human Resources on August 29, 2007. Joe Jordan, an asbestos demolition contractor from Morgantown, was the high bidder and paid \$1.5 million for the 242,000-square-foot building.

Joe Jordan and his daughter, Rebecca Jordan Gleason, created a strategy to get visitors on the property allowing the site to regain its recognition. The primary program consists of

Figure 31. Weston State Hospital Reuse Profile. Page One.

TRANS-ALLEGHENY LUNATIC ASYLUM (TALA) PROFILE WESTON STATE HOSPITAL, WESTON, WV



history, architecture, ghost, and photography tours seven days a week. Initially, guided daytime tours were offered as well as a haunted hospital tour at night, a haunted hayride and a treasure hunt starting on the hospital front porch. Family hayrides, arts and crafts and local music are additional activities offered on site. The owners then graduated to offering tours seven days a week, haunted tours on Friday nights, and overnight stays on Saturdays (Houser, 2012). The owner claims approximately 70,000 tours annually. The lawn in front of the facility is well programmed with dozens of community events planned year-round.

The potential reuse as a hotel for a portion of the complex is a consideration, as are spaces for galleries. Visitors are interested in diverse subjects including Mental Health History, the Civil War, and the Occult, so initial exhibits are placed in corridors and the main entry. Portions of the complex are being zoned to allow, future, long-term exhibition spaces.

Tour rates range from ten dollars to \$100 per person. The overnight stay tours have an increased entrance fee. The facility employs 18 full and part time staff with hundreds of volunteers (TALA, 2016). Revenue from tours and site rentals are directly used for sustaining the current operations, maintenance and preservation of the Kirkbride. Adding another large income-producing use like a hotel could supplement the other uses desired by the community like the museums and art spaces. The private developer paid out of pocket for the purchase of the building and the small initial stabilization efforts.

Lessons Learned

- The owner/developer achieved public access to the complex in a very short time with minimal

improvements.

- The redevelopment team has experienced local economic benefits from partnerships with local organizations.
- Important community partnerships such as the Convention and Visitors Bureau and local schools provide volunteers.
- Connections to other local attractions: "Passport Tickets" are offered that allow access to other museums in the area.
- National exposure was key to ongoing success (TV Program "T.A.P.S.")
- The focus of the negative past in the marketing and current use program and the name change back to Trans-Allegheny Lunatic Asylum created controversy in the community.
- The owner/developer was unable to accept or apply for some grants due to their for-profit status.
- The rehabilitation program involves multiple uses and almost 24-hour access.

Figure 32. Weston State Hospital Reuse Profile. Page Two.

Use and Alteration Patterns

Use Patterns

Overall, the most significant character-defining features were retained through all rehabilitation projects except Halstead Danvers. All nine projects have varied uses. Four projects are mixed-use developments, two uses are institutional, state-owned and operated, and three are multi-family residential units, specifically one is a senior living facility. The uses executed in the mixed-use models consist of residential, senior residential club, urban conference hotel, commercial, retail, office and administrative, school, museum, event center, public tour attraction and visitors and architecture center. The three multi-family residential use programs differ. Danvers State Hospital, now known as Halstead Danvers, provides luxury apartments and townhomes. St. Vincent's Hospital now known as the Castle Park Apartments provides 209 affordable housing units to the Normandy and Saint Louis area. The last large-scale residential redevelopment is a senior living facility. The residential use seems successful, but its variation is primarily driven by the market demands of the local region. The disadvantage is the lack of diversity on the site with only one use promoted.

Alteration Patterns

Six alteration types were assigned to each adapted property: Disaster-Related, Building System Upgrade, Expansion Additions, Partial Demolition, Roof Alterations and Restoration/Rehabilitation. The entire life of the Kirkbride complex was analyzed for a

comprehensive understanding of the building changes over time. The described method clearly distinguishes the alterations sustained before redevelopment versus during redevelopment. Disaster-related incidents combined fire and earthquake damage. Of the nine reuse cases, five sustained damage from a fire at some point. Two disaster-related cases were caused by redevelopment construction: Halstead Danvers and 10 Wilmington Place. Partial Demolition occurred on seven of the nine campuses. Partial demolition occurred to make room for modern buildings on site or to reduce the scale of the building based on current hospital space needs. Partial Demolition was a strategy of states to improve the manageability of the campuses as patient populations decreased over time.



Figure 33. Example of a Partial Demolition Alteration Type. Danvers State Hospital.

All nine properties experienced Building System Upgrades and Rehabilitation related alterations. Most building system upgrades occurred during the 1920s-30s, 1950s-60s, and during the rehabilitation process. Three reused Kirkbride buildings were expanded, adding additional ward buildings designated as dining and Kitchen facility buildings to the rear. Expansion instances all occurred pre-redevelopment. Roof alterations occurred on five of the Kirkbride properties most of which transpired during rehabilitation procedures. The Roof Alteration category includes both roof type and roof finish replacements, but of the five cases all were roof finish replacements. Roof finish replacements are common when using modern materials such as asphalt shingles. Other reasons to alter the roof finish may be to reduce building heat gains, foster manageable maintenance, and to replace deteriorated material. Materials contribute to the overall character of the roof, a defining Kirkbride feature. However, changing the roof finish does not disrupt the character to the same extent as changing the roof form. Massing and rhythm are the most important aspects of the roof feature.

Table 7. Kirkbride Alteration Assessment.

Kirkbride Alteration Assessment Table						
Name	Alteration I Disaster Related	Alteration II Building System Upgrade	Alteration III Expansion Additions	Alteration IV Roof Alteration	Alteration V Partial Demolition	Alteration VI Restoration/ Rehabilitation
10 Wilmington Place Dayton State Hospital	I	I		I	I	I
Castle Park Apartments St. Vincent's Institution		I	I			I
Western Reception, Diagnostic, & Correctional Center St. Joseph's State Hospital	I	I		I	I	I
Eastern Oregon Correctional Institution Eastern Oregon State Hospital		I				I
The Ridges Athens State Hospital	I	I		I	I	I
The Village at Traverse Commons Traverse City State Hospital		I	I	I	I	I
Richardson Olmstead Complex Buffalo State Hospital		I	I		I	I
Halstead Danvers Danvers State Hospital	I	I		I	I	I
Trans-Allegheny Lunatic Asylum (TALA) Weston State Hospital	I	I			I	I

The most common primary goal for rehabilitation is identifying a financially feasible and sustainable model, which typically means fitting as much program as possible within the usable interior square footage. With financial concerns at the top of the priority list, some compromises will be made when addressing how to alter the buildings to accommodate the new use (Faix, 2016; Minervini, 2016). For example, developers pursued actions such as dividing the corridors with interior partitions to create multiple smaller spaces, appealing more to small businesses. Or, developers will

select to insert dormers and skylights in the roof to construct prime residential spaces in the originally unused attic spaces. Both of these choices affect character-defining features of the Kirkbride complex. The research findings show that the greater the difference in use from the original, the more alterations will be required to accommodate a new use. Furthermore, the larger the variety of uses, the greater number of solutions required to accommodate the new program. Accordingly, the result will be an array of space delineations, which achieves the use mix and space requirements necessary to produce a financially sustainable model.

Through redevelopment, mixed uses struggle with the use of the corridor, as it is a sizable amount of area to remain a public space, especially when the priority is creating a financially sustainable program. In addition, the scale and rhythm of patient rooms work best for offices or artist studio spaces. Thus, many interior walls were removed to open the patient rooms up into larger spaces to accommodate apartments or hotel guest rooms. Also, many openings had to be widened to accommodate a specific use necessity or to meet building code standards. Adding multiple entrances arose as a challenge due to the need to have accessible public entrances throughout the Kirkbride. This insertion requires widening some exterior window openings for doors or getting extremely creative with the existing entrance modifications. The addition of entrances along the front and rear of the Kirkbride is important to provide efficient circulation into and around the buildings and site. Most alterations appear to be sensitively designed and consistent with the standards and they took place after many stakeholders explored and negotiated options to achieve all primary goals.

Planning & Funding

Ownership and use type determine several factors regarding what planning measures are necessary and what funding sources are available. The institutional use group required zero extensive, comprehensive planning measures. Aside from a legislative action approval to permit a new use in the building, there is no evidence to suggest additional planning occurred. The funding for rehabilitation must come from the annual state funding allocation for the particular agency housed in the building. Foundation contributions, grant funding, and government subsidies are unavailable incentives to assist in rehabilitation funding.

The residential use group required additional time and financing in the planning process compared to the institutional use group. Redevelopers spent time engaging the local community and governments to generate information that highlighted key factors, which informed feasibility studies. Local market demands determined the subtype of residential use for each case. The funding structures grow more complex with this use group including Historic Preservation Tax Credits, HUD funding and affordable housing tax credits, and local government property tax abatements for an agreed term. Other utilized resources include local agency donations, private investment and even leveraging unions for labor costs. The residential use creates a monoculture in buildings like the Kirkbride form, but the introduction of diverse housing may be the greatest demand in the community. The scale of the Kirkbride can accommodate a single housing type or multiple housing types establishing a divergent housing mix on one site.

Mixed-use redevelopment is the most sophisticated use regarding planning, funding, and the building alterations sustained. Three of the four mixed-use cases

sponsored extensive planning investigations. The Village at Traverse Commons, The Richardson Olmstead Complex (ROC), and The Ridges required the establishment of planning advisory boards. All three engaged the local community and stakeholders to find the best program for the larger city community. Funding considerations break this group up into two parts based on ownership. Ohio University owns and operates the former Athens State Hospital facility. Because of this ownership factor, the institution does not qualify for government subsidies or tax credits. However, they can raise and direct funds through the university as needed to support the rehabilitation of the former Athens State Hospital campus. The remaining two cases, also the case study sample, used a combination of financial redevelopment incentives, grants, foundation donations, and state contributions to fund the planning, stabilization and redevelopment of their Kirkbride complex.

The outlier, Trans-Allegheny Lunatic Asylum (TALA), did not solicit partnerships for planning investigations such as feasibility studies. Although, TALA redevelopers did partner with the Weston Visitor's Bureau and community members for volunteer activities. The use program is unique due to its orientation to tourism by promoting architectural, photography, ghost, and historical tours throughout the buildings and grounds. As the main attraction, tours earn the greatest revenue. TALA is also different because the owners have not taken advantage of Historic Preservation Tax Credits, government subsidies, and cannot qualify for grant funding opportunities. In this particular case, the building acquisition and initial rehabilitation were funded by private investment again with tours as a monetary supplement. Finally, the TALA example is

separate from the other mixed uses because the program promotes the difficult past of the building as a method for attracting visitors.

Ownership reflects possibilities for the planning and funding of these projects. The following observations provide details of the ownership patterns in the mixed-use sample. A small company owns two properties, one is owned by a not-for-profit organization, and one is owned by Ohio University, a state-funded university. The Village at Traverse Commons is comprised of a multi-owner structure. The developer was the initial owner, although as investors “buy-in” ownership divides. Ultimately, the now owner/developer will eventually transition to co-owner dissolving the role as redeveloper. The plan is to retain some ownership allowing the company to regulate use to preserve the established diversity, especially in the retail sector (Minervini, 2016). Trans-Allegheny Lunatic Asylum (TALA) is owned by a private developer who uses the building for an assortment of tours and public events in the buildings and across its grounds. The for-profit company uses the revenue to reinvest in the business and preservation of the former Weston State Hospital.

Richardson Center Corporation is the not-for-profit owner and developer of Buffalo’s Kirkbride complex. The mix of uses of Phase I of redevelopment include Hotel Henry, an urban conference hotel with restaurant, a Visitors, and Architecture Center. The Ridges case is unique Kirkbride redevelopment because an institution owns the property and created a mixed-use program to support the larger University needs.

Substantial Challenges for the Case Studies

Research question five aims to identify the greatest challenges experienced during Kirkbride redevelopments. The case study methods, interviews, and site analysis, revealed detailed qualitative data about those obstacles. The Village at Traverse Commons and The Richardson Olmstead Complex projects were selected based on their start date of redevelopment, ownership, their robust mixed-use program, sophisticated funding structures, and their use of Historic Tax Credits. The redevelopment start date is significant because these projects began close to the same time. The following discussions of these two case studies are organized into sections: Common Experiences, The Village at Traverse Commons Experience, The Richardson Olmstead Complex Experience and Interview Word Frequency Query.

Common Experiences

Notable Approaches

A Minervini Group quote led a point of conversation with both groups during the interview process, "It takes a great deal of 'Outside the Box' thinking to transform a former asylum into the vibrant collection of homes and businesses that The Village is today" (Group, 2010). The two developer representatives claimed the main "outside the box thinking" was the action of changing local perceptions of the buildings and site. Redevelopers felt resistance to adaptive reuse from some community members because of their attachment to the building's historical context. The developers saw their responsibility to ask the community to accept the history and reimagine the places as

something new and different while still paying respect to the building's complex past. As for the initial approach, the developers began to ask people to acknowledge how this place came to be. The narrative focused on the enormous advance the Kirkbride movement represented. A new public goal targeted the care of the fellow human being for which moral treatment and compassionate care were central. States, at great expense, built the complexes with noble intent.

Imagining a mixed-use neighborhood in a formerly single use building is certainly a planning and design test. It was imperative to approach the complex in smaller quantities of space and grounds and move those units through redevelopment one step at a time. Another critical dilemma was how to address the use of the corridors, which were so pertinent to the character of the Kirkbride Plan. The corridor space is a large volume of “unused” space with an approximate net to gross ratio of 60 percent (Faix, 2016). Appointed project champions emerged showing support to the reuse efforts all of whom had to have a similar attitude towards the building potential. These projects began with grassroots style community support, which at the time of redevelopment was not the prevalent concept it is today.

Both developers recognized the community, local and state governments, high-profile advocates, and the State Historic Preservation Offices as critical partnerships. Community support, financial incentives, the apparent connections people had to the places gave the groups confidence to take risks and get involved in the projects. To devise a plan, the teams sought out community engagement and acknowledged a catalytic event as pivotal to moving the projects forward. The pivotal events are different for each group, but both brought a diverse mix of people in to boost the ideas shared at

the table. The two project representatives have shared advice to other communities with Kirkbride assets in hopes to continue Kirkbride redevelopment education. The success of both projects relied on some influential, high profile player who could heighten interests at multiple levels. The key was helping the states see the value in a building they own when making those funding requests. The redevelopment project can improve a neighborhood, create jobs, and attract tourists to the area and site. Linking the project to the effects the project can bring to the community is essential. Many large-scale adaptive reuse projects require a similar process. The difference working with the Kirkbride is in understanding the phased planning and rehabilitation, acquiring and managing the funds to support each phase when needed, and the design challenges in retaining character-defining features while balancing market requirements.

Historic Tax Credit Challenges

Federal and State Historic Tax Credits were leveraged in both case study projects. The developers recognized the State Historic Preservation Offices (SHPO) as key players and supporters throughout the process. The relationships required many negotiations and compromises. The SHPOs were supportive and flexible negotiating design decisions regarding the historic fabric, while negotiating with the National Park Service (NPS) though review was rigorous and challenging. The challenge here is that the Standards for Rehabilitation don't translate perfectly to the Kirkbride form. Both agencies, in both cases, were most protective of the ward corridor spaces. The features in this space include the proportions of the volume, the rhythm of the doors and bay

window areas, and the use of space as common area. Building footprint, roof, entrances, windows were also considered high priority features to protect. The NPS's Secretary of Interior Standards is most difficult to apply to Kirkbride buildings because of the bulk of common space, which amounts to non-sellable, non-leasable public areas creating obstacles to meet the market requirements. The Kirkbride's wide load bearing masonry walls alone make up approximately 20% of the building footprint. The financial feasibility calculations are most difficult in the patient ward spaces because of the small distinctive configuration of several small spaces, wide halls, and periodic bay window.

According to The Minervini Group, the Historic Preservation Tax Credits are almost impossible to take without compromise of the Standards on a Kirkbride building. Historic purity is the primary goal of restoration, not rehabilitation. Rehabilitation involves creating economically viable uses that will allow the building to be sensitively altered. Aside from the alteration challenges, the standards can be difficult for longer-term redevelopment projects. The phasing required to redevelop Kirkbride properties with this use structure typically requires three or more phases. Two or less phases are far more straightforward and possible with the single-use developments reviewed in the reused Kirkbride sample.

Potential Waste

The loss of a Kirkbride facility creates a disorienting separation from the intangible relationships the building type embodied and society. If the buildings are demolished, society also loses fine examples of a unique architectural form,

ornamentation, and craftsmanship. Additionally, demolition creates a physical loss of embodied energy that could have been utilized. Donovan Rypkema generated an embodied energy calculator available at greenestbuilding.org. Embodied energy of an existing structure includes the energy consumed by all of the processes associated with the production of that building. Even energy exerted when mining the materials, processing and transporting those materials. Findings from these calculations are approximate as some circumstances with material fabrication, construction, and demolition of each project may vary. Since both case study projects were threatened by demolition just before the adaptive reuse efforts, entertaining such an exercise may provide perspective when looking at the potential waste of demolition.

The Greenest Building Calculator found the embodied energy, required demolition energy, and the comparison of the embodied energy inherent in the complex to the embodied energy of a gallon of gas. At 400,000 gross square feet, Traverse City State Hospital complex would roughly cost 688,000,000 MBTU (One Million British Thermal Units) of embodied energy to create. To demolish such a building would expend 4,800,000,000 BTU of energy. Add those amounts together with the MBTU energy costs of the new construction of a hypothetical modern hospital building with 470,000 square feet. The result is 1,501,200,000 MBTU energy lost and spent. The embodied energy total for demolition and new construction equates to 13,053,913 gallons of gas. To put this in perspective, ExxonMobil's vice president for Corporate Strategic Planning states, "all of the energy concentrated in one gallon of gasoline is enough to charge an iPhone once a day for almost 20 years" (Cohen, 2011). A person could theoretically charge an iPhone once a day for 2,610,782.6 centuries with that amount of energy.

Buffalo State Hospital totals 500,000 gross square feet resulting in an 860,000,000 MBTU investment. If demolished, the energy required would approximately total 6,000,000,000 BTU. Again, added together along with the hypothetical cost of a modern hospital facility containing 470,000 gross square feet, the total MBTU lost and spent equals 1,674,400,000. After converting this number to the equivalent in gallons of gas, Buffalo hospital demolition and new construction would total 14,560,000 gallons. This amount of gas would allow driving a car around the earth 11,610.8 times.

The environmental cost is considerable especially because of the scale of the buildings and quantity of materials. The financial burden of such energy loss can be calculated using the current price of gas per gallon. Using the current average unleaded gas price in NY State in 2016, \$2.17/gallon, the energy cost of demolition of Buffalo State Hospital and the subsequent hypothetical new construction would cost \$31,595,200. The value of these resources rises above intangible history and methods for societal orientation. The environmental and economic values inherent in these buildings are opportunities. \$31 million dollars can cover a sizable amount of abatement, planning, and rehabilitation expenses. Consider the amount of energy and financial burden extended to demolish the majority of the 40 lost Kirkbride buildings. Most of which were simply demolished to build a modern facility.

The Village at Traverse Commons Experience

The major goal for the redevelopment of the former Traverse City State Hospital was to preserve and adaptively reuse the buildings to create a mixed-use walkable

neighborhood. In many ways, the primary driver for the concept was a reaction to sprawl and the emergence of New Urbanist theories. New Urbanism promotes walkable, sustainable communities built to a human scale with a mix of amenities. The redeveloper had experience with retail, which informed some of their building program, yet the primary goal for retail was to complete the mixture needed to achieve the mixed-use neighborhood. Retail also provides a special community amenity to the larger Traverse City Community. Acting as students of vibrant, thriving communities informed the remainder of the building program. The developers traveled to and studied many lively communities to determine what factors made a healthy neighborhood.



Figure 34. Condominium Unit at The Village at Traverse Commons. The dormer shown was inserted to allow natural daylight and ventilation into the attic level.

The former Traverse City State Hospital underwent building alterations as a result of design decisions made to accommodate the planned uses. The team inserted and widened openings throughout the interior creating open spaces for retail and residential areas. The major changes to the Kirkbride involved the insertion of dormers and skylights to generate residential spaces in the former attic level. Also, window openings, on the main level, were widened to insert doors in an effort to increase the number of public entrance and egress routes throughout the building.



Figure 35. A Corridor View of the Village at Traverse City. This wing among others provide office spaces for small businesses. Beyond the partition is one business with the multiple patient rooms on either side utilized as offices.

A group of people coined the Village Founders, was the catalyst granting confidence to The Minervini Group to move the project forward. The Village Founders were investors who agreed to place a reservation deposit in an escrow account with a bank. The bank's interests in partnership peaked as they watched individuals make commitments to an idea, owning and living in a condominium within a former state hospital complex. The founders were able to see the bones of the place in disrepair and entertain their unique visioning. Following this step, it was evident there was interest in living on the campus.

The developer identified another momentous event for the project to progress. The local redevelopment board known as the Commons board consisted of a mix of factions including preservationists and affiliates of the Munson Medical Center, a neighbor to the former state hospital site. A challenge for the Minervini Group was the transparency of the board and their individual agendas. Some back room dealings pushed the redeveloper prospects into favored hands. The transparency issue became known to the State of Michigan's attorney general who wrote an opinion that the Commons Board was a public body, and their meetings should be open to the public accordingly. Directly following the notification, community members were attending and recording the meetings. The collaboration of community achieved transparency and accountability, which was essential to making all stakeholders express what their goal was for the property redevelopment.

The 2016 interviews revealed future goals for the redevelopment. During the next five to ten years, the Minervini Group will finish redeveloping the complex driven by a timetable for ancillary buildings on the site. The goal is to reactivate the non-performing

structures on campus while increasing site population. Such site redevelopment progress will allow opportunities to leverage additional amenities such as parking. The parking situation emerged as yet another challenge of mixed uses and levels of ownership. The Minervini Group anticipated some friction caused by diverging interest of users including residential owners, commercial property owners, and tenants of leased spaces such as retail. Finally, in the next ten years, the redeveloper will transition out of the developer role into a co-owner position only.

The Richardson Olmstead Complex Experience

The primary objective of the not for profit, Richardson Center Corporation is the reuse of the Richardson Olmstead Complex as a hospitality venue and cultural amenity for the city of Buffalo. The appointed board of directors became a major stakeholder and were able to envision Buffalo reinventing itself as an art, architecture, and cultural destination. As stakeholders shared ideas, it was apparent the building would be a tool for Buffalo's transition into a new brand. Rather than looking at the redevelopment as the heavy lift it was, stakeholders began considering those challenges more as opportunities.

The owner/developer and design teams negotiated through several design options to identify the most sensitive and appropriate alterations. These changes occurred in two places: the hotel corridors and the grand hotel entrance in the rear on the Kirkbride. Three patient rooms created one hotel guest room to allow the maximum number of rentable rooms possible. To achieve this and meet minimum space requirements for a boutique hotel guest room, each guest room was expanded into the

corridors. These expansions are referred to as bump-outs and are intended to resemble large wardrobes. The image below illustrates the changes to these features through multiple design iterations.



Figure 36. Rehabilitation Design Team Renderings Illustrating Treatment of the 'Bump-Out' Features.

A 1920s rear porch addition was selected as an opportunity to create an accessible, grand hotel entrance. The NPS insisted the massing and footprint remain unchanged. Negotiations resulted in the introduction of glass sheathing around the form, which allowed the original exterior wall material and large windows to be visible again. The glass entrance adds a modernized look that appeals to the brand of the hotel, provides the main entrance, and reveals the beautiful craftsmanship of the medina sandstone walls.



Figure 37. The Top Photo Shows the Rear Porch Addition before Rehabilitation. The Rendering Below the Photo Illustrates the Appearance of the Proposed Glazed Addition.

Some unique events impelled the interested parties and associated redevelopment towards the planning investigative stage. Before the beginnings of the Richardson Olmstead Complex, local community members filed a lawsuit against the state for neglect of their property, the former Buffalo State Hospital site. The community eventually lost the lawsuit, but the action increased the attention on the buildings and the need for a movement. The current board chair grew involved leveraging George Pataki, New York state governor at the time, for state pledged funding of over \$100 million. A great deal of the state's contributions went to planning reports and building stabilization. The involvement of a state assemblyman who worked with community members to obstruct the sale of the building to a private owner established material progress. Private developers were more interested in the land than the historic structures. The Richardson Center Corporation brought on the Urban Land Institute for a week-long panel which had a large public engagement component. The one-week effort became the foundation for the comprehensive planning document and Environmental Impact Statement processes. The Richardson Center Corporation (RCC) has adhered to the plans because such a large community approved them and they were now accountable. Aside from the planning investigations, a source for the program was the neighborhood especially the campus proximity to Buffalo State University. The connection was imposed into the planning encouraging cultural amenities and a culture rich site program. The proximity and relationship feeds each other's agenda.

The critical partnership of MIT Bank helped the RCC achieve the Historic Tax Credits. The market for Historic Tax Credits changed dramatically from the time the RCC started the project to when the nonprofit needed to secure the credits. The complex

funding structure included the hotel as the main use and tenant, the state, foundational, and grant funding. MIT Bank gave the project the flexibility it needed to move forward.

The Richardson Center Corporation would like to see Hotel Henry and the Buffalo Architecture Center stable and performing well within the next five years. The grounds will continue to be maintained and developed further especially in the rear of the building. Phase two plans will be developed during the next five-year term. In the next 5-10 years, arts and cultural programs will be added to the current use mix. The Richardson Center Corporation retains a small parcel of the complex for potential future development. In the Master plan, the nonprofit includes guidelines they would be governed by when considering new construction endeavors on the campus.

Interview Word Frequency Query

The analytic approaches to the case studies include an inductive ground up strategy and an NVivo word frequency query. A word cloud was generated from the Nvivo output to convert the qualitative interview data to a visual format for exploratory textual analysis. The data visualization complements the finding determined working the data from the ground up. Word clouds are graphical representations of word frequency that give greater prominence to words that appear more frequently in a source text. This analysis strategy is used here to reveal unapparent patterns and communicate the most salient points or themes from the developer/owner perspectives of redevelopment. The word used most is "building" trailed closely by "changes" and "community". Changes to the buildings are part of the adaptive reuse process. The term "community" is a less

obvious word to appear in the word frequency query. The local community involvement is imperative for defining successful uses, to increase eyes on the projects, and cultivate buy in. Community characteristics will drive the potential for reuse.

During the interview with The Minervini Group, owner/developer of The Village at Traverse Commons, the case of Fergus Fall State Hospital was discussed because of The Minervini Group providing consultation services for the community's reuse process. Fergus Falls State Hospital coded as preserved and vacant has a community that has rallied for years working to define the proper plan to ultimately preserve the Kirkbride facility. The unfortunate struggle with this case is the scale of the community, with a current population less than 10,000. Despite a low population, the community has individuals working to solve the dilemma, but developers are unable to identify a use(s) that would be financially sustainable in that size community in the long term. In a news article published August 2015, Mayor of Fergus Falls, Hal Leland stated, " We have people standing up, willing to helps us if we are going to go forward and secure the building for development later on (Teller, 2015, p. 1). City council also approved spending up to \$40,000 on a study to determine needed repairs. Despite the challenge of attracting a responsible developer, the local community is essential to ensure funds for maintenance and studies rather than demolition in the meantime.



Figure 38. Qualitative Case Study Interview Transcript Word Cloud.

Comparable words emerge from the data visualization such as "people," "human," "family," "connections," "group," "public," and "neighborhood" all support the paramount social roles in the two redevelopment projects. Alternatively, other prominent words point to the unique redevelopment potential with this particular existing structure. "Create," "qualities," "positive," "designing," "making," "creation," "improve," "generation," "active," "stories," "sustainable" and "important" possess meaning-based connections. Many words in this list indicate action and ingenuity, signifying the positive possibilities inherent in Kirkbride redevelopments.

CHAPTER V

CONCLUSION

Building typology studies can establish the significance of a group of buildings or sites by linking them together. When only recognized individually, the larger narrative and impact of the type on a nation is imperceptible. The locations and development of the Kirkbride building type across the United States follow the population, migration, and industrial trends of the time. The broader narrative is illustrated when combing the historic context for what characteristics contribute to the Kirkbride building type and the factors that drove its development patterns. Scholars recognize that "we are confronted with what is probably the single most important and valuable reservoir of publicly owned buildings and land in this country" (Schneekloth et al., 1992, p. 23).

The United States has lost 55% of its inventory of a novel American building type which embodies a critical point in psychiatric history. One-third of the buildings remain preserved, although 11 of the 24 preserved properties were also assigned secondary status as partially demolished, deteriorating, vacant, or combinations of two from the three codes. These 11 properties are the red flags of the larger sample because they need rapid attention. For example, South Carolina's Kirkbride is a designated National Historic Landmark and yet is entirely vacant and severely deteriorated. Another National Historic Landmark from the preserved group, Hudson River State Hospital, may see a promising twist in fate despite its partial ruinous state, as developers purchased the property in 2015 with intent to rehabilitate. The futures of these buildings remain in flux

due to their high maintenance nature during all stages of rehabilitation. Environmental analyzes and public engagement is the next critical step for six of the 11 underutilized properties on the NRHP. For the non-designated portion of this group, the preliminary action is the preparation of National Register nominations. This study shows that designated properties are not immune to change or demolition, but a nomination does establish funding opportunities and a higher level attention on the property.

Eight of the nine reused properties are successful models for solutions when approaching the redevelopment of a Kirkbride plan. The Danvers State Hospital case is a site redevelopment case not a Kirkbride redevelopment success. The level of demolition and sacrifice of character-defining features greatly diminishes the integrity of the building. The developer's so-called preservation model appears to be chiefly an economic venture. Of the eight successful reuse projects, states caused most of the insensitive alterations sustained during the building's life rather than actions taken during redevelopment. Therefore, the retention of character-defining features is possible with any use mix. In fact, a full spectrum of uses are present in the adaptive reuse sample. Of course, institutional uses such as prisons, offices, or schools are most similar to the existing echelon form. Hence, fewer alterations are typically required for these uses because the original room scales and configurations match the new use needs. In the residential cases, the interiors were greatly altered. In fact, of the three, only one leveraged historic preservation tax credits requiring preservation of significant interior features. Historic Preservation Tax Credits are not as critical in residential projects due to financial incentives such as HUD affordable housing tax credits and funding or private funding. If a developer can balance the finances without utilizing the credits,

they don't have to fight the challenge of retaining the features and original use of the corridors. Mixed-use alterations propose modifications that will balance the economic viability of the project with small changes to the built form when necessary. Single uses are challenging unless the use fits when providing affordable housing to a community because many communities lack in that area of the usual housing mix. To have a million square feet of development capacity for a single use is usually not feasible although that is contingent on the scale of the community.

Based on the Traverse City case study, the interest and demand in uses change over time. Currently, residential use is the highest revenue generator of the mix. But, those figures change with the market trends in the area. Retail is not a huge revenue producing use in this context because of its small proportion of the total mix and the market in Traverse City. However, the addition of the use was required to create the amenities for a thriving neighborhood. Mixed use requires longer term redevelopment periods, additional phasing, sophisticated planning and funding structures, and challenging decision-making in regards to alterations. As for benefits, the mix of uses will provide more opportunities for funding, partnerships, financial stability, and a thriving neighborhood.

Achieving Federal Historic Preservation Tax Credits on Kirkbride rehabilitation projects is possible, but with sensitive alterations. The challenges of meeting the NPS Standards for Rehabilitation are evident in the two case study projects. The greatest challenges are program time constraints and the alteration leniencies. Building scale and amount of public space contributes to the complications. The 20% tax credit may not help a developer in the long run on smaller secondary buildings on site. The Minervini

Group is redeveloping one of the smaller buildings on campus and plans to forego the tax credits. In this case, achieving tax credits involves preserving the integrity of the distinctive corridor space as the common area, which may prove financially infeasible for the long term operation of a building. Perhaps there is an opportunity for an advisory panel to provide guidelines of the Standards for Rehabilitation based on institutional and industrial building types. Such action could determine what is most important in these situations. The National Park Service has allowed compromise on the small alterations necessary to make the financial models work, but it is a challenge worth noting. And worth asking if that challenge warrants activating resources to revisit the interpretation of the Standards for Rehabilitation for all buildings. If the standards create challenges for Kirkbride buildings, they are also creating challenges for many other forms of large-scale historically significant institutional buildings.

Method Performance

The Kirkbride Legacy Database generated for this thesis provides an array of data attributes and will serve as a resource for future research inquiries. Of course, the chart format provided a method of managing the data and a straightforward platform for data analysis and the translation to mapping software. It was critical to map the data to visualize the factors, which drove the development of the building type nationwide. Analyzing the alteration data required a systematic coding grouping similar alteration types under larger overarching categories. Coding provided a general perspective, which made the alteration patterns discernable. Breaking out two similar case studies for an in-

depth analysis revealed intricate process details. The on-site visual analysis and tours of the physical artifacts were insightful into technical decisions and challenges. The interview questions honed in further on the challenges and specific experiences of Kirkbride redevelopment. Conducting case study research on the other seven reuse projects would enrich the understanding of the redevelopment challenges across a broader sample. The resulting data would produce more depth to the findings across various uses. Of course, securing participation from all groups if possible, may prove difficult and time-consuming.

Limitations

The mixed method approach generated an effective way of looking at the location, development, history of change, current status, and most importantly the adaptive reuse potential of the Kirkbride built form. There were evident limitations to this study. Database generation required the population of all the data attributes defined in the methodology. Some hospitals were demolished in the early 1900s meaning the archival documentation was limited. In some instances, acquiring data on these cases were difficult resulting in some inconsistencies of data available and recorded across the 73 complexes. For example, the state owned properties limit the exposure of information on their properties to the public. Each hospital likely has their own archives, but collections related to the building are limited to the public. Despite this limitation, the database was generated systematically recording all accessible data.

The Methodology chapter outlines the verification process for the Kirkbride Legacy Database. National Register and National Historic Landmark nominations as well as state level designation and survey documentation were reviewed to authenticate the data derived from the existing online databases. The researcher cross-referenced that data with archival documentation, planning documents, Google Earth maps, and news articles. The National Park Service is continuously working to digitize National Register Nominations so they are accessible online to all. However, during the data collection term of this research project many states once possessing Kirkbride resources were among those on the waiting list for digitization. The National Park Service and many State Historic Preservation offices assisted in providing documentation, which was extremely valuable in generating a consistent method for verifying the data. Nonetheless, the additional step required time and relied on the time allowance of others.

The researcher pursued a Geographic Information Systems (GIS) course to build skills using ArcGIS mapping software all to generate the thematic maps. Although helpful, the experience illuminates the time required to build a foundation in such a powerful software program. The thematic maps were generated through experimentation with both ArcGIS and Cartodb software programs. Cartodb's interface is intuitive, but there is little control reconfiguring basemaps without knowledge of code. While the challenges using ArcGIS involved fitting map projections of data layers with the Kirkbride attribute data so everything plotted and aligned properly. The lesson in this limitation is learning new technology requires time in calibrating variables to achieve set goals.

A third limitation was the accessibility of the property tax data to determine the change in property value at abandonment compared to the current assessment. In both case study projects, the owner/developer awaits present data on the properties. Although in the case of the Richardson Olmsted Complex, more quality data will be apparent after Phase I is officially completed and earning income. During the interview process, the Minervini Group reported redevelopment investments exceeding \$100 million including attorney, architect, furniture fees and the like. This case is complicated to record at this time because the property the Michigan Renaissance Zone tax abatement just ended in the 2014 fiscal year. Thus, 2015 will be the first year property owners pay property taxes. Like all the state funded hospitals, this was a zero tax dollar property. The Village at Traverse Commons will eventually produce at least \$100,000 in property taxes, which will increase over time as redevelopment evolves. In the case of the Richardson Olmstead Complex, the Richardson Center Corporation struggled to merely determine the property value of the portions of the complex they own and redevelop. The RCC executive director disclosed the current property value of 3-4 million dollars during the interview process. Both redevelopers plan to record the change in the property investment value and property tax values as the redevelopment progresses.

Future Research

There is growing attention on the Kirkbride building type and with that brings additional research potential. The researcher's Kirkbride Legacy Database is intended to be a foundational resource for future studies. Depending on the field of study, the

Kirkbride plan could be investigated and explored in many ways. The greatest coverage of research appears to be the social science and historical relationships to the building type. For economic or political science scholars, there is an opportunity to focus on those facets of redevelopment. For architectural designers, analysis of how the Kirkbride plan was interpreted by the architects who designed them would be a research opportunity. If continuing the adaptive reuse study track, another opportunity could involve looking in-depth at the 11 existing Kirkbrides with secondary statuses of deteriorating, vacant, or both. This research project could also be a stepping stone to similar studies of historically significant institutional buildings and the inherent adaptive reuse challenges.

Future research could continue the conversation around the reuse of historically significant institutional buildings, specifically Kirkbrides. An analysis of scholarship nationwide on this topic reveals how economic and political factors in each state dictate the outcome for these historically significant institutional buildings and sites (Schneekloth et al., 1992). The federal government has not yet established a policy to guide and monitor state's decisions pertaining to building or district preservation, reuse, or demolition. Coverage of the Kirkbride building typology and adaptive reuse potential in the existing literature is inadequate to provide the public with best practices.

This research continues the discussion around the reuse of historically significant institutional buildings, specifically Kirkbrides. The Kirkbride Legacy database generated through this effort can assist future scholars in the examination of facets around the typology. The preservation issues of the Kirkbride plan are complex and therefore, provide space for detailed examinations of the contributing factors in research. Despite efforts in the last 20 years to determine the key contributing factors of successful reuse

projects, professionals in the field today are still defining best practices for the historic institutional building type.

The results of this and future research can be multifold. A major goal is reasonable management of historically significant property. Through this research project, interested parties have another resource and tool to better manage their historic institutional resource by indicating patterns associated with the adaptive reuse of Kirkbride facilities to develop current practices. By linking existing networks to further develop practices around these preservation-planning dilemmas, the potential for preservation and reuse increases. Among those networks are preservationists, designers, planners, politicians, and communities coming together to better address a collective challenge. Research in these various fields contributes greatly to the challenges at hand. The projects are multifaceted and therefore require review through multiple lenses. The Kirkbride complexes carry emotional pasts, but also serve as evidence of a revolutionary moment in this country's development. The historical complexity is truly an advantage, an opportunity for a unique, rich place to cultivate interaction.

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APPENDIX A

THE SECRETARY OF INTERIOR STANDARDS FOR REHABILITATION

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired
(<http://www.hpo.ncdcr.gov/standard.htm>)

APPENDIX B

GLOSSARY OF TERMS

Preservation- the act or process of applying measures to sustain the existing form, integrity and material of a building. Some work focuses on keeping a property in good working condition by repairing features as soon as deterioration becomes apparent, using procedures that retain the original character and finish of the features.

Rehabilitation- the process of returning a property to a state that makes a contemporary use possible while still preserving those portions or features of the property which are significant to its historical, architectural and cultural values. Rehabilitation may include a change in use of the building or building additions.

Restoration- reproduces the appearance of a building exactly as it looked at a particular moment in time. This process may include the removal of later work or the replacement of missing historic features.

Reconstruction- rebuilding a structure as it appeared historically, although it no longer exists.

Integrity- Buildings with historic integrity have a sufficient percentage of structure exhibiting characteristics from the period of significance. The majority of the building's structural system, materials and key architectural features should date from that time, allowing it to be recognized as a product of its era.

Contributing Property- properties with sufficient historic integrity are deemed to be "contributing" to the Historic Business District and are the focus of several chapters of these design guidelines.

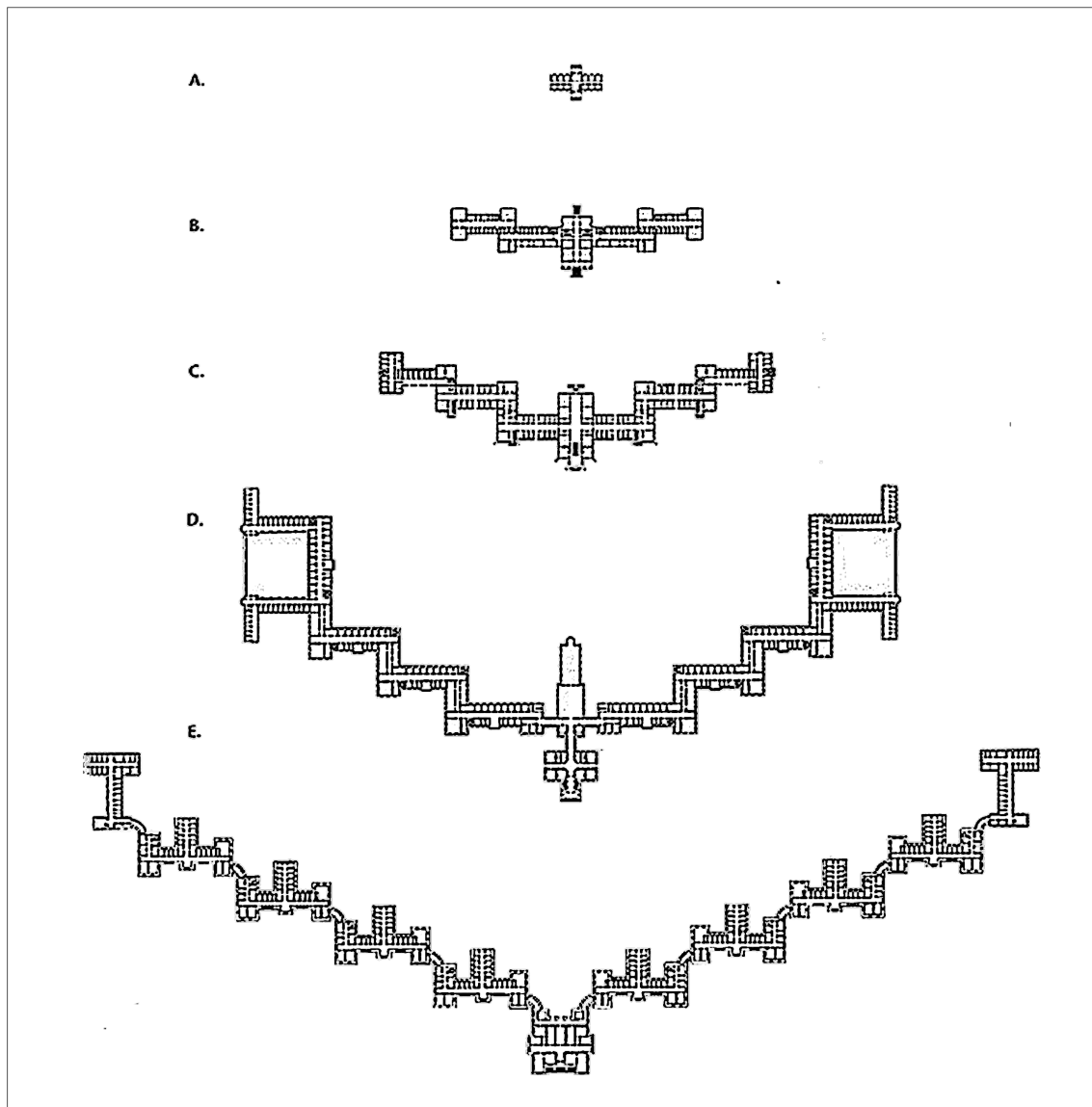
Non-Contributing Property- non-contributing elements do not meet the criteria for recognition of a property as contributing, but "do not noticeably detract from the historic district's sense of time, place and historical development." Although these properties do not contribute to the historic significance of the district, demolition, expansion and exterior renovation will affect the overall character of the district. Non-contributing elements will be evaluated for the magnitude of impact by considering their size, scale, design, location and/or information potential.

Alterations- Many historic structures have experienced alterations as tastes changed or the need for additional space occurred. Early alterations typically were subordinate in scale and character to the main building and were often executed using materials similar to those used historically. Some alterations may have historic value of their own. An alteration constructed in a manner compatible with the original building and associated with the period of significance may merit preservation in its own right. In contrast, some

alterations may have no historic value. Some additions detract from the character of the building and may obscure significant features. Removing such additions or alterations is desirable. It is inevitable that alterations to structures will continue. It is important that new alterations are designed in a manner compatible with the historic character of the structure and implemented without damaging the historic structure's fabric.

APPENDIX C

KIRKBRIDE SCALE EVOLUTION



These five lunatic asylums were redrawn to one scale in Carla Yanni's *The Architecture of Madness: Insane Asylums in the United States*, showing the rapid increase in overall scale of such hospitals during the late eighteenth and nineteenth centuries (Yanni, 2007).

- A. Public Hospital, Williamsburg, Virginia, 1770. 100 feet.
- B. New Jersey State Lunatic Asylum, Trenton, 1847, 490 feet (before additions).
- C. St. Elizabeths Hospital, Washington, D.C., 1852. 750 feet.
- D. Greystone, Morristown, New Jersey, 1872. 1,243 feet.
- E. Buffalo State Hospital for the Insane, Buffalo, New York, begun 1871. 2,200 feet.

APPENDIX D

ABRIDGED U.S. KIRKBRIDE DATABASE SAMPLE

Table 8. Condensed Kirbride Legacy Database. Page One. Chart used for the thematic mapping method. Cases highlighted in pink possessed two or more Kirkbride buildings on site.

Name	State	County	City	Consta	OpenD	Lat	Long	PriStat	Secstat	NHR	NHL
Bloomingdale Asylum	New York	Westchester	White Plains	1892	1894	41.028178	-73.753614	P		N	N
Brooklyn State Hospital	New York	Kings	Flatbush, Brooklyn	1852	1856	40.656186	-73.938242	D		N	N
Buffalo State Hospital	New York	Erie	Buffalo	1870	1880	42.929028	-78.882064	R		Y	Y
Hudson River State Hospital	New York	Dutchess	Poughkeepsie	1868	1871	41.739875	-73.903667	P	DT	Y	Y
Manhattan Psychiatric Center	New York	NYC Borough	Wards Island	1869	1871	40.788914	-73.929328	D		N	N
Willard State Hospital	New York	Seneca	Willard	1866	1869	42.679167	-76.879444	D	DT, PD	Y	N
Anna State Hospital	Illinois	Union	Anna	1869	1875	37.477745	-89.244154	P	PD	N	N
Chicago State Hospital	Illinois	Cook	Chicago	1870	1870	41.957239	-87.785775	D		N	N
Elgin State Hospital	Illinois	Kane	Elgin	1870	1872	42.021572	-88.283653	D		N	N
Jacksonville State Hospital	Illinois	Morgan	Jacksonville	1847	1850	39.719825	-90.229772	D		N	N
Kankakee State Hospital	Illinois	Kankakee	Kankakee	1878	1879	41.1055021	-87.8671829	P	PD	Y	N
Athens State Hospital	Ohio	Athens	Athens	1868	1874	39.315556	-82.101944	R		Y	N
Cleveland State Hospital	Ohio	Cuyahoga	Cleveland	1852	1855	41.441333	-81.623722	D		N	N
Columbus State Hospital	Ohio	Franklin	Columbus	1870	1877	39.950389	-83.090058	D		Y	N
Dayton State Hospital	Ohio	Montgomery	Dayton	1854	1855	39.737778	-84.161111	R		Y	N
Longview State Hospital	Ohio	Hamilton	Cincinnati	1856	1860	39.201822	-84.485236	D		N	N
Danville State Hospital	Pennsylvania	Montour	Danville	1869	1872	40.948003	-76.598406	P		N	N
Dixmont State Hospital	Pennsylvania	Allegheny	Dixmont/Pittsburgh	1859	1862	40.515833	-80.112222	D		Y	N
Harrisburg State Hospital	Pennsylvania	Dauphin	Harrisburg	1848	1855	40.283056	-76.873333	D		Y	N

ABRIDGED U.S. KIRKBRIDE DATABASE SAMPLE

Table 9. Condensed Kirkbride Legacy Database. Page Two.

Institute of Pennsylvania Hospital	Pennsylvania	Philadelphia	Philadelphia	1856	1859	39.961667	-75.217222	P		Y	Y
Warren State Hospital	Pennsylvania	Warren	Warren	1874	1880	41.879031	-79.145594	P		N	N
Cherokee State Hospital	Iowa	Cherokee	Cherokee	1884	1902	42.757161	-95.572114	P		N	N
Clarinda State Hospital	Iowa	Page	Clarinda	1885	1888	40.760222	-95.032792	P		N	N
Independence State Hospital	Iowa	Buchanan	Independence	1868	1873	42.4615	-91.919631	P		N	N
Mount Pleasant State Hospital	Iowa	Henry	Mount Pleasant	1855	1861	40.956894	-91.536131	D		N	N
Danvers State Hospital	Massachusetts	Essex	Danvers	1874	1878	42.580628	-70.975156	R	PD, V	N	N
Northampton State Hospital	Massachusetts	Hampshire	Northampton	1856	1858	42.311	-72.649	D	V	Y	N
Taunton State Hospital	Massachusetts	Bristol	Taunton	1851	1853	41.914019	-71.100175	D		Y	N
Worcester State Hospital	Massachusetts	Worcester	Worcester	1870	1877	42.278397	-71.769153	D		Y	N
Fulton State Hospital	Missouri	Callaway	Fulton	1851	1851	38.847178	-91.939989	D	V	N	N
Nevada State Hospital	Missouri	Vernon	Nevada	1885	1887	37.859972	-94.361161	D		N	N
St. Joseph State Hospital	Missouri	Buchanan	Saint Joseph	1874	1874	39.774539	-94.810742	R	PD	N	N
St. Vincents Institution	Missouri	St. Louis	Normandy	1891	1895	38.692222	-90.306389	R		Y	N
Agnews State Hospital	California	Santa Clara	Santa Clara	1885	1885	37.393889	-121.952778	D		N	N
Napa State Hospital	California	Napa	Napa	1872	1875	38.278322	-122.273483	D	V	N	N
Patton State Hospital	California	San Bernadino	Highland	1893	1893	34.138081	-117.214714	D		N	N
Kalamazoo State Hospital	Michigan	Kalamazoo	Kalamazoo	1854	1859	42.279122	-85.604394	D		N	N
Pontiac State Hospital	Michigan	Oakland	Pontiac	1874	1878	42.645869	-83.322456	D		Y	N
Traverse City State Hospital	Michigan	Grand Traverse	Traverse City	1885	1885	44.754858	-85.643414	R		Y	N

ABRIDGED U.S. KIRKBRIDE DATABASE SAMPLE

Table 10. Condensed Kirkbride Legacy Database. Page Three.

Fergus Falls State Hospital	Minnesota	Otter Tail	Fergus Falls	1888	1890	46.297742	-96.078344	P		Y	N
Rochester State Hospital	Minnesota	Olmstead	Rochester	1877	1879	44.024286	-92.436244	D		N	N
St. Peter State Hospital	Minnesota	Nicollet	St. Peter	1866	1866	44.306219	-93.976392	P	PD	Y	N
Mendota State Hospital	Wisconsin	Dane	Madison	1858	1860	43.131264	-89.399458	D		Y	N
Milwaukee Hospital For the Insane	Wisconsin	Milwaukee	Wauwatosa	1878	1880	43.045041	-88.02552	D		N	N
Winnebago State Hospital	Wisconsin	Winnebago	Oshkosh	1871	1873	44.075	-88.518	D		N	N
Osawatomie State Hospital	Kansas	Miami	Osawatomie	1868	1869	38.510892	-94.941225	D		N	N
Topeka State Hospital	Kansas	Shawnee	Topeka	1877	1879	39.064722	-95.710964	D		N	N
Central State Hospital Louisville	Kentucky	Jefferson	Anchorage	1868	1869	38.274581	-85.552889	D		Y	N
Western State Hospital	Kentucky	Christian	Hopkinsville	1848	1850	36.864686	-87.451172	P		Y	N
Jackson State Hospital	Mississippi	Rankin	Whitfield	1850	1856	32.238492	-90.070714	D	V	N	N
East Mississippi State Hospital	Mississippi	Lauderdale	Meridian	1882	1885	32.376	-88.725911	D		N	N
Greystone Park State Hospital	New Jersey	Morris	Morris Plains	1873	1876	40.835144	-74.506817	D		N	N
Trenton, New Jersey	New Jersey	Mercer	Trenton	1845	1848	40.246	-74.805	P	PD, DT	N	N
Eastern Oregon State Hospital	Oregon	Umatilla	Pendleton	1910	1913	45.6715	-118.8171	R		N	N
Oregon State Hospital	Oregon	Marion	Salem	1881	1883	44.939761	-123.006322	P	PD	Y	N
Bolivar State Hospital	Tennessee	Hardeman	Bolivar	1885	1886	35.275825	-89.026717	P	PD	Y	N
East Tennessee Hospital for the Insane	Tennessee	Knox	Knoxville	1876	1886	35.924456	-83.989636	D		N	N
Austin State Hospital	Texas	Travis	Austin	1857	1861	30.3074	-97.7372	P	PD	Y	N

ABRIDGED U.S. KIRKBRIDE DATABASE SAMPLE

Table 11. Condensed Kirkbride Legacy Database. Page Four.

Terrell State Hospital	Texas	Kaufman	Terrell	1883	1885	32.741269	-96.262669	D		N	N
Spencer State Hospital	West Virginia	Roane	Spencer	1893	1893	38.799997	-81.354414	D		N	N
Weston State Hospital	West Virginia	Lewis	Weston	1858	1859	39.0389	-80.471853	R		Y	Y
Alabama Insane Asylum	Alabama	Tuscaloosa	Tuscaloosa	1852	1861	33.216389	-87.538333	P	PD	Y	Y
Arkansas State Hospital	Arkansas	Pulaski	Little Rock	1881	1883	34.748225	-92.319742	D	V	N	N
Conneticut State Hospital	Conneticut	Middlesex	Middletown	1867	1868	41.552097	-72.630414	P	DT, V	Y	N
Saint Elizabeths Hospital	District of Columbia	DOC	Washington	1852	1855	38.855275	-77.000408	P		Y	Y
Central Indiana State Hospital	Indiana	Marion	Indianapolis	1846	1848	39.77	-86.213333	D		N	N
Bangor State Hospital	Maine	Penobscot	Bangor	1895	1901	44.817639	-68.741667	P		Y	N
Spring Grove State Hospital	Maryland	Balitimore	Cantonville	1853	1872	39.266903	-76.722164	D		N	N
Broughton Hospital	North Carolina	Burke	Morganton	1875	1883	35.731511	-81.673561	P		Y	N
South Carolina State Hospital	South Carolina	Richland	Columbia	1858	1858	34.014444	-81.033333	P	DT, V	Y	Y
Yankton State Hospital	South Dakota	Yankton	Yankton	1879	1880	42.915183	-97.401333	D		Y	N
Central Lunatic Asylum	Virginia	Dwinndle	Petersburg	1885	1885	37.2111744	-77.449144	D		N, Kirkbride; Y, Chapel	N
Eastern Washington Hospital	Washington	Spokane	Medical Lake	1890	1891	47.572656	-117.692575	D		N	N

APPENDIX E

IN-DEPTH INTERVIEW PROTOCOLS

APPENDIX E.1: Protocol for Richardson Center Corporation Executive Director Interview (Raymond), Conducted March 7, 2016

E.1 Protocol

Welcome and Protocol [10 min]

This will be an in-depth interview with The Minervini Group President Raymond Minervini conducted by myself, Mardita Murphy a UNCG Interior Architecture graduate student.

Equipment needed:

Audio recorder

Paper

Writing/recording tools

Introduction by researcher: [8 minutes]

As we previously discussed, this interview is part of a larger research project to determine the adaptive reuse potential of Kirkbride facilities in an effort to prepare guidelines for communities with an existing Kirkbride asset. Groups participating in this data collection exercise help my research by generating comprehensive knowledge of the adaptive reuse challenges. Specifically the data will provide details about building alterations, funding sources, and comprehensive planning measures resulting in qualitative data. The data will be processed to reveal patterns in redevelopment lessons and successes. In addition to asking about your process with this project we will also discuss the future goals for this redevelopment.

Data Collection Procedure: In-Depth Interview with (Raymond): [2 minutes]

I would like to use an audio recorder today to have a more accurate account of our conversation. Do I have your permission to audio record our conversation today?

Yes

Interview Questions: In-depth Interview with The Minervini Group representative.
[1 Hour]

Redevelopment Assessment & Planning

1. Can you talk a bit about your responsibilities within The Minervini Group?
2. I located a Minervini Group quote about the development process. "It takes a great deal of "Outside the Box" thinking to transform a former asylum into the vibrant collection of homes and businesses that The Village is today". Can you talk about what that means to you?

Prompt: Can you guide me through what you mean specifically by "outside the box"?

3. What experience did the Minervini Group have working with historic buildings prior to this project?

Prompt: Historically significant institutional buildings?

4. What gave the Minervini Group confidence to get involved with the redevelopment of Traverse City Hospital?

5. How did you begin to devise a plan or model to approach the project?

Prompt: Financially, community engagement, partnerships, and planning?

6. Specifically what comprehensive planning measures were taken to prepare for the redevelopment?

7. From our previous informal interview, you mentioned part of your program derived from the Minervini Group's experiences and expertise, particularly retail. Did the other programmatic component come from the planning investigations?

8. Can you talk about the your partnerships on this project? Do you consider them critical?

9. What has it been like working with local, state, and federal governments for

funding and subsidies?

Prompt: Do you have advice for others choosing a similar route to supplement redevelopment funding?

10. What aspects of your program generate the greatest interest or greatest demand?

Prompt: Which aspects generate larger returns?

Prompt: Do you consider those conditions place/locale specific?

11. Can you explain how you balance managing the various aspects of outsider involvement such as what is owned, leased, sold?

12. What would you say to a developer interested in redeveloping a Kirkbride complex?

Future Plans

13. What is your (The Minervini Group) vision for the development in the next 1-5 years? 5-10 years?

Prompt: How long do you imagine the Minervini Group being involved in the Village?

Rehabilitation Design & Alterations

14. What was it like working with the Michigan State Historic Preservation Office?

Prompt: What character defining features were SHPO most protective of?

Prompt: What were the greatest challenges?

Prompt: What features were altered to achieve your program and project goals?

15. How were the buildings and the campus altered to fit the new uses?

Prompt: What informed those priorities?

Community Response & Improvements

16. Can you provide data on how the property value has improved/increased since the Minervini Group's acquisition?

Prompt: Property tax value at time of abandonment vs. Today.

Kirkbride Interest

17. Do you follow news of other Kirkbrides in the nation?

Prompt: Kirkbride redevelopment?

APPENDIX E.2: Protocol for Richardson Center Corporation Executive Director Interview (Monica), Conducted March 10, 2016

E.2 Protocol

Welcome and Protocol [10 min]

This will be an in-depth interview with The Richardson Center Corporation Executive Director Monica Pellegrino Faix conducted by myself, Mardita Murphy a UNCG Interior Architecture graduate student.

Equipment needed:

Audio recorder

Paper

Writing/recording tools

Introduction by researcher: [3 minutes]

As we previously discussed, this interview is part of a larger research project to determine the adaptive reuse potential of Kirkbride facilities in an effort to prepare guidelines for communities with an existing Kirkbride asset. Groups participating in this data collection exercise help my research by generating comprehensive knowledge of the adaptive reuse challenges. Specifically the data will provide details about building alterations, funding sources, and comprehensive planning measures resulting in qualitative data. The data will be processed to reveal patterns in redevelopment lessons and successes. In addition to asking about your process with this project we will also discuss the future goals for this redevelopment.

Data Collection Procedure: In-Depth Interview with (Monica): [2 minutes]

I would like to use an audio recorder today to have a more accurate account of our conversation. Do I have your permission to audio record our conversation today?

Interview Questions: In-depth Interview with Richardson Center Corporation representative. [1 Hour]

Redevelopment Assessment & Planning

- 1. Can you talk a bit about your responsibilities within The Richardson Center Corporation?**

2. I located a quote about the redevelopment process with the Traverse City State Hospital in MI: "It takes a great deal of 'outside the box' thinking to transform a former asylum into the vibrant collection of homes and businesses that The Village is today". Can you talk about the 'outside the box' thinking required for Buffalo's Kirkbride redevelopment?
3. What factors gave the stakeholders in this project confidence to get involved with the redevelopment of Buffalo State Hospital?
4. How did you begin to devise a plan or model to approach the project?

Prompt: Financially, community engagement, partnerships, and planning?
5. Specifically what planning and reuse data was gathered from the ten public meetings?
6. Aside from the planning investigations, were there other sources used to determine the existing building program?
7. What partnerships do you consider most critical to this project's success?
8. What has it been like working with local, state, and federal governments for funding and subsidies?

Prompt: Do you have advice for others choosing a similar route to supplement redevelopment funding?

9. What aspects of your program do you expect to generate the greatest interest or greatest demand?

Prompt: Which aspects are expected to generate larger returns?

10. How will the structure of ownership and management be developed? Can you explain how the corporation will balance managing the various aspects of

stakeholder involvement such as how portions of the building will be leased or sold (if property transfers are expected)?

Future Plans

- 11. What is your (The RCC) vision for the development in the next 1-5 years? 5-10 years?**

Rehabilitation Design & Alterations

- 12. What was it like working with the New York State Historic Preservation Office and the NPS?**

Prompt: What character defining features were SHPO most protective of?

Prompt: What were the greatest challenges?

Prompt: What features were altered to achieve your program and project goals?

- 13. What design groups were brought in for this project?**

Prompt: How did you select them?

Prompt: How closely did the RCC work with the design firms?

- 14. What is your assessment of the integrity of the building and site as it stands today?**

APPENDIX F

U.S. CENSUS POPULATION DENSITY COMPARISON AND RAILROAD NETWORK

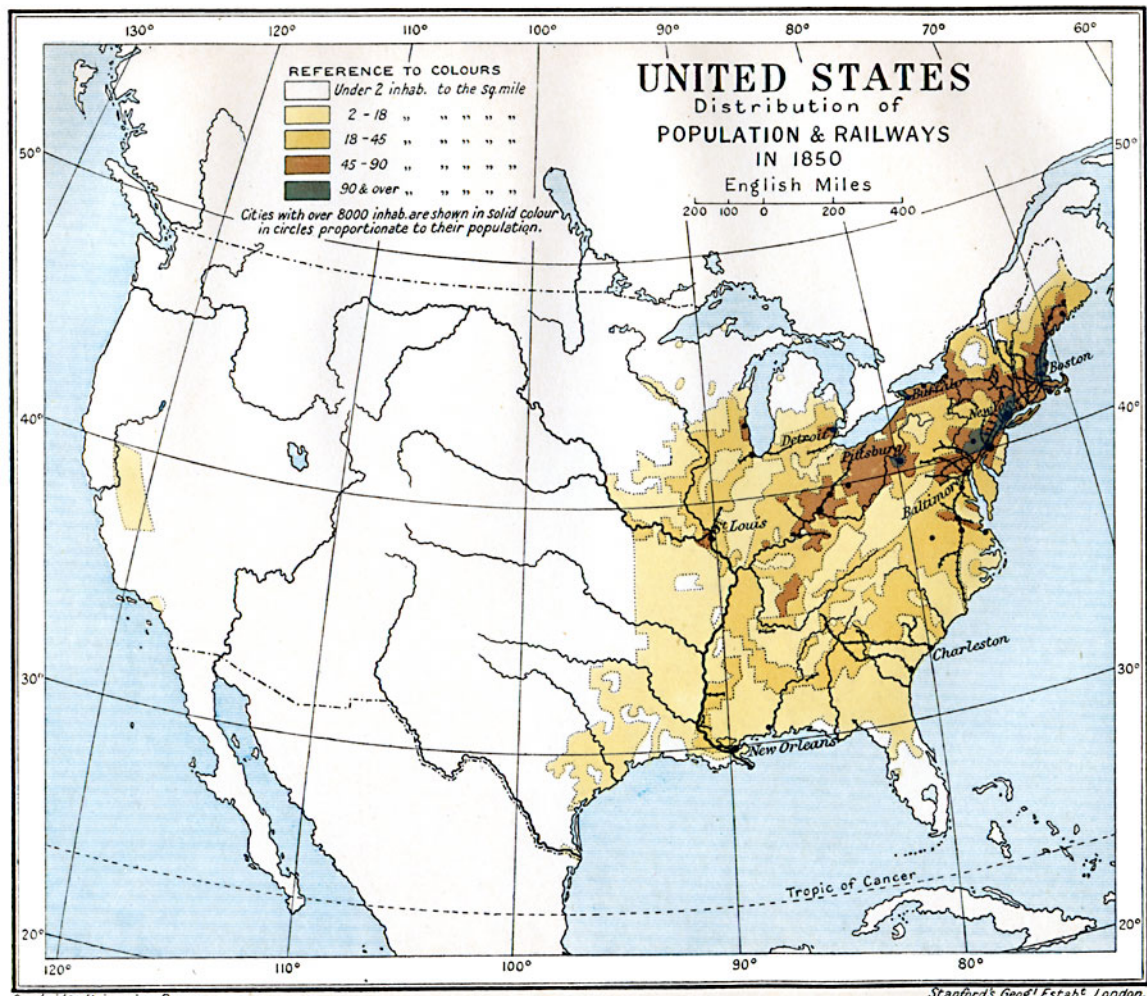


Figure 39. U.S. Population Density and Railroad Network, 1850. Source: U.S. Population Density and Railroad Network.

U.S. CENSUS POPULATION DENSITY COMPARISON AND RAILROAD NETWORK

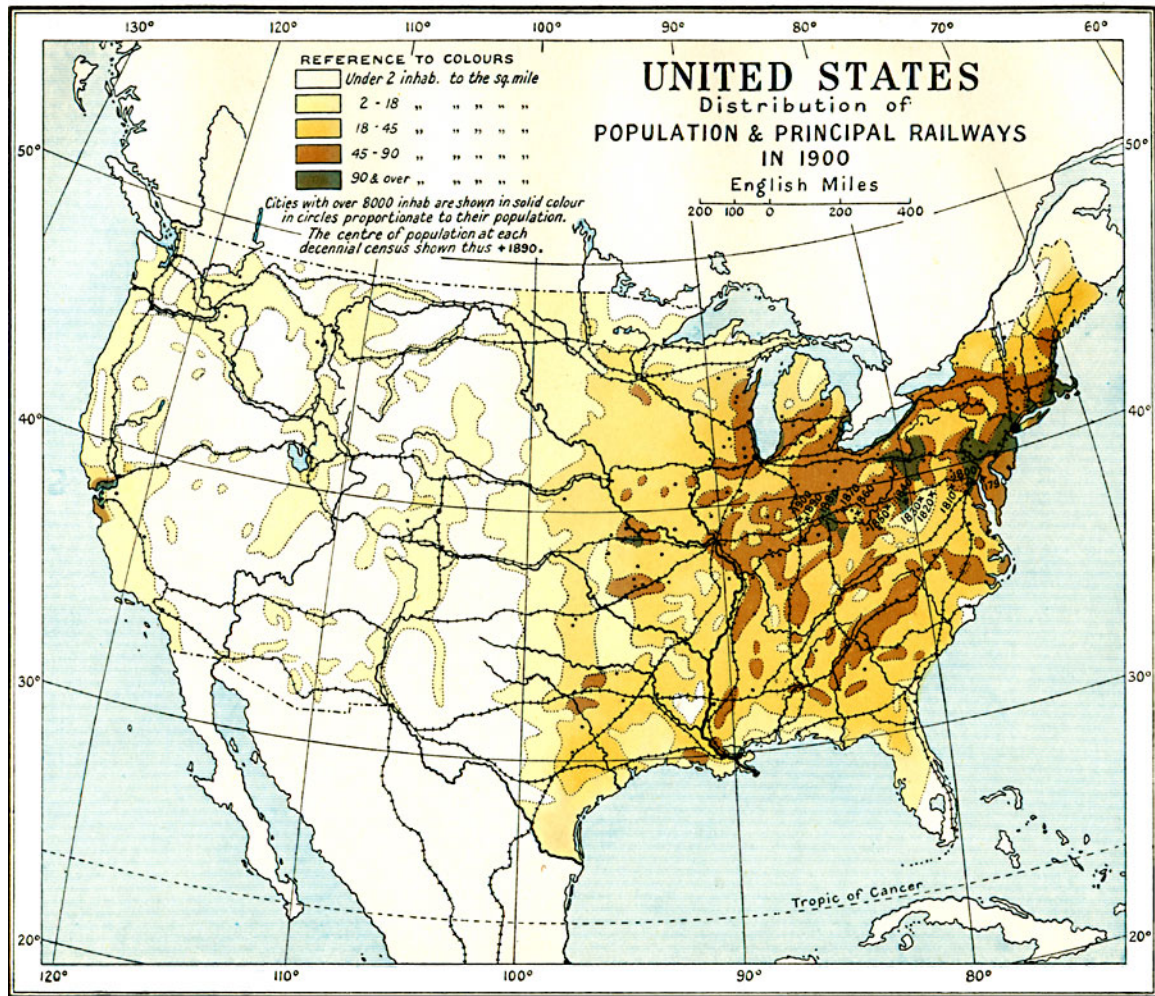


Figure 40. U.S. Population Density and Railroad Network, 1900. Source:
<http://etc.usf.edu/maps/pages/7400/7493/7493.jpg>.