

New Inspiration for Industrial Reuse In Post-Industrial Baltimore



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ABSTRACT

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This project focuses on reusing abandoned or underutilized historic industrial buildings for light industry, contrasting the typical reuse method of high-end mixed use. The study addresses the question of how to preserve and reuse the large stock of abandoned or underutilized industrial and manufacturing buildings in a post-industrial society, in which much manufacturing has moved out of urban centers. In this project, I argue that some of these buildings can be reused for industrial or distribution purposes, similar to their original function, a program that can create employment for the surrounding community. By focusing on one hypothetical industrial reuse project in West Baltimore, this study explores the potential opportunities of this new program for community building and economic growth elements often not addressed by popular mixed-use plans. Reusing these buildings for the industry or distribution centers can create good, permanent jobs for neighborhood residents, many of whom have been unemployed or underemployed.

The residential or retail reuse of industrial buildings often restricts current residents to low paying service sector jobs, or results in their displacement from their neighborhoods. In this way, the project also explores the impacts of an industrial reuse plan on the surrounding neighborhood in terms of community enhancements and growth.

NEW INSPIRATION FOR INDUSTRIAL REUSE IN POST-INDUSTRIAL
BALTIMORE.

By

Caitlin Isabelle Herrnstadt

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Dedication

I would like to dedicate this to my family, my parents, Mary and Steven; my brothers, Zachary and Evan; and boyfriend, Connor. They have always been fully supportive of my dreams and are a constant source of encouragement. They always believe in me, even when my faith in myself waivers.

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Chapter 1: Introduction and Background

Introduction

Between 1950 and 2004 the City of Baltimore lost over 100,000 manufacturing jobs, 75 percent of the total manufacturing jobs in the city.¹ With this decline in manufacturing positions came a huge loss of population. Throughout its history Baltimore has always been a city where vibrant communities developed around mills and factories. These neighborhoods housed families of all income levels as well as businesses that provided necessary amenities. But without manufacturing companies and the jobs they provided, these communities fell into periods decline. Starting in the 1950s “white flight” took hold and many longtime middle and upper class white residents fled to larger and more spacious suburban homes, which they deemed as safer and more conducive to living the American Dream. This left jobless urban neighborhoods to the poor and working class, especially African Americans, who were often not welcome in these suburban neighborhoods. These urban neighborhoods became viewed as slums that needed to be razed and replaced with affordable housing projects.²

The industrial buildings that were once the centerpieces of Baltimore’s neighborhoods stood abandoned and underutilized. Their disuse became a source of blight, and remaining residents had few options for stable, full-time employment.

¹ Tom Liebel. *Industrial Baltimore* (Charleston, SC: Arcadia Publishing, 2006), 7.

² Mary Ellen Hayward and Charles Belfoure. *The Baltimore Rowhouse*. (New York: Princeton Architectural Press, 2001), 1; Mary Ellen Hawyard. *Baltimore’s Alley Houses : Homes for Working People since the 1780s*. (Baltimore: Johns Hopkins University Press, 2008), 2.

Local businesses and organizations struggled to stay afloat now that a large portion of their customer base had fled to the suburbs. Eventually many of these businesses relocated or closed, and with them went the amenities that remaining local residents needed.

What can be done to revitalize these once vibrant industrial neighborhoods? In the last twenty years or so, fueled by a general interest in urban living, developers have realized that these underutilized industrial buildings can be the source of revitalization and community development. Old industrial complexes began to be transformed into new mixed-use projects that infused neighborhoods with high-end commercial units in addition to market rate housing.

These types of mixed-use redevelopment projects can be successful in the right areas, but more often than not they have severe social impacts on the surrounding neighborhood. In other words, it is important to clarify the values at play in resurrecting these buildings. What do developers hope to accomplish besides making a profit? Often it is economic revitalization for the area. Developers are often not placing much value on the retention of current residents or the fulfillment of the current residents' needs. Therefore market rate, mixed-used projects often act as catalysts for gentrification. For the purpose of this project, gentrification can be generally defined as: "the process of renewal and rebuilding accompanying the influx of middle-class or affluent people into deteriorating areas that often displaces poorer residents."³ More specifically in this situation gentrification means the transformation of a neighborhood which is often indicated by the influx of middle-

³ *Merriam Webster Dictionary Online*, s.v. "gentrification", <<http://www.merriam-webster.com/dictionary/gentrification>>.

class or wealthy people, rising real estate prices, decreased vacancy rates, increased economic stability, which often coincides with the displacement of current residents.

If the housing and retail units in a mixed-use project are market rate and geared to attract urban professionals, then it often results in gentrification. As rent and housing prices begin to increase, the original residents of the neighborhood can no longer afford to live in the area. Gentrification clearly has both positive and negative outcomes. The largest negative is obviously the displacement of current residents, particularly if the project includes little affordable housing. On the other hand, the gentrification of a neighborhood can also mean lower crime rates, fewer empty and abandoned residential and commercial units, more economic investment, and increased tax revenue for the city. Many people are now trying to generate these positive aspects without causing the displacement of current residents. In addition to listening to the needs and desires of the community, one approach is to provide better and more permanent jobs for current neighborhood residents. This can be accomplished through reuse of selected industrial buildings for continued industrial purposes; this is the approach explored in the chapters that follow.

Preservation Problem

The underlying problem addressed by this project is the reuse and preservation of abandoned or underutilized historic industrial and manufacturing buildings. How can we preserve and reuse our large stock of abandoned or underutilized industrial and manufacturing buildings in a post-industrial society? With manufacturing moving overseas or to industrial parks in more suburban areas,

industrial buildings in urban centers have fallen into disuse. How can preservationists make the case for reusing these buildings for industrial or distribution purposes, programs more closely aligned with their original uses? Industrial reuse is a good alternative to mixed-use and high-end reuse plans. If done correctly, it can provide much needed employment and help to prevent negative aspects of gentrification such as displacement.

Research Questions

The research questions addressed by this project include:

- What is the typical reuse plan for industrial buildings and what are the outcomes of this type of plan on the surrounding neighborhood?
- What are the requirements for reusing an old industrial/manufacturing building for the purpose of light industry or distribution?
- Are there precedents for this type of reuse of industrial buildings?
- What kind of impacts does a reuse plan such as this have on the surrounding neighborhood? Could it be a catalyst for neighborhood improvement or will it cause gentrification?
- What kinds of jobs would this type of reuse plan create? Permanent? Temporary?
- Can this type of adaptive reuse project attract residents of diverse economic backgrounds, while avoiding whole scale gentrification that would displace the current residents?

- Might this type of project help community members move out of low wage service sector jobs that are often the only options available, into permanent, higher paying positions?
- Where did industrial workers and their families historically live in relation to the factories in these case studies? Does this reflect the larger pattern or trend of how and where employees of factories lived? (This relates especially to the neighborhood surrounding the Baltimore Ice House).
- Could this type of reuse help to bring people back into the city to live as well as bring jobs back into the city, and do so without displacing current residents?
- Will this type of industrial reuse actually serve to enhance or revitalize surrounding neighborhoods? What has been the impact on the neighborhoods in precedent case studies?
- What is the ultimate preservation outcome of this type of reuse plan?

Methodology

I began my research by considering the broad historic pattern of industrialization in Baltimore and the neighborhood development that accompanied this trend. General histories of Baltimore, as well as historic maps, helped inform my understanding of the city's development. I also examined a variety of reuse projects utilizing industrial buildings, which I found by searching for newspaper articles about the current conditions of some of Baltimore's historic industrial sites as well as the

websites of preservation organizations such as Baltimore Heritage and the Baltimore City Commission for Historical and Architectural Preservation (CHAP).

One case study focuses on an example of the typical approach to the reuse of industrial buildings. A second case study examines the industrial reuse of a historic manufacturing building, a less common reuse approach. The Poole and Hunt Iron Works, now known as Clipper Mill, was reused in the popular method of creating high-end commercial, retail, and housing. This serves as an example of the more traditional reuse plan that often ends in gentrification of the surrounding neighborhood. To inform my discussion of Clipper Mill I looked to census data, National Register nomination forms, Sanborn Maps and other historic maps, as well as books on the history and archaeology of industrial buildings. I also looked at the Clipper Mill website to understand how the site has been reuse. I attempted to speak with individuals involved in the redevelopment of the site, but the firm in charge of the project is no longer in business so I was unable to get in touch with anyone.

Although Baltimore has examples of industrial buildings that have been reused in non-traditional ways, I focused on an interesting project in Brooklyn, New York, that represents an innovative industrial reuse of a historic industrial building. The Pfizer Factory has been reused for light industrial or manufacturing purposes, serving as a precedent for industrial reuse that meets the needs of current neighborhood residents. To study this site, I contacted the development firm, interviewing head director, Jeffrey Rosenblum, as well as the architectural and design firm in charge of the project. I looked at the company history of Pfizer, as well as

Sanborn Maps and census data of the surrounding area to inform my discussion of the reuse plan.

Finally I applied lessons from both of these case studies to a hypothetical reuse project for an underutilized industrial site in West Baltimore, known as the Baltimore Ice House. Census data, Sanborn Maps, sources about the history of West Baltimore and the ice manufacturing industry all informed my historical knowledge of the site and surrounding area. I also made use of planning documents for West Baltimore, which helped me understand the challenges of the area and guided me to a reuse plan for the site. Once I developed a reuse program, I utilized information found on company websites from the same industry type as well as government documents to help gain an understanding of what this type of reuse might mean for the surrounding community.

Organization

The document that follows presents contextual information on the development of Baltimore's industrial neighborhoods and offers a series of case studies that set the stage for a hypothetical reuse project. In Chapter 2, I present the history and underlying context of industrial Baltimore, as well as the development of its neighborhoods. In addition, I briefly discuss the general architectural history and evolution of industrial buildings. Chapter 3 examines the traditional approach to reuse of industrial buildings, and is built around a case study of Clipper Mill, located in Baltimore City. The purpose of this chapter is to show that although often successful economically, the traditional mixed-use, housing/retail approach to

industrial site reuse often brings with it the negative aspects of gentrification and disregards the current residents' needs. Chapter 4 presents a case study that explores the concept of reusing industrial buildings for light industry or manufacturing purposes. The Pfizer Factory case study serves as an inspiration and precedent for the hypothetical reuse project proposed in Chapter 5. Chapter 4 also discusses the positive outcomes of an industrial reuse plan that prioritizes the current neighborhood residents. Chapter 5 draws on the previous chapters, plus current and historic planning and development information, and explores a hypothetical reuse plan for the American Ice Company building located in West Baltimore (aka Baltimore Ice House). Chapter 6 summarizes this type of reuse plan, and concludes with a discussion of the overarching themes and lessons involved in this project.

Chapter 2: Industrial Baltimore: History and Context

Locating factories in urban areas was often extremely advantageous for companies, because it meant direct access to plentiful labor and good transportation. Transportation by means of rail, canal, and waterway ensured that factories had easy access to both raw materials and fuel to power machinery. This transportation infrastructure also allowed companies to ship their finished product to consumer markets. In addition, cities often already had the housing and amenities that companies in rural areas had to build for themselves, thus saving factory owners money. Urban ports, like Baltimore, also attracted large numbers of immigrants, who became the majority of factory employees; thus factory owners did not have to recruit workers. But there were also reasons why companies chose rural areas over urban. For one, most cities along the coastal plain did not have the plentiful waterpower available in other areas to the west; however, Baltimore was an exception. By the early nineteenth century, steam power became a viable alternative, and waterpower was no longer essential.⁴

Baltimore: General Industrial History

Baltimore City began life as a tobacco inspection port in the eighteenth century, but transitioned into a center for the shipping and trade of wheat as tobacco cultivation became less viable. This transition to the wheat trade opened the way for

⁴ Robert B. Gordon and Patrick M. Malone, *The Texture of Industry* (New York: Oxford University Press, 1994), 165.

Baltimore to diversify and the city eventually became a general center for the production and shipping of many mercantile products. As noted by historian Mary Ellen Hayward, “[t]he Lancaster County wheat merchants moved their extended families to Baltimore and began a mercantile dynasty that soon transformed the old tobacco port into a thriving international seaport.”⁵ A large shipbuilding industry also developed in Baltimore City, around Fells Point. Shipbuilding was an extremely labor-intensive process thus the owners of these firms were some of the largest slaveholders in the city.⁶

By 1800, Baltimore was the third largest city in the United States after New York and Philadelphia. The city began a shift from a maritime trade-based economy to one based on manufacturing in the 1820s. The city became a major industrial center, and as such, provided many job opportunities for new immigrants. A speculative building boom followed to house this new industrial working class.⁷

According to Hayward, “in 1850 there were 110 factories, employing 4,300 people” and these were only the ones that relied on steam-driven machinery.⁸ She also notes that “about 12,000 Baltimoreans worked in the dozen or so canneries in and around the city.”⁹ This transformation into a major industrial center was helped along by the construction of the Baltimore & Ohio Railroad, which was chartered in 1827.¹⁰ Not only did the B&O become a major source of employment for residents, but it created work for the local building industry and supported new manufacturing

⁵ Hayward, *Baltimore's Alley Houses*, 27.

⁶ Hayward, *Baltimore's Alley Houses*, 28.

⁷ Hayward, *Baltimore's Alley Houses*, 9

⁸ Hayward and Belfoure, *The Baltimore Rowhouse*, 50.

⁹ Hayward and Belfoure, *The Baltimore Rowhouse*, 50.

¹⁰ Hayward and Belfoure, *The Baltimore Rowhouse*, 35.

industries. Steam-powered factories were built all along the expanding railroad lines, taking advantage of the convenient access to transportation. This also had the secondary, but nevertheless helpful effect of making the factories visible to travelers on the rail, providing free advertisement.

Industrial Buildings in Baltimore

Industrial buildings are extremely varied, and were built to suit each individual industry, but there are elements that help characterize this type. One element that all industrial complexes share is that they were built first and foremost to be functional; aesthetics were generally an afterthought to functional design. To ensure maximum profits, industrial buildings needed to be as efficient as possible. Industrialists often located their production facilities in complexes consisting of at least one large main production building and multiple support outbuildings. In Baltimore these industrial buildings were most often located near water, i.e., Fells Point or Jones Falls, or near railroads to ensure easy transport in of raw materials and distribution of finished goods.

For years the design of mills and factories had been restricted by large use of waterwheels as the only source of power. However, with the advent of steam power in the late nineteenth century, mills began to become easily distinguishable from general factories as mill owners transitioned from constructing narrow multistory buildings to long, single story, multi-building complexes (Figures 1 and 2).¹¹ Industrialists producing non-milled products continued to build in the narrow

¹¹ Spiro Kostof, *America by Design* (New York: Oxford University Press, 1987), 105-106.

multistory tradition for quite a while, as they did allow for natural light to reach a larger portion of the factory floor. Other specialized industries such as iron and steelworks continued to house their production lines in narrow multistory structures like the early mills. They simply adapted these buildings by adding extra wings as needed. All of these industry types were part of Baltimore's industrial landscape.¹²

Figure 1: Early Mill, Multistory Plan with housing in the background (*The Architecture of Baltimore*, 344).

¹² Gordon and Malone, *The Texture of Industry*, 323-5.

Figure 2: Nineteenth century mill, long fewer stories, multi-building complex (*The Architecture of Baltimore*, 158).

Although function and stability was the main task of the engineers who constructed industrial buildings, by the mid-19th century they were also tasked with considering the aesthetic properties of the building. Industrialists increasingly wanted to enhance the façades of their buildings to serve as proof of their success and prestige.¹³ Many of these aesthetic distinctions were based on design styles popular at the time of construction, as well as regional styles specific to the area.

Most factories built after the late nineteenth century made use of the pier (pilaster) construction technique. Factory buildings needed to satisfy two important criteria: to have as many windows as possible for lighting and to be able to support the weight of the large machinery and strong vibrations inherent to industrial work. Pier construction created a stronger and more structurally sound building, while also allowing for larger and more numerous window openings.¹⁴

¹³ Gordon and Malone, *The Texture of Industry*, 327.

¹⁴ Gordon and Malone, *The Texture of Industry*, 321.

Manufacturing companies often used the factory building itself as a platform for advertisements. Prominent smokestacks, chimneys, and walls were painted with the name or symbol of the company located within the structure.¹⁵ It was a cheap and easy way for the company to ensure that all passersby saw the productivity of the operation and kept the firm's name on their minds. This form of advertising was incredibly important to companies located in Baltimore, as it served as a major port of immigration. Thus, companies such as Bromo Seltzer, Domino Sugar, and Steiff Silver, made sure their signs and advertisements were clearly visible across the city and harbor (Figures 3-5).

¹⁵ Gordon and Malone, *The Texture of Industry*, 167.

Figure 3: Advertisement on Bromo Seltzer Tower, Baltimore, Maryland (*Industrial Baltimore*, 101).



Figure 4: Sign on the Domino Sugar Building, Baltimore, Maryland (Visual Resources Center, University of Maryland).

Figure 5: Sign on the Steiff Silver Building, Baltimore, Maryland (*Industrial Baltimore*, 111).

Interiors of factories were also distinct based on the type of industry, but some general observations can be made. One important focus related to interior construction was fireproofing techniques. Factory buildings constructed after the 1850s were continuously trying fireproof their structures. Early mills and factories, especially the textile and grain operations found in and around Baltimore, were extremely vulnerable to fire, and by the second quarter of the nineteenth century, factory owners had realized the need for new construction techniques. One new approach, used between the 1850s and 1920s, was called slow-burning or factory construction. Instead of wood joisted floors, factories and mills were built with thick tongue-and-grooved floor planks, which were then covered with replaceable wearing board. Thick, timber beams, spaced far apart, held up the floor. This construction method meant fewer corners and edges, which were usually the first things to catch fire. In addition, heavy timbers were slow to burn, and thus floors were less likely to collapse before the fire was extinguished and the factory was ruined (Figure 6-7).¹⁶ This new structural system also helped to support heavy machinery, and kept water damage at a minimum when a fire had to be extinguished.¹⁷ In addition to the slow-burning construction technique, factories eventually added sprinkler systems, hoses and water pumps, metal or metal covered fire doors, and fire escapes to the list of fireproofing strategies used in factories.

¹⁶ Gordon and Malone, *The Texture of Industry*, 302, 305.

¹⁷ Gordon and Malone, *The Texture of Industry*, 304.

Figure 6: Slow-burning or Factory Construction Technique, (*The Texture of Industry*, 321).

Figure 7: Joisted and Slow-burning Construction Technique, (*The Texture of Industry*, 303).

As the nineteenth century came to a close, machinery was becoming even heavier. Many current factories were not strong enough to support the weight and vibrations of these new machines. Other methods of construction were gradually developed including steel framing and reinforced concrete. Not only could these structural systems withstand more weight and vibrations, they also allowed extra

support for larger and more numerous windows, which were needed to light and ventilate increasingly wider factory floors. At the beginning of this transition many were unsure of how steel would react in the case of fire. Therefore, it was often covered with brick or concrete to shield it from flames.

The construction methods used by factory owners and building engineers were selected not only because they were effective, but also because insurance companies favored them. If new fireproof building techniques were not used, insurance companies might raise rates or cancel policies. This left factory owners with added expense or without coverage at all.¹⁸

Before the 1870s many factories were constructed with attic stories, mansard roofs, and other design elements that increased fire hazards. Insurance companies dictated that these design elements be abandoned in future factory construction. In fact many owners decided to renovate their buildings and remove these elements. Most new factories were designed and built with flat roofs and an extra floor. This was beneficial to owners as they gained more floor space on which to spread out production.

Roof and long span trusses were often used to create more open space in industrial buildings. This allowed additional space for large equipment and room to move the product and production materials throughout the building. It even allowed for ceilings to support cranes and overhead hoisting equipment.¹⁹

Factory floor plans were often irregular due to later additions when the business expanded. Cast iron shafting and leather belting (popular by the 1840s) ran

¹⁸ Gordon and Malone, *The Texture of Industry*, 305.

¹⁹ Gordon and Malone, *The Texture of Industry*, 307.

throughout factories providing power to machines. These machines were quite often organized in long rows mainly because it was the most efficient connection to shaft power, but also for the orderly appearance, clear views of workers, circulation of workers, and movement of materials. All of these made production more efficient.²⁰

Beginning in the 1880s, factories began to gradually switch over to the use of electric motor-powered systems. At the same time, but at a much quicker pace, factories began to install electric or gas lighting to increase productivity during winter months and evening hours when sunlight was scarce.²¹ These innovations made industrial buildings extremely sturdy, and thus many of them remain today, despite the fact that industry has abandoned them.

The Life of an Industrial Neighborhood

Factories and industrial buildings did not exist in a bubble. With their construction came the development of housing, small businesses, and local institutions, all of which when taken together make up an industrial neighborhood. The development of Baltimore spread outward from the harbor basin much like concentric rings around a central core.²² From the beginning Baltimore was laid out with residents and convenience in mind, as neighborhoods were built to house a mix of income levels. This tradition began first in 1763 in Fells Point when Edward Fell ran main streets parallel to the waterfront and cross streets intersecting these; the

²⁰ Gordon and Malone, *The Texture of Industry*, 314-15.

²¹ Gordon and Malone, *The Texture of Industry*, 315-16; Donald W. Linebaugh, *The Springfield Gas Machine: Illuminating Industry and Leisure, 1860s-1920s* (Knoxville, TN: University of Tennessee Press, 2011), 1-29 and 175-240.

²² Hayward and Belfoure, *The Baltimore Rowhouse*, 4.

resulting blocks were bisected by narrow lanes. This pattern of main streets and alley streets was based on the layout of the traditional rural English town.²³ (Figure 8)

Figure 8: Bird's Eye View of Fell's Point, Baltimore, showing the Alley/Main Street Plan (*The Baltimore Rowhouse*, 37).

Unlike many other cities, Baltimore neighborhoods included residents of all income levels. Before good, affordable transportation was available, most residents (except the extremely wealthy) needed to be close to work.²⁴ Even when omnibuses connected neighborhoods and business districts, the expense was beyond the means of the average worker.²⁵

The wealthiest residents lived in grand houses on the main streets (often with the front façade facing a park or square). The less ornate and more average homes of

²³ Hayward, *Baltimore's Alley House*, 31.

²⁴ Hayward, *Baltimore's Alley House*, 8.

²⁵ Hayward and Belfoure, *The Baltimore Rowhouse*, 53.

the middle class were located on the side streets near the main thoroughfares, and the working poor lived in small houses (usually only 2 or 3 bays wide) along alley streets that bisected each block (sometimes almost in the backyards of the wealthier homes).²⁶ Homes along the alley streets were often affordable enough that working class families could purchase the home instead of renting. These dwellings were marketed to recent immigrants and the builders (often immigrants or first generation Americans) also helped interested buyers with loans and financing so as to ensure they could afford to purchase the home.²⁷

The population of Baltimore grew rapidly in the 1840s and because of this by the 1850s, builders had developed several types of working class housing. Some of these were slightly larger and more spacious plans. One such plan allowed for residents to run a business out of the first floor, while another gave residents three full floors of living space, which was helpful if the family needed to rent out space to boarders. Speculative builders also started to construct working-class houses that were even smaller than earlier plans. These were often rented to new immigrant families, and were mostly built along the narrowest alleys. These homes were two-bays wide (often one room wide), two piles deep and only two-stories tall. Due to the extremely low-pitched gable roofs, these homes had no attic space. Occasionally, one-story kitchen additions were built onto the back.

In the 1880s with the sharp increase in new immigrants, as well as the continuing growth of industry in Baltimore, even more worker housing was needed.

²⁶ Hayward and Belfoure, *The Baltimore Rowhouse* 53; Hayward, *Baltimore's Alley House*, 2.

²⁷ Hayward, *Baltimore's Alley House*, 3.

Many new factories were being constructed on the fringes of the city in fairly undeveloped areas, which lacked working-class housing stock. Up until this time much of the housing being constructed was three-story and still out of reach of many Baltimoreans.²⁸ Speculative builders soon realized this need and began to construct more small homes (two-story or two-story-and-attic), which allowed for the development of new neighborhoods and communities (Figure 9).²⁹

Figure 9: Two-story/ Two-story-and-attic Floorplans, (*Baltimore's Alley House*, 139).

²⁸ Hayward, *Baltimore's Alley House*, 137.

²⁹ Hayward, *Baltimore's Alley House*, 138.

This surge in construction of smaller homes did not, however, mean builders strayed from the traditional street layout. They continued to construct houses on both main streets and the mid-block “alleys.” In this way builders still offered a variety of house sizes despite the fact that the homes were only two-stories.³⁰

By the 1920s these urban rowhouse neighborhoods were really only inhabited by middle and working class families, as most of the upper middle and upper class residents had moved to the newly developed suburbs. Builders created new two-story rowhouses catered specifically to either middle or working class people.³¹ Wealthy manufacturing elites “no longer wished to live in the shadows of the mills and factories” that they ran, and also wanted to live away from the rapidly growing population of immigrants who often spoke no English.³² So mixing of income levels in one neighborhood became an idea of the past. Many urban rowhouse neighborhoods became seen as slums, and home to only the poorest of Baltimoreans. This negative reputation was then reinforced by the movement of industrial jobs overseas and out of urban centers.

Between 1930 and 1980, urban renewal resulted in the destruction of some of these rowhouse neighborhoods and the construction of high-rise public housing projects. In the recent past, however, urban planners began to look back at the historical precedent set by neighborhoods of rowhouses. These high-rise housing projects are now being demolished and in their wake planners are building new neighborhoods full of “small-scale rowhouse[s]...laid out with both wider main

³⁰ Hayward, *Baltimore's Alley House*, 141.

³¹ Hayward and Belfoure, *The Baltimore Rowhouse*, 4.

³² Hayward and Belfoure, *The Baltimore Rowhouse*, 55.

streets and narrower lesser streets, thus enabling people of different economic levels to live together” once again. Programs that encourage homeownership have also been established again drawing on historic precedent.³³

Today Baltimore has seen a resurgence of interest in row homes of all sizes. Surviving alley houses are owned or rented by a wide variety of income levels. This includes young professionals as well as new immigrants (which continues the historic tradition of this housing type).³⁴ However this renewed interest in urban neighborhoods has not included solutions for the many abandoned industrial buildings that were the impetus for the construction of these rowhouse neighborhoods in the first place.

Summary

This chapter introduced the general industrial history of Baltimore and the structures in which these industries were housed. Since the eighteenth century, Baltimore has been a city dedicated to the production and shipping of mercantile products. This long history of Baltimore as a city of industry helps to strengthen the case for an industrial reuse plan of the Baltimore Ice House in Chapter 5. The discussion of the development of Baltimore’s industrial neighborhoods, also strengthens the case for an industrial reuse plan of the Baltimore Ice House as it demonstrates that for almost three hundred years, Baltimore has functioned with a “live where you work” mentality where industrial zones were not kept separate from residential areas. Furthermore those who worked in these factories did not live in a

³³ Hayward, *Baltimore’s Alley House*, 3.

³⁴ Hayward, *Baltimore’s Alley House*, 3.

different section of the city from the factory owners of the upper-middle class. This helps to strengthen the idea that if the Baltimore Ice House is reused as a center of industry, this type of mixed income level neighborhood might redevelop.

Chapter 3: Standard Reuse Plan: Mixed-Use at Clipper Mill, Baltimore, MD

Introduction

The standard approach to the reuse of industrial buildings has been largely focused on mixed-use projects. Developers often create high-end retail and market rate housing units from large industrial sites. Clipper Mill, located along Jones Falls in the Woodberry neighborhood of Baltimore, is an example of one such project (Figures 10 and 11).³⁵ This site makes use of several historic industrial buildings that were originally part of the Poole and Hunt Machine Shops (aka Union Machine Shops).

Although a fairly successful project and a popular site for Baltimore residents, the Clipper Mill project is an example of how mixed-use projects result in social and economic inequities and cause gentrification (rise in real estate prices, displacement of current residents, decrease in vacancy rates, etc.). This case study investigates how the traditional mixed use, housing/retail approach to the reuse of industrial buildings works; while creating revenue and revitalizing areas, the projects can have an overall negative impact on current residents.

³⁵ The project was named for a cotton duct mill that was located on the opposite side of Jones Falls (whose main building still stands).

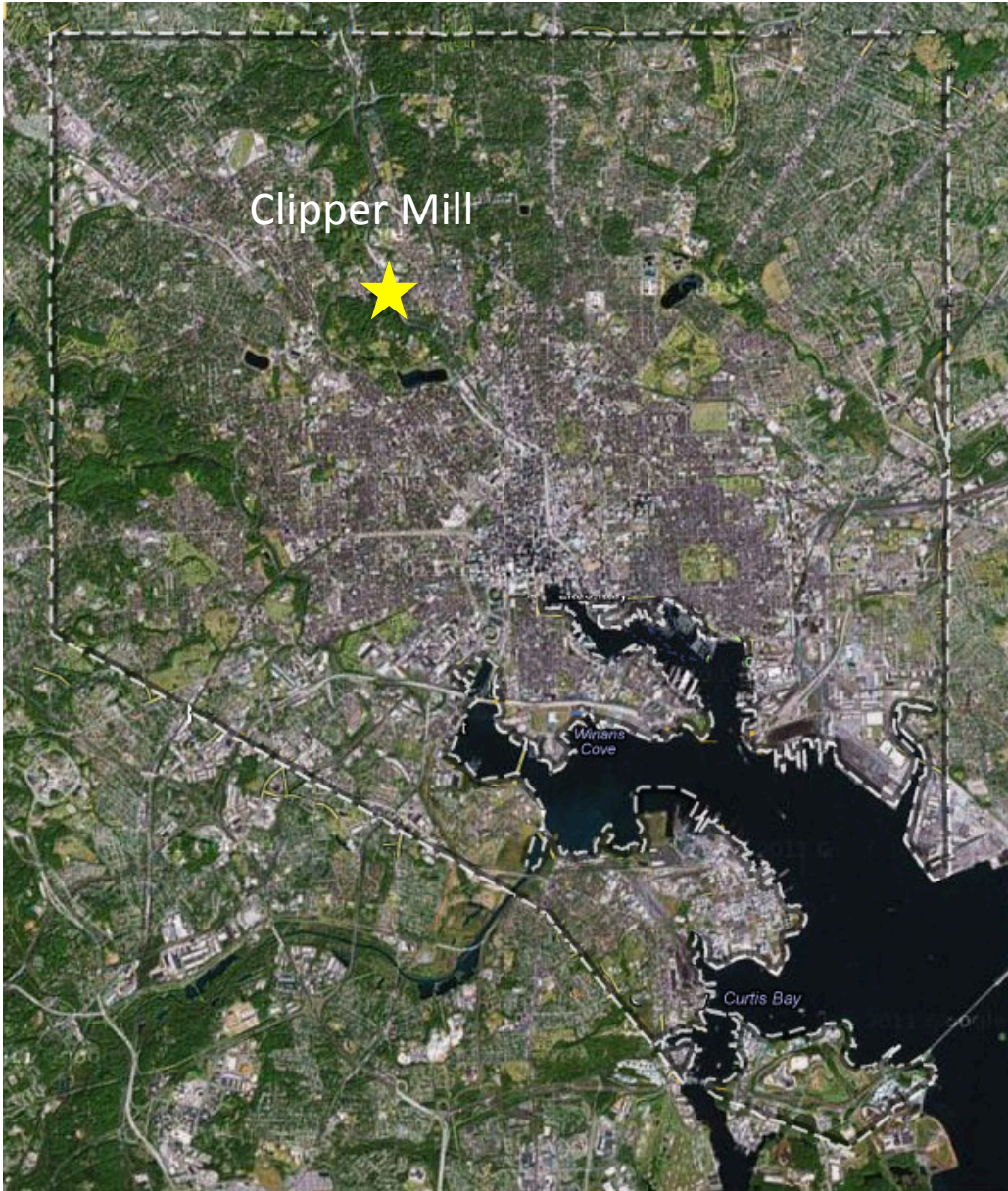


Figure 10: Map of Woodberry and Jones Falls area (Google Maps).



Figure 11: Detail of the Clipper Mill buildings (Google Maps).

Brief Site History

The history of the Poole and Hunt site, now known as Clipper Mill, provides important context for the discussion of the reuse project. With the introduction of steam power to the milling industry in 1846, a need arose for new machinery. The firms that produced steam engines and other specialized machinery, referred to as machine shops, grew rapidly during this period. Poole and Hunt was one of these companies filling the needs of the mills of Jones Falls.³⁶ Poole and Hunt is also noted as casting columns and brackets for the dome of the U.S. Capitol building. Located on the west side of Jones Falls, this complex was constructed in 1854 to house Poole and Hunt's general offices and machine production. Known originally as Union

³⁶ Randall D. Beirne, "Hampden-Woodberry: The Mill Village in an Urban Setting," *Maryland Historical Magazine* 77-1 (1982): 8-9.

Machine Shops, and later as Poole Engineering, Poole and Hunt built multiple buildings including a pattern shop, a melting house, stables, and even an iron foundry (Figure 12).³⁷

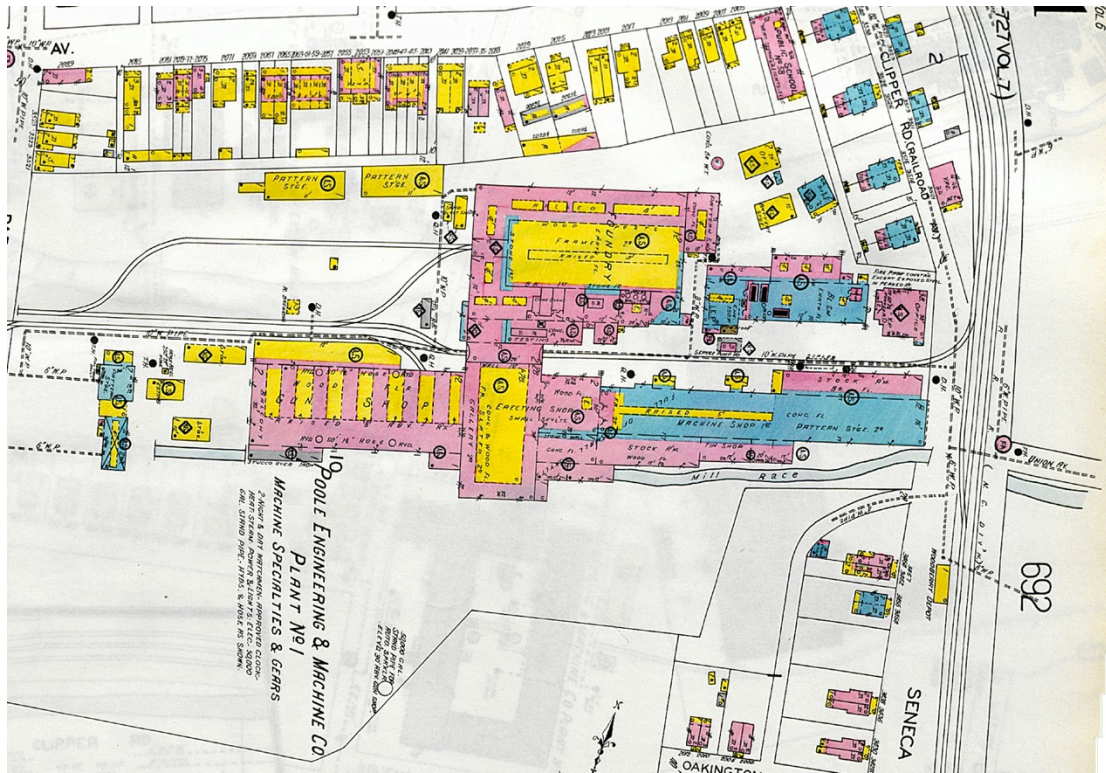


Figure 12: Poole Engineering and Machine Company (Sanborn Fire Insurance Map, Baltimore, MD, Sheet 629, 1928).

Poole and Hunt’s machine shops and foundry closed in the 1920s, at which time the mill complex became occupied by a number of smaller, independent machine shops. From the 1970s until the 1990s it was home to multiple independent artisans and light industrial firms. In 1996 the complex burned in a terrible fire, and

³⁷ “History” *Clipper Mill*, <http://www.clippermillbaltimore.com>.

was left abandoned until Struver Bros. Eccles & Rouse development firm bought and restored it in 2002.³⁸

Despite being built at different times and going through renovations and additions, the buildings of the Union Machine Shops shared design elements that created a sense of unity on the landscape. Many of these brick buildings had stone facades, and made use of the Greek Revival, temple-front style (Figures 13-15).³⁹

Figure 13: View of the Greek Revival, temple-front style of the Poole and Hunt buildings (*Industrial Baltimore*, 14).

³⁸ “Clipper Mill,” *Explore Baltimore Heritage*, <http://explore.baltimoreheritage.org/items/show/29>.

³⁹ *Hampden Historic District*. National Register #04001405. (Baltimore, Md.: National Register of Historic Places), 8(73).

Figure 14: View of Poole and Hunt (*Industrial Baltimore*, 14).

Figure 15: Historic Drawing of Poole and Hunt (*The Architecture of Baltimore*, 344).

One original building, the Machine Shop built in 1853, is no longer extant. In 1856, Poole and Hunt constructed a blacksmith shop to manufacture wrought iron products. This building still stands today. In 1905 a three-story, brownstone and brick office with a copper cupola was added onto the blacksmith shop. It was used as the millwright's office as well as workspace for the other engineers and designers. The foundry building was built in 1870, and had multiple additions during the 1880s and 1890s until it reached its current size of 51,000 square feet (Figure 16). The foundry melted down iron, steel and brass to cast a variety of products made onsite. The brick and stone assembly building was constructed in 1890. It was built to house the assembly of large machinery and originally had an interior height of eighty feet.⁴⁰ The stables that still stand on the site were also constructed in 1890. One of the latest buildings added by Poole and Hunt was the tractor building erected in 1916. Located right next to the assembly building it was also used for the assembly of large machinery. It could accommodate cranes and pits, and saw the assembly of both mill equipment and aircraft gun houses.⁴¹

Located along the Jones Falls, Poole and Hunt was surrounded by dozens of mills, and along with this concentration of industry came housing. Beginning in the 1830s neighborhoods and villages developed in close proximity to these mills. Woodberry and Hampden are two communities that survive today. Along with other mill owners, Poole and Hunt originally built much of the housing in this area, but neighborhoods not directly affiliated with these businesses also developed. This non-affiliated housing began to appear in the 1870s and continued into the 1910s; much of

⁴⁰ "Site Plan," *Clipper Mill*, <http://www.clippermillbaltimore.com>.

⁴¹ "Site Plan," *Clipper Mill*, <http://www.clippermillbaltimore.com>.

this construction was based on speculative building by private developers.⁴² Mill homes built between the 1830s and 1860s were frame or stone buildings, and were typically Greek Revival style double houses. When Baltimore annexed this area in 1888, all future buildings had to be built of brick due to the city mandate, thus changing the character of the Jones Falls area. Many of these later homes are similar to the rowhouse neighborhoods seen in the rest of Baltimore. The neighborhoods continued to grow up until the 1950s when the textile industry began to migrate to the southern United States in search of cheaper labor.⁴³

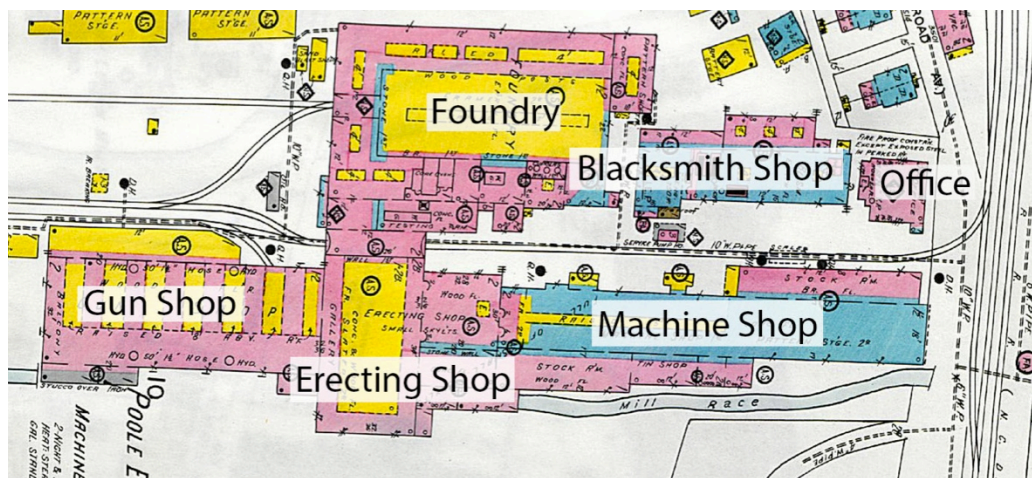


Figure 16: Poole Engineering and Machine Company, showing main buildings (Sanborn Fire Insurance Map, Baltimore, MD, Sheet 629, 1928).

⁴² *Hampden Historic District*, National Register of Historic Places, 7(16).

⁴³ *Hampden Historic District*. National Register #04001405. (Baltimore, Md.: National Register of Historic Places).

Adaptive Reuse Project

The redeveloped Clipper Mill consists of five historic buildings and one new structure. All have names related to the site's period as a foundry and machine shop (Figure 17). The renovated historic buildings include: The Assembly Building, The Foundry Building, Poole and Hunt Building, Stables Building, and Tractor Building. The newly built structure contains The Millrace Condominiums. The Clipper Mill complex also includes a series of contemporary homes, named Overlook Clipper Mill.⁴⁴

Clipper Mill is now a mixed-use complex with twenty-two different commercial tenants. Including a high-end, farm-to-table restaurant; high-end condos/apartments; a small art museum; eight artisan/artists workshops, and a variety of space for eleven businesses ranging from a gym to an environmental advocacy corporation.⁴⁵ One of these artisans is local furniture maker Gutierrez Studios, a small company that designs architectural metalwork, lighting, and furniture.⁴⁶ The businesses are local; none of them are chains or franchises. In addition to the artisans, many of the tenants are involved in some type of creative or design business. For example, the company Biohabitats, Inc. specializes, in conservation planning, ecological restoration, and regenerative design.⁴⁷ So most of these commercial units were not services of interest to the average community resident. The Millrace Condominiums is a four-story, brick structure containing sixty-two units that they describe as One and Two Bedroom Upscale Condos. The two bedroom units are an

⁴⁴ "Site Plan," *Clipper Mill*, <http://www.clippermillbaltimore.com>.

⁴⁵ "Tenants," *Clipper Mill*, <http://www.clippermillbaltimore.com>

⁴⁶ *Gutierrez Studios*, <http://www.gutierrezstudios.com>.

⁴⁷ *Biohabitats*, <http://www.biohabitats.com/>.

average of 1,030 square feet.⁴⁸ Currently, Overlook Clipper Mill is comprised of thirty duplexes and more are being constructed. A 3,300 square foot three bedroom, four bath home, has a listing price of \$549,000.⁴⁹

Figure 17: Struever Bros., Eccles, and Rouse Site Plan for Clipper Mill (<http://www.clippermillbaltimore.com>).

There were clearly a variety of jobs created by this project, but they tend to be temporary construction or rather specialized conservation and restoration jobs. The permanent jobs seem to be filled by the business owners themselves and a small number of part time or permanent employees; it is unclear whether these are new jobs to the city or simply relocations for elsewhere around Baltimore.

In order to weigh the success and impacts of the Clipper Mill project, it is necessary to consider the surrounding neighborhood prior to the project, as well as how the neighborhood has changed in the years since the project began. Data on

⁴⁸ *Millrace: Baltimore's Historic Clipper Mill*, <http://www.millrace.net>.

⁴⁹ 2082 Eric Shaefer Way, *Trulia*, <http://www.trulia.com/property/3097188547-2082-Eric-Shaefer-Way-Baltimore-MD-21211#photo-19>.

household income can begin to highlight these changes (Table 1). In 1999 the median household income was \$36,103, whereas in 2010 it had jumped to \$56,305, an increase of 55%. However the change in income levels cannot be fully appreciated by looking at just the aggregate number. Median income for homeowners in 1999 was \$37,625 and \$30,000 for renters, while by 2010 there was a huge gap in income level between homeowners and renters. The median income for homeowners jumped to \$77,760 in 2010 whereas the median income for renters remained around the same as it had in 1999 at \$39,000. In a neighborhood where a majority of residents (58.6%) are homeowners and not renters, this means median income of homeowners has increased by over 100%. 107 of the 624 households in this census tract make between \$75,000 and \$99,999.

Clear changes in the area are also reflected in the real estate prices. As of 1999 70% of owner occupied units in the Woodberry area, one of the neighborhoods surrounding Clipper Mill, were valued at between \$50,000 and \$99,000 with the median home value at \$58,000 (Table 2).⁵⁰ In 2010 the median home value in same area was \$212,100 and around 85% of homes were valued at between \$150,000 and \$299,999.⁵¹ This increase in real estate prices coincides with the redevelopment of Clipper Mill, which began in 2002.⁵²

⁵⁰ *U.S. Census, 2000: Profile of Selected Housing Characteristics, Census Tract 1308.06*, (Washington: Government Printing Office, 2000).

⁵¹ *U.S. Census, 2010: Profile of Selected Housing Characteristics, Census Tract 1308.06*, (Washington: Government Printing Office, 2010).

⁵² However the real estate bubble must also be taken into account, and explains some but not all of the increase in value. Nevertheless the price is still much higher than it was originally even after the real estate bubble.

| Woodberry⁵³ Household Income 1999 vs. 2010 | | |
|--|-------------|-------------|
| | 1999 | 2010 |
| Total Households | 408 | 624 |
| Less than \$10,000 | 18 | 27 |
| \$10,000 to \$14,999 | 20 | 0 |
| \$15,000 to \$19,999 | 47 | 50 |
| \$20,000 to \$24,999 | 9 | 48 |
| \$25,000 to \$29,999 | 63 | 0 |
| \$30,000 to \$34,999 | 31 | 23 |
| \$35,000 to \$39,999 | 32 | 96 |
| \$40,000 to \$44,999 | 25 | 44 |
| \$45,000 to \$49,999 | 36 | 49 |
| \$50,000 to \$59,999 | 51 | 59 |
| \$60,000 to \$74,999 | 30 | 32 |
| \$75,000 to \$99,999 | 28 | 107 |
| \$100,000 to \$124,999 | 15 | 31 |
| \$125,000 to \$149,999 | 3 | 26 |
| \$150,000 to \$199,999 | 0 | 42 |
| \$200,000 or more | 0 | 40 |
| | | |
| Median household income | | |
| Total: | 36,103 | 56,350 |
| Owner occupied (dollars) | 37,625 | 77,760 |
| Renter occupied (dollars) | 30,000 | 39,000 |

Table 1: Household Income in Woodberry 1999 vs. 2010

⁵³ In this case Woodberry refers to Census Tract 1308.06

| Home Values of Owner Occupied Units in Woodberry⁵⁴ 1999 vs. 2010 | | | | |
|--|-------------|------------|-------------|------------|
| | 1999 | | 2010 | |
| VALUE | Number | Percentage | Number | Percentage |
| Owner-occupied units | 263 | 100 | 404 | 100 |
| Less than \$50,000 | 69 | 26.2 | 0 | 0.0 |
| \$50,000 to \$99,999 | 184 | 70.0 | 6 | 1.5 |
| \$100,000 to \$149,999 | 4 | 1.5 | 24 | 5.9 |
| \$150,000 to \$199,999 | 0 | 0.0 | 138 | 34.2 |
| \$200,000 to \$299,999 | 6 | 2.3 | 207 | 51.2 |
| \$300,000 to \$499,999 | 0 | 0.0 | 20 | 5.0 |
| \$500,000 to \$999,999 | 0 | 0.0 | 9 | 2.2 |
| \$1,000,000 or more | 0 | 0.0 | 0 | 0.0 |
| Median (dollars) | 58,000 | | 212,100 | |

Table 2: Home Values of Owner Occupied Units in Woodberry 1999 vs. 2010

The affordability for the neighborhood is also an indication of change. In 2000 almost 74% of households in the neighborhoods around Clipper Mill were paying less than 15% of their income on monthly house payments (Table 3).⁵⁵ In 2010 the rate had lowered to just above 51%. Despite this twenty-two percentage point drop in the number of households paying less than 15% of their income on monthly house payments, a majority of the household population was still living affordably. This means that despite the increase of housing prices residents are not living in homes

⁵⁴ In this case Woodberry refers to Census Tract 1308.06

⁵⁵ *Baltimore Neighborhood Indicators Alliance* "Affordability Index for Medfield/Hampden/Woodberry/Remington between 2000 and 2010," <http://www.bnijfi.org/vs/indicators/10?csa=34>.

that are above their price range. This might mean that those in the lower economic tiers who lived in Woodberry in 1999 have already been pushed out or have left the area and those in higher economic tiers who can afford to pay the higher monthly housing costs (mortgage or rent) have moved in.

| Affordability Index for Medfield/Hampden/Woodberry/Remington Between 2000 and 2010 | |
|---|---|
| Year | Percent of Residents paying less than 15% of their Income on house payments. |
| 2000 | 73.81 |
| 2001 | 77.33 |
| 2002 | 71.4 |
| 2003 | 68.94 |
| 2004 | 69.29 |
| 2005 | 61.07 |
| 2006 | 60.83 |
| 2007 | 68.35 |
| 2008 | 53.85 |
| 2009 | 51.5 |
| 2010 | 51.18 |
| Change: | -22.63 |

Table 3: Affordability Index for Medfield/Hampden/Woodberry/Remington⁵⁶

However, along with this mixed bag of rising rents and real estate prices, the area has also seen some of the benefits of gentrification including lower crime rates. The Part 1 Crime Rate in the Medfield/Hampden neighborhoods, which “include[s] murder, aggravated assault, rape, attempted rape, burglary, larceny, and auto theft,”

⁵⁶ The affordability index is the “number of households that pay above 30 percent of their income on rent or mortgage out of all households in the area,”

decreased by 30.6% between 2000 and 2010 (Table 4).⁵⁷ In 2000 the Part 1 Crime Rate for the Hampden/Woodberry neighborhood stood at a little under 74 crimes per 1,000 residents and was much lower than the rate of Baltimore City as a whole, which stood at about 106 per 1,000 residents. By 2010 the Part 1 Crime Rate for the Hampden/Woodberry neighborhood had decreased to 51 crimes per 1,000 residents and Baltimore City as a whole had decreased dramatically to 61 per 1,000 residents. In general the Hampden/Woodberry neighborhood has had a fairly low crime rate since 2000 and only saw a 30.6% decrease in part 1 crimes between 2000 and 2010. So this neighborhood was never as crime-ridden as some of the most dangerous neighborhoods elsewhere in the city, and because of this it becomes difficult to tell how much of this decrease in crime rate was due to the gentrifying projects including Clipper Mill and how much of it was due to large-scale efforts made by the city to decrease crime rates.

⁵⁷*Baltimore Neighborhood Indicators Alliance*, “Crime Rates for Medford/Hampden/Woodberry/Remington vs. Baltimore City between 2000 and 2010,” <http://www.bnijfi.org/vs/indicators/29?csa=34> .

| Part 1 Crime Rates for the Medford/Hampden/Woodberry/Remington Neighborhood vs. Baltimore City | | |
|---|---|--|
| Year | Medfield/Hampden/ Woodberry/Remington (crimes per 1,000 residents) | Baltimore City (crimes per 1,000 residents) |
| 2000 | 73.81 | 105.97 |
| 2001 | 77.33 | 100.07 |
| 2002 | 71.4 | 88.12 |
| 2003 | 68.94 | 79.42 |
| 2004 | 69.29 | 74.79 |
| 2005 | 61.07 | 68.24 |
| 2006 | 60.83 | 65.96 |
| 2007 | 68.35 | 62.87 |
| 2008 | 53.85 | 62.8 |
| 2009 | 51.5 | 59.57 |
| 2010 | 51.18 | 61.43 |
| Change: | -22.63 | -44.54 |

Table 4: Part 1 Crime Rates for the Medford/Hampden/Woodberry/Remington Neighborhood vs. Baltimore City

Summary

Clipper Mill is a good example of a relatively successful adaptive reuse project that turned largely unused industrial buildings in mixed-use units. Clipper Mill provides a desirable space for multiple local artisans and artists to house their workshops, but overall this project follows the traditional prescribed reuse plan for industrial sites. In many respects this project was good for the community, bringing new business and cultural life to the area, decreasing crime rates, and making it a desirable place to live. But the above data suggests that Clipper Mill also contributed to an increase in real estate prices, which subsequently created a higher priced neighborhood where only middle to upper income residents could afford to live. The

units were created to house specialty, boutique businesses that are destinations and not necessary amenities that serve the residents of the surrounding community. The site plan itself has the appearance of some a “gated community” and is not overly welcoming or inviting to the surrounding populace. The fortress-like feel keeps the site from connecting with the neighborhood and is not truly integrated into the surrounding community. Overall Clipper Mill contributed to the gentrification (both the positive and the negative aspects) of Woodberry and the surrounding neighborhoods. The case study of Clipper Mill is used in Chapter 5 to explain why this typical mixed-use approach is not the right choice for the Baltimore Ice House and its surrounding neighborhoods.

Chapter 4: Industrial Reuse: Pfizer Factory, Brooklyn, NY

While projects utilizing the traditional approach of reusing of industrial buildings for mixed-use housing and retail have flooded the market, developers and preservationists alike are starting to realize that this strategy has limitations and does not work with every underutilized industrial building. Not only is the market for housing and retail generally unable to support this type of reuse for every industrial building, but many people are realizing that the negative impacts of such projects (i.e., displacement of current residents) are not worth the positives (i.e., economic vitality). Many developers have begun to search for a reuse strategy for the countless underutilized industrial buildings that will bring economic revitalization without displacing current residents. The Pfizer Factory in Williamsburg, Brooklyn is one of these projects. The strategy to reuse part of the site for multiple food production start-ups provides a helpful and informative case study. This project serves as a precedent for the hypothetical reuse project presented in Chapter 5, and is a great example to which other preservationists, architects, and developers can look.

Originally owned and operated by Pfizer Pharmaceutical Company, this 575,000 square foot manufacturing & laboratory facility is being converted into a center for light manufacturing, retail, and the arts. Pfizer used the building, located at 630 Flushing Avenue in Brooklyn, NY, as a laboratory and manufacturing site for their pharmaceutical products since its construction in the 1940s (Figures 18 and 19).⁵⁸ Development firm Acumen Capital Partners purchased the building for \$26 million, and hired Bromley Caldari Architects to do the renovation and design. These

⁵⁸ Bromley and Caldari Architects, “3 Projects,” 9.

companies have worked together on multiple adaptive reuse projects for industrial buildings around New York City.

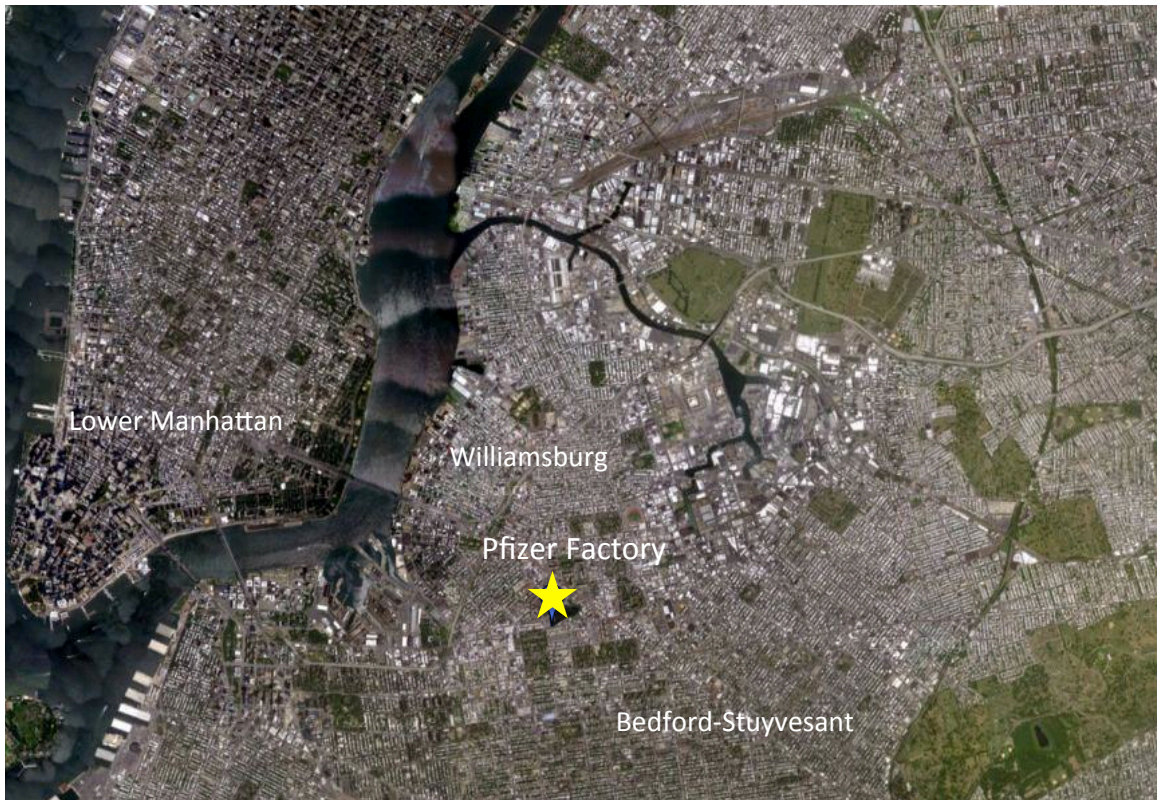


Figure 18: Map of Brooklyn showing Pfizer Factory (Google Maps).



Figure 19: Detail of Pfizer Factory (Google Maps).

Company and Site History

The Pfizer Corporation was founded in a “modest red brick building on the corner of Bartlett and Tompkins” in the neighborhood of Williamsburg (part of Brooklyn, New York) in 1849.⁵⁹ This original building served as offices, a laboratory, factory, and warehouse. The company remained on this site for over 150 years. During the first fifty years, the company acquired seventy-two lots surrounding the original factory on which they constructed new laboratories equipped to handle the production of new products.⁶⁰ In the late nineteenth century, Pfizer’s

⁵⁹ Jeffrey L. Rodengen, *The Legend of Pfizer*, (Ft. Lauderdale, FL: Write Stuff Syndicate, Inc, 1999,) 13.

⁶⁰ Rodengen, *The Legend of Pfizer*, 14.

Brooklyn factory became known as the “camphor factory” which was one of the company’s most successful products at the time. By the 1870s, Pfizer’s presence in Williamsburg transformed this previously small “village” into a highly populated industrial neighborhood, housing industries such as shipbuilding, woodworking, and even iron casting.⁶¹ Between 1946 and 1947, Pfizer tore down older warehouses and built a much larger structure referred to as Building 16 (Figures 20 and 21). Built on the south side of Flushing Avenue, Building 16 rises eight stories and originally contained warehouse space as well as research laboratories and special employee facilities.⁶² During its peak operation, Pfizer’s Brooklyn factory employed thousands of workers. In 2008, Pfizer closed the factory and moved their business elsewhere; they sold the building to Acumen in 2011.⁶³

Figure 20: Exterior View of Pfizer Factory (Building 16) (photo by Bromley and Caldari).

⁶¹ Rodengen, *The Legend of Pfizer*, 19.

⁶² Rodengen, *The Legend of Pfizer*, 70.

⁶³ Ronda Kaysen, “Food Start-Ups Flock to Old Pfizer Factory in Brooklyn,” *The New York Times*, March 27, 2012, Business Day section.

Figure 21: Exterior View of Pfizer Factory (Building 16) (photo by Bromley and Caldari).

When Acumen Capital Partners acquired the eight-story building it was still in good condition. They purchased it directly from the Pfizer Company, so the building had not been completely gutted (Figure 22). It still retained much of the original infrastructure designed to keep it sterile for the production of pharmaceuticals. Thus, many local food production start-ups were drawn to the space. The building also contains many features and equipment that were added to fulfill the company's specific needs. This includes machinery such as multiple nine-foot-tall stainless steel mixers, as well as special purpose rooms including an employee doctor's office. Some of these amenities, however, make this space ideal for food businesses. For example, there are room size refrigerators, washable floors with drains, exhaust

systems, and loading docks.⁶⁴ In addition to these amenities, the building boasts Art Deco design elements, such as terrazzo floors, which represent the design style popular at the time of construction (Figure 23). However these attractive and interesting elements are all enclosed within the building's massive brick walls. These walls do not contain many windows and thus these features are impossible to see from the street. In addition the building is surrounded by an imposing, wrought iron fence, required due to security issues as a drug manufacturer, which further prohibits community members from enjoying this historic building (Figure 24).

Figure 22: Interior of Pfizer Factory when purchased by Acumen (photo by Bromley and Caldari).

⁶⁴ Kaysen, "Food Start-Ups Flock."

Figure 23: Art Deco terrazzo floors, Pfizer Factory (photo by Bromley and Caldari).

Figure 24: Fence surrounding Pfizer Factory (photo by Bromley and Caldari).

Adaptive Reuse/Preservation Project

The factory's imposing walls and fences have kept it isolated from the rest of the community. Acumen would like to tear down some of the walls, and use the parking lot and interior of the building for community-oriented purposes such as a farmers' market; they hope to fully reintegrate this building into the community.

Bromley Caldari Architects explain that they will take an ecologically and economically sound approach to renovating the Pfizer Factory. Their design will be one that "maintains and modernizes the historic presences of the building's industrial aesthetic." In addition "large, selective ground floor openings and exterior lighting will help highlight specific spaces and develop the street-level experience" (Figure 25).⁶⁵ Although the renovation process is slow, Acumen has already been able to rent out space to multiple businesses. This number will continue to grow as the project progresses.

At this point the food start-ups employ around seventy people, and are able to pay employees at least ten to twelve dollars an hour. However, the building is large enough that it could support more businesses or allow the current businesses to grow. Either of these options would create more jobs for the surrounding neighborhood. The tenants are mostly artisanal, small-batch food companies. These small businesses are local and produce products ranging from kombucha to ice cream to cured meats (Figure 26).

⁶⁵ Bromley Caldari, "3 Projects", 10.

Figure 25: Rendering of Bromley and Caldari's design for the Pfizer Building, (Bromley and Caldari, 10).

Figure 26: Food Start-Ups in the Pfizer Building (*The New York Times*).

Located in a transitioning neighborhood in Brooklyn right at the southern edge of Williamsburg, this building could be considered transit oriented development as it is located adjacent to the G-train's Flushing Avenue station. The Pfizer Factory is also located near Marcy Houses, a public housing project, which is an indication that a good deal of the residents in the area are low income and are receiving public assistance. This means utilizing the traditional mixed-use approach to industrial buildings (like in the case of Clipper Mill) would not be in the best interest of the surrounding neighborhood. They do not need high-end retail, market-rate housing, and an overabundance of office space. They need a reuse plan that will incorporate the production of permanent employment opportunities, as well as community-oriented services, spaces, and activities, and this is what Acumen is trying to give the neighborhood. They are combining the traditional mixed-use approach with the

needs of the local community, and by doing so hope to prevent the whole scale displacement of current residents while helping to create a space where residents can feel unified and connected.

The Pfizer Factory project only adds to the area's many local businesses and public amenities. The community suffered a loss of 600 jobs when Pfizer closed the factory in 2008, so the quick turn around and reuse of the building came as a relief to local officials and community members.⁶⁶ Despite the positive nature of the Acumen project, community members are still concerned about the rest of the land once occupied by Pfizer. The corporation decided to sell their property in parcels; Acumen only purchased a few of these. Pfizer still owns several pieces of property and two-blocks worth of it is undeveloped, but is still zoned industrial, which makes industrial-focused reuse a possibility for these other parcels. The community is afraid that the outcome will be development that lacks unity, and therefore serves to create a disjointed community. Neighborhood groups have joined together to submit bids to purchase some of these parcels with the hope of using them for affordable residential purposes.

Summary

Overall, this project has already been a positive addition to the community. Taking a portion of this large industrial building and using it for light industry and the manufacture of local food products helps to stimulate the local economy, creating stable employment opportunities for residents. Currently, the food start-ups employ individuals who represent each of the largest demographic groups in the area (i.e.,

⁶⁶ Kaysen, "Food Start-Ups Flock."

members of the Hasidic Jewish community, the Latino American community, as well as the African American community).⁶⁷ The project has also made efforts to create community-oriented activities and uses for the space including farmers markets. The building is large enough to provide room for the various start-ups to expand, or for different tenants (perhaps non-food related) to move in.

However, this project is not without its faults (or possible pitfalls). Acumen's plan does not completely depart from the traditional mixed-use approach and still plans to use some of the building for commercial purposes. If the tenants are chosen carefully and businesses provide amenities that the community members truly need, instead of boutique, specialty stores as seen in Clipper Mill, then the mixed-use approach could be extremely successful. But if high-end retail that does not fulfill community needs takes over the spaces, then this project could see some of the same issues as Clipper Mill (eventual displacement of residents and rise in real estate prices) or simply fail as a project. Acumen also failed to use a preservation specialist throughout this process. The design firm, Bromley and Caldari, as well as Acumen both focus on the reuse of historic buildings, however consulting with a preservation professional would have ensured that the plans for the building respect the historic fabric and integrity of the structure. They also chose not to apply for any type of historic tax credits and instead are using only private funding. This means the project will take quite a while to be completed (between five and seven years), and is dependent upon the private investment of Acumen. Applying for tax credits would have had a two-fold effect. One, this process would have ensured the proper

⁶⁷ Jeffrey Rosenblum, phone interview with the author, January 11, 2013.

treatment of the historic structure, and two, tax credits would have made the project even more financially feasible and might have helped to speed up the renovation/restoration process.

Overall, the Pfizer Factory project is an example of new ideas and inspiration in the treatment and reuse of industrial buildings. It takes into account the surrounding community and their specific needs, and attempts to support local businesses. Acumen's project does not seek to swap out the current community for those in a higher economic tier. They planned a project for the community that is there now, not a new, hypothetical community as was done at Clipper Mill. It deviates somewhat from the traditional mixed-use approach to reusing industrial buildings that often ends in the gentrification of an area and the displacement of current residents. This project takes an interesting approach to the reuse of industrial buildings by bringing new and different industry/manufacturing back into the building. This is just one example of a project that takes a new approach to reusing America's abundant supply of industrial buildings. The positive aspects as well as the potential pitfalls of the Pfizer Factory case study are inspirations and guides for the Baltimore Ice House hypothetical reuse plan laid out in Chapter 5.

Chapter 5: Hypothetical Reuse Plan: Baltimore Ice House

Introduction

Drawing on Baltimore's industrial history, the potential downfalls of the typical re-use approach for industrial buildings, and inspirations provided by reuse projects focused on light industry or manufacturing, this chapter will focus on strategies to preserving and reusing our large stock of industrial buildings in a post-industrial America. This project highlights the importance of preservation that benefits the surrounding community and meets the needs of current residents, focusing on an underutilized and vacant industrial site in West Baltimore, known as the Baltimore Ice House. The lessons learned and discussed in the previous chapters are applied to a hypothetical reuse project.

Built in 1911 by the American Ice Company, the Baltimore Ice House building was in use until the site was damaged by a large fire in 2004. In addition to the two-story ice plant, the American Ice Company constructed a one-story warehouse for storage.⁶⁸ The lot is still zoned (M-1-2) industrial, allowing for an industrial reuse of the structure.⁶⁹ The Baltimore Ice House reflects larger trends of American industrial history including: adaptations to new and growing technologies, and mergers and the subsequent creation of monopolies. The location of the Baltimore Ice House also reflects the increased reliance on train travel and shipping. The American Ice Company plant was built adjacent to the railroad, which allowed easy transportation of materials in and out of the building. Located along West

⁶⁸ "BIG ICE PLANT STARTED," *The Sun (1837-1986)*, (Baltimore, Md.: September 6, 1911).

⁶⁹ *Baltimore City View*, <http://cityview.baltimorecity.gov>.

Franklin Street in West Baltimore, it was convenient for the horse drawn trucks making local deliveries (Figures 27 and 28). Today, it is considered part of the Midtown Edmondson neighborhood.

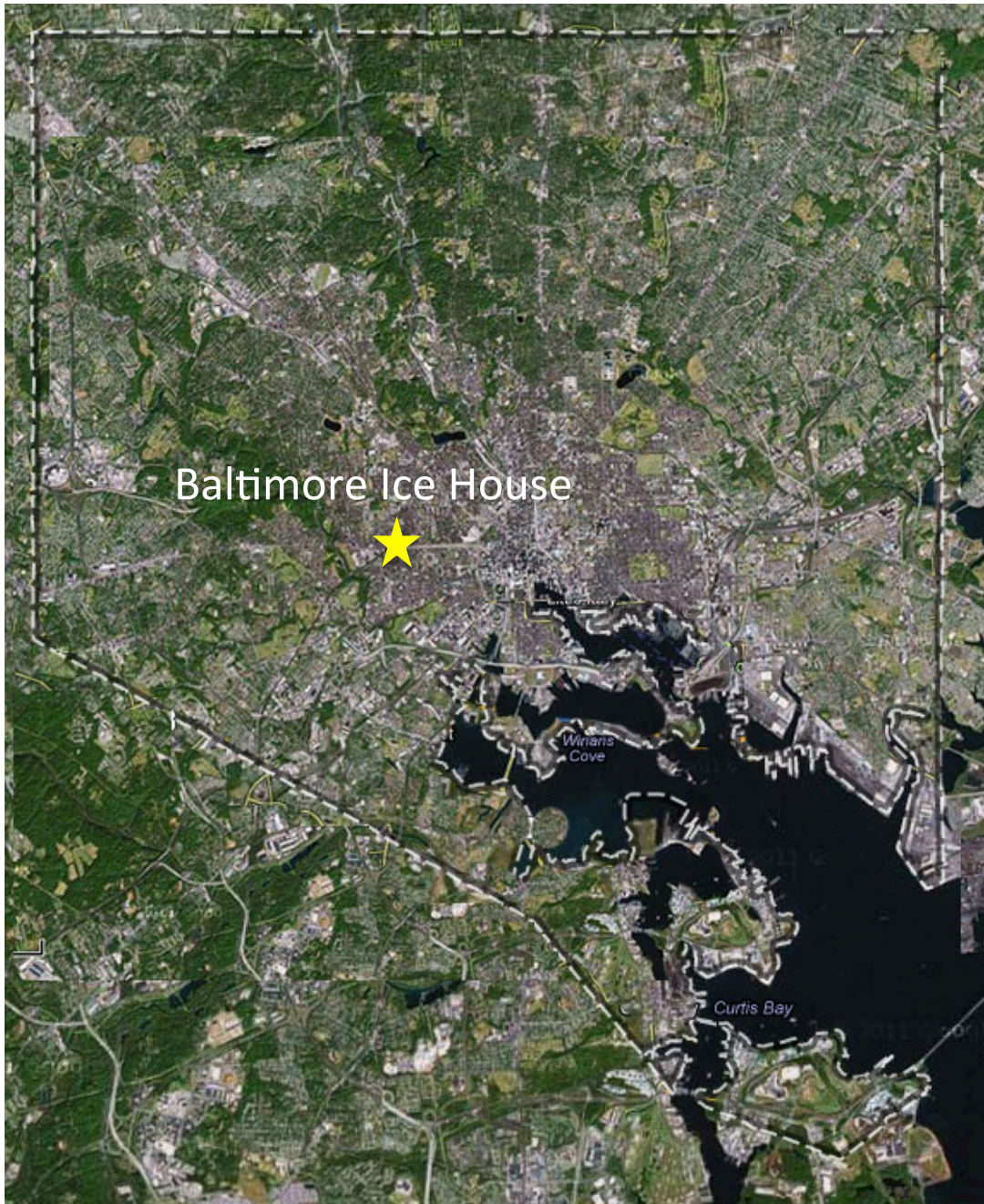


Figure 27: Map of Baltimore showing the Baltimore Ice House (Google Maps).



Figure 28: Detail showing Baltimore Ice House (Google Maps).

Preservation Problem

Many different preservation issues are at play with the Baltimore Ice House, the most obvious of which is the preservation of the structure itself. The building has suffered some structural damage from the 2004 fire, and if the building is to be preserved, immediate action must be taken. In addition to basic structural problems, the future use of this building must be addressed. But how can the Ice House be reused in a way that will benefit the surrounding community and fulfill some of the needs and amenities they have noted are lacking? The Baltimore Ice House is an interesting and unique structure that is representative of Baltimore's (and this country's) industrial past. It is also a tangible reminder of a longstanding industry

that has transformed and adapted along with technological advances and changes in society.

Building and Company History

Ice manufacturing and distribution is an old industry that has changed and grown over more than four centuries. The ice business began not as the process of making ice, but rather as harvesting natural ice and attempting to store and preserve it long enough to sell. In the United States, Maine and other northern states were the location of many of these harvests, and for years people spent time and effort refining and improving methods of harvesting ice from frozen lakes and rivers. At the same time, companies were also concerned with improving the success of transporting ice to southern states and even Cuba. This work was tedious and inefficient. From early on, people knew that manufacturing ice in factories was possible. However, no one was willing to invest money to start ice manufacturing until commercial markets in the United States were more developed. Until this time the United States relied on natural ice from the northern portions of the country.⁷⁰

Many early ice production techniques used a combination of compressed air and ether as the refrigerant. Due to its volatile nature, ether made for a dangerous process. Ether fell out of favor when ammonia was discovered to be a much safer, but equally efficient refrigerant. One of the first to attempt to sell the idea of manufactured ice was Dr. John Gorrie, who conducted experiments with the goal of cooling rooms for fever patients. He then went to New Orleans to obtain investors

⁷⁰ Richard Osborn Cummings, *The American Ice Harvests: a Historical Study in Technology*, (Berkeley: University of California Press, 1949), 6, 46-7.

and loans, but he was refused because most cities had ice depots that were well supplied with natural ice crops.⁷¹

In the 1830s, Massachusetts inventor, Jacob Perkins, built a water-powered closed-circuit system for producing ice. After discharging heat in a tank of water, the refrigerant “was condensed and automatically turned to cool the ice chamber.”⁷² Perkins was met with the same issues as Gorre when trying to find investors.⁷³ One of the first stories of a successful ice plant came in the late 1850s, when an Australian plant began to use a closed compression system like that invented by Perkins. Australia was one of the leaders in this industry out of necessity. They had an abundance of mutton for trade, but no adequate means of preserving the meat long enough to export. Around the same time, Alexander Twining set up a similar outfit in Ohio.⁷⁴ However, unlike the Australian plant, Twining’s factory soon closed because it could not compete with the much larger natural ice industry. Not surprisingly, the first ice plants in America were located in the southern and western states. These plants wanted to make sure people in their region had access to a regular supply of ice regardless of what the northeast shipped to them. They continued to have trouble competing with the dominant natural ice companies for years.⁷⁵

At the beginning of the twentieth century, the extremely powerful American Ice Company took part in both the harvesting and distribution of natural ice, as well

⁷¹ Cummings, *The American Ice Harvests*, 46, 55.

⁷² Cummings, *The American Ice Harvests*, 47.

⁷³ Cummings, *The American Ice Harvests*, 47.

⁷⁴ Cummings, *The American Ice Harvests*, 54.

⁷⁵ Cummings, *The American Ice Harvests*, 71.

as ice production. They did so through mergers with dozens of small harvesters and ice manufacturers to form what was called the Ice Trust.⁷⁶

Baltimore has a long history of involvement with the ice trade. Starting with a few local companies, they followed national trends and began to consolidate until these companies were eventually absorbed by the Knickerbocker Ice Company headquartered in Maine. It was not long until this company became part of the large consolidation efforts of the American Ice Company. In this way, the Baltimore Ice House reflects these larger trends in American industrial history. In this effort to create a monopoly, the American Ice Company acquired more than forty plants throughout the United States.⁷⁷

However, they had a difficult time maintaining their monopoly for long because the ice industry (both natural and manufactured) required little expertise or money. In addition, the market for ice kept growing larger and larger. Therefore almost any businessman could set out to become part of the ice trade. It was not long before the Ice Trust did what most monopolies do: raise prices. However ice was such an integral part of everyday life in 1900, that there was immediate backlash from all over the east coast. Within six weeks the American Ice Company's ice trust dropped prices, and by 1903 they had lost their monopoly on the ice trade and were close to bankruptcy.⁷⁸

Recovering from its early twentieth century collapse, the American Ice Company constructed its fifth ice production plant in Baltimore City in 1911. Today

⁷⁶ Cummings, *The American Ice Harvests*, 96.

⁷⁷ David Hemenway, *Prices and Choices: Microeconomic Vignettes*, (Cambridge, Mass.: Ballinger Press, 1977), 155.

⁷⁸ Hemenway, *Prices and Choices*, 160-164.

this plant is known as the Baltimore Ice House and is the subject of this project's reuse plan (Figure 29). By the 1920s the American Ice Company was following nationwide trends and focused their efforts on manufactured ice production.⁷⁹ The firm went on to see great success until the 1960s when it was absorbed in a merger with another company.

⁷⁹ Hemenway, *Prices and Choices*, 164.

Figure 29: Historic photograph of the Baltimore Ice House, 1911 (Maryland Room, University of Maryland).

Structural Analysis and Location

The American Ice Company building is located on an approximately 2.5-acre parcel along West Franklin Street between North Pulaski and North Bentalou streets. The primary façade faces south with a view of the Pennsylvania Railroad line to the west. Constructed in 1911, this two-story, twenty-one bay structure is rectangular in plan and has an asymmetrical façade (Figure 30). The building is built of red brick, laid in common bond. Each of the twenty-one bays is equal in size and is recessed from the main plane of the façade. With the exception of the engine and boiler room portion, all bays contain decorative brick corbelling within the recessed portion of each bay (Figure 31).

The building contains a one story boiler and engine room on the west portion of the building, measuring 38 feet wide by 68 feet deep, or 2,584 square feet. The ceiling in the engine room is around 28 feet tall. This portion of the building also contains a smokestack that is now partially truncated, but formerly rose to a height of 100 feet (Figure 32). The front façade of the engine room is two bays wide, but contains no window openings; however, the two bays are clearly indicated by brickwork that mimics that of the window bays in the rest of the building (Figure 33). The western elevation of the engine room contains four bays that once contained multi-paned windows above four over four wooden hopper windows (Figure 34). Currently these openings are mostly filled with cinderblocks. The northern elevation of the engine room has a large service opening, likely used to bring materials into the room (Figure 35).

Attached to the eastern wall of the engine room is the two-story, three-bay entrance block. The first floor measures approximately 40 feet by 75 feet (3,000 square feet) with 40-foot ceilings; it originally contained a 30-foot cooling tower, which kept the building at a temperature amenable for ice production. The main entrance into the building contains central wooden double doors with multiple glass panes that are flanked on either side by two wood-framed windows with panes of glass that match the door (Figure 36).

The second story of the entrance block was used for office space and can be reached by a set of spiral stairs. The front façade of the second story also contains three openings, all of which are spanned with brick segmental arches. The central entrance bay contains a parapet that rises above the other two entrance bays as well as the rest of the structure. Towards the top of the central entrance bay a large cement plaque reading “AMERICAN ICE COMPANY,” is embedded into the brick façade (Figure 37). The northern elevation of the entrance block contains a rectangular four bay wide cinder-block addition dating to sometime after 1928.

The third block, which makes up the eastern portion of the building, rises two stories and stretches sixteen bays wide. This was previously used as the tank house, and was the site of the actual ice production. The tank house is roughly twice the size of the entrance bay and measures to approximately 220 feet wide and 30 feet deep, or approximately 6,600 square feet. None of these bays contain first floor window openings, but each has a second floor opening topped with a brick segmental arch. These windows are double hung four-over-four sash windows with wood frames and a concrete sill (Figure 38).

The 1928 Sanborn Map indicates an additional and very expansive room attached directly onto the north side of the tank house; this structure is now gone. Described as the “Ice Houses,” this block was one story and topped with a flat roof. The room measured approximately 200 feet wide by 70 feet deep, or 14,000 square feet. With fifty-foot ceilings, the “Ice Houses” were used for storing the ice once it was formed in the tank house. Also noted on the 1928 Sanborn Map of the site were four other small rooms attached to the northern and eastern sides of the tank house. This included an “antechamber” and a partially covered, concrete loading dock (Figure 39).

Current Conditions

The current conditions of the Baltimore Ice House can be largely attributed to a 2004 fire that caused the collapse of the entire eastern wall of the original tank house (Figure 40). The interior of the Ice House received some damage in the 2004 fire, but remains mostly intact. The fire damage is primarily concentrated in the north and east portions of the building. The “Ice Houses,” antechamber, and other smaller rooms seen on the 1928 Sanborn Map are also gone, however some of these might have been demolished and replaced well before the 2004 fire. Remains of later additions (made of sheet metal) on this portion of the building can still be seen, as some of it survived the fire.

The interior of the tank house, as well as the entrance block remains mostly intact and still contains much of the original equipment including the wooden block frames used to form the ice and the crane used to hoist ice out of these molds (Figure

41). The engine and boiler room on the west end of the building also has a great deal of open space for storing equipment (Figure 42). These areas remained untouched by the fire.⁸⁰

Some of the current conditions, however, can be attributed to improper maintenance activities and the fact that this building has been vacant for the past nine years. Many of the wooden door and window surrounds are still intact, however the glass panes and muntins that once held the panes in the window configurations are broken or missing (Figure 43). The two bays on the farthest eastern portion of the front façade have been bricked up. The entrance door has been partially boarded up, and there have been clear attempts to break into the building (Figure 44). Currently there are three thin metal bars running horizontally to secure the doors, and screening has been installed for this same reason. The concrete and wood planked floors remain in fairly good condition on both the first and second story. The condition of the brick varies throughout the building, but spalling brick is present in places, most likely due to improper repointing techniques used over the years (Figures 45 and 46). The exposed brick interior walls are in good condition, but are covered with a good deal of graffiti, which can be attributed to its nine years without a tenant (Figure 47).

Originally there were multiple buildings on the property, the main building where the ice was produced, and the warehouses, which were located behind this main structure. However, these outbuildings were demolished in the 1950s to make way for new structures including garages. These were then replaced with storage warehouses in the 1970s. None of these outbuildings remain on the site today, as

⁸⁰ *American Ice Company Baltimore Plant No. 2*, National Register #02001589, (Baltimore, Md.: National Register of Historic Places).

they were destroyed in the 2004 fire.⁸¹ The building is protected from the street by a tall chain link fence that surrounds the property. On the eastern portion of the building, there are still remains of the metal tracking that mostly likely held large rolling doors that allowed entrance to the loading dock area, but also kept trespassers away (Figure 48).

⁸¹ All architectural description was derived from my observations, with some reference to the National Register Nomination and the 1928 Sanborn Map of the site.



Figure 30: Exterior view of Baltimore Ice House, Front Façade (photo by author).



Figure 31: Detail of brick corbelling (photo by author).



Figure 32: Detail of truncated smokestack (photo by author).



Figure 33: Detail mimicked window openings on engine room's front façade (photo by author).



Figure 34: West elevation of Ice House (photo by author).



Figure 35: Service entrance to engine room (photo by author).



Figure 36: Detail of entrance bay (photo by author).



Figure 37: Detail of cement sign (photo by author).



Figure 38: Detail of tank house (photo by author).

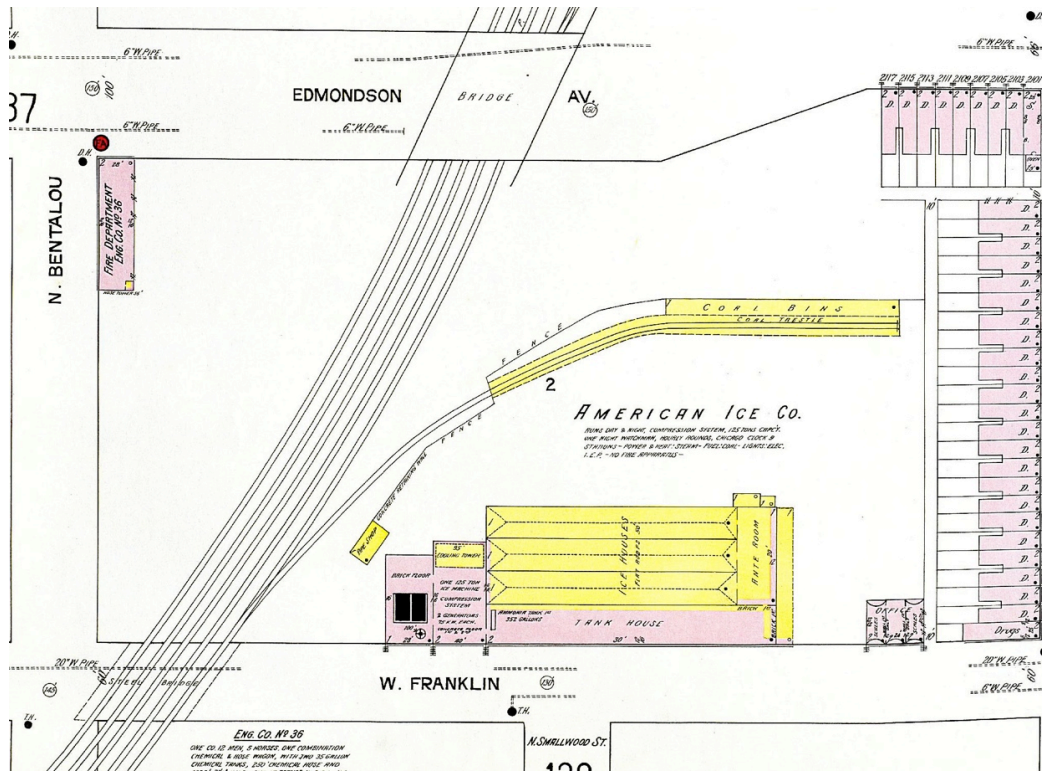


Figure 39: American Ice Company (Sanborn Fire Insurance Map, Sheet 147, 1928).



Figure 40: Detail of fire damage to eastern wall of the tank house (photo by author).



Figure 41: Interior of entrance block, first floor (photo by author).



Figure 42: Interior of boiler and engine room (photo by author).



Figure 43: Detail of window damage common to the site (photo by author).



Figure 44: Detail of damaged front entrance, (photo by author).



Figure 45: Detail of brick spalling (photo by author).



Figure 46: Detail of improperly treated brick (photo by author).



Figure 47: Interior brick walls and graffiti, taken by author



Figure 48: Intact tracking for gate (photo by author).

Neighborhood History

West Baltimore was one of the last developed rings in the growth of Baltimore in the nineteenth century. As stated earlier, Baltimore developed outward from the harbor basin in concentric circles around this central core.⁸² Thus the West Baltimore neighborhood, although already a part of the city, did not see the bulk of housing development until the late nineteenth and early twentieth centuries.

The area of West Baltimore was surveyed and gridded in the early nineteenth century between 1810 and 1816. Following the old part of the city, it was simply an extended “matrix based on the original squares of one acre each comprising the original town in 1729.”⁸³ A new map, published in 1823, included all of the original colorful alley street names, a tradition which was continued even in the newly annexed portions of the city.⁸⁴ According to Hayward, at first the growth of Baltimore proceeded unevenly:

The northwestern and northeastern sections had developed rapidly but not the area in between, even though it was closer to the business center of Baltimore and adjacent to the most populous part of Baltimore County.” Streams and rivers had impeded direct access and thus development came slowly, especially around the area of Jones Falls. By the 1880s, bridges had been built and development proceeded more evenly.⁸⁵

Before its annexation, most homes in the Western portion of the city were old estates with large tracts of land. These were broken-up as the city rapidly grew thanks to immigration and industrialization. The city’s early industries included

⁸² Hayward and Belfoure, *The Baltimore Rowhouse*, 4.

⁸³ Hayward and Belfoure, *The Baltimore Rowhouse*, 29.

⁸⁴ Hayward and Belfoure, *The Baltimore Rowhouse*, 29.

⁸⁵ Hayward and Belfoure, *The Baltimore Rowhouse*, 52.

slaughterhouses, stockyards, hair and brush factories, and tanneries, none of which were desirable to have in one's backyard. This explains the original lack of dense housing. Germans and those with German ancestry ran many of these industrial endeavors. When consolidated in 1892, the stockyards were the largest outside of the city of Chicago, and many of these were located along or near Frederick Road.⁸⁶ Originally, West Baltimore tended to cater more to middle-class residents and their businesses, many of whom were German-Americans.⁸⁷

Census data from 1880 shows that the area surrounding the West Baltimore American Ice Company Plant and further east towards Harlem Park was home to German immigrants, Irish immigrants (fewer), as well as Americans of German and English descent. Some of these people lived on the main streets surrounding parks as well as the side streets and alleys. Some alleys housed only African Americans (Woodyear Alley and What Coat Street). Otherwise African Americans were counted as part of households along the main thoroughfares where they worked as live-in servants.⁸⁸

In 1880 one fourth of Baltimore's population was made up of those who had emigrated from Germany within the last few generations.⁸⁹ This explains the large number of Germans or those of German ancestry in the 1880 Census. Germans lived in every housing type from the large row houses facing Franklin Square to the smallest alley houses on Lemmon Street. While the largely held local belief was that

⁸⁶ Hayward and Belfoure, *The Baltimore Rowhouse*, 73; Hayward, *Baltimore's Alley House*, 125.

⁸⁷ Hayward and Belfoure, *The Baltimore Rowhouse*, 48.

⁸⁸ *U.S. Census, 1880: Heads of Families*. Washington: Government Printing Office, 1880.

⁸⁹ Hayward, *Baltimore's Alley House*, 109.

African Americans were the principal alley house dwellers, many Germans, Irish, and other poor working-class residents lived in similar homes on similar streets (if not the same street) as African Americans.⁹⁰

During this period, many skilled German immigrants started their own businesses and manufacturing endeavors and were met with much success and growing wealth. They in turn offered jobs to new German immigrants. Some of these industries included: piano factories, oyster canning factories, breweries, factories that produced steam-curled hair, and ones that produced lithographs. Many of these industries were located in West Baltimore, thus further explaining the large percentage of Germans in this neighborhood. They chose this new and rapidly developing area to place their factories, which brought even newer German immigrants along to work in these businesses.⁹¹

The population of Baltimore grew rapidly in the 1840s and because of this, by the 1850s builders had developed two slightly larger variations on the working-class rowhouse. One was the three-story rowhouse in which the family would run a business out of the first floor and live in the two uppermost stories. The second was a narrow, full three-story rowhouse in which all three floors were dedicated to living. These homes were slightly larger than previous plans. Thus there was more space to accommodate both the family and the boarders to whom they commonly rented out

⁹⁰ Hayward, *Baltimore's Alley House*, 110-111.

⁹¹ Hayward, *Baltimore's Alley House*, 112; Philip C. LaCombe, "Life on a Small Street in Baltimore: One Hundred Fifty Years of an Evolving, Unique Urban Landscape," (master's thesis, University of Maryland, College Park, 2012), 9.

rooms. This housing type was constructed in West Baltimore, some of which still remains today.⁹²

The two-story and attic plan was one of the most popular housing types in West Baltimore.

These rows were often longer than the older rows of two-and-a-half-story houses; economies of building and the mass production of building materials made it easier and cheaper to build eight or ten houses at a time. Always only two bays wide, the houses built on the alley streets of these neighborhoods were virtually identical to those built on nearby main streets, though usually a foot or two narrower.⁹³

Although these homes contained stylish exterior details matching that of the larger, more expensive homes, they did not have the modern amenities such as indoor bathrooms, central heating, gas lighting, and running hot and cold water.⁹⁴

Regardless of size, many of the rowhouses in West Baltimore, were built with Italianate details starting in the 1870s and 1880s. As many of the German's had woodworking skills, wooden Italianate detailing was created for the houses using newly invented steam-powered tools in factories dedicated to the production of such architectural details. These details included bracketed cornice lines made from the scroll saws and framed frieze panels created by jigsaws. The new steam-powered tools made these stylish details affordable for even the small working-class houses. Sash and blind factories allowed for a variety of affordable window sizes and finishes (Figures 49 and 50).⁹⁵

⁹² Hayward, *Baltimore's Alley House*, 103.

⁹³ Hayward, *Baltimore's Alley House*, 100.

⁹⁴ Hayward, *Baltimore's Alley House*, 140.

⁹⁵ Hayward, *Baltimore's Alley House*, 135, 140.

It was these same rowhouses and alley houses that served as the homes for those who worked at the Baltimore Ice House. 1928 Sanborn Maps show a long block of two story rowhouses that run along North Pulaski Street directly to the east of the Ice House (Figure 51). These homes were only separated from the Ice House lot by a small alleyway. They were all fairly uniform and were most likely constructed by speculative builders who anticipated the need for more housing with the 1911 construction of the Ice House. A more diverse selection of rowhouses continued on the blocks further east of North Pulaski. These included two story dwellings similar to those adjacent to the Ice House, as well as smaller alley houses and larger three story rowhouses. Workers at the Ice House and other surrounding industrial sites would have occupied most of these homes.

Figure 49: Factory made Italianate details, from *The Baltimore Rowhouse*.



Figure 50: Example of 3 story, 3 bay Italianate style rowhouses common in the neighborhood around the Ice House (photo by author).

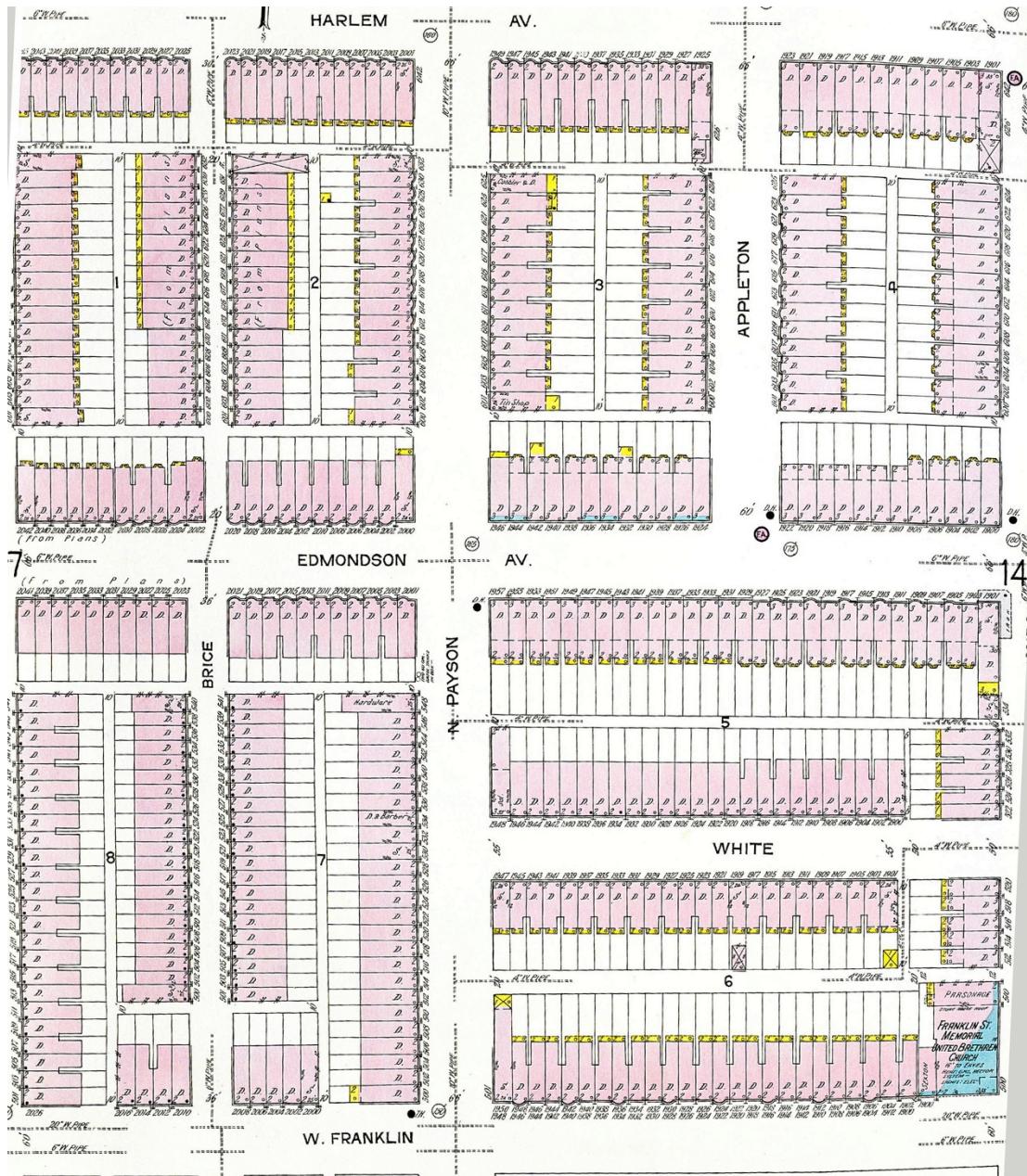


Figure 51: Neighborhood surrounding American Ice Company (Sanborn Fire Insurance Maps, Sheet 148, 1928, Maryland Room, University of Maryland, College Park).

Current Neighborhood Conditions

It is important to note that many neighborhoods in Baltimore (and many other American cities) have witnessed a resurgence of interest in row homes of all sizes. However, the Western portion of Baltimore is still viewed as suffering from high levels of disinvestment and vacancies as well as economic hardship. Many people continue to describe this area as blighted and neglected.

While West Baltimore still has many functioning neighborhoods, the stability of these communities has been and still is threatened “by a growing number of vacant houses and a perceived lack of code enforcement.”⁹⁶ Vacant housing is highest in the Harlem Park neighborhood, which is directly adjacent to the Baltimore Ice House. Edmondson Avenue, the street directly to the north of the Ice House, also suffers from a high number of vacant business properties.⁹⁷ However, the area is a mix of stable neighborhoods and ones in need of economic revitalization, and thus the stereotype of West Baltimore as blighted and unstable are generalizations and largely incorrect (Figure 52).

This reputation of West Baltimore as a disinvested community most likely began in the 1920s when rowhouse neighborhoods were abandoned by middle and upper middle class Baltimoreans who were relocating to the expanding suburbs. The reputation was enhanced by urban renewal, which hit this area hard. Urban renewal efforts included the failed attempt to build the East-West Expressway (a portion of Route 40 that was supposed to connect to Interstate 70), now known as the Highway

⁹⁶ Baltimore Red Line: Station Area Advisory Committees, “Vision Plan: West Baltimore MARC,” (2011), 6.

⁹⁷ Baltimore Red Line, “Vision Plan,” 6.

to Nowhere (Figure 53). This project razed entire blocks, destroying hundreds of homes in the Franklin-Mulberry Street corridor and creating a great physical divide in a once whole and united neighborhood. Between 1951 and 1963, urban renewal displaced over 3,100 West Baltimore families, as many alley houses were destroyed, and along with them went a vital part of West Baltimore's history. Urban renewal in West Baltimore did not just take away homes, but important community landmarks as well, including the Royal Theater and Old Lafayette Market.⁹⁸ Along with the physical changes, came social and economic distress that furthered the reputation of West Baltimore as blighted and damaged.

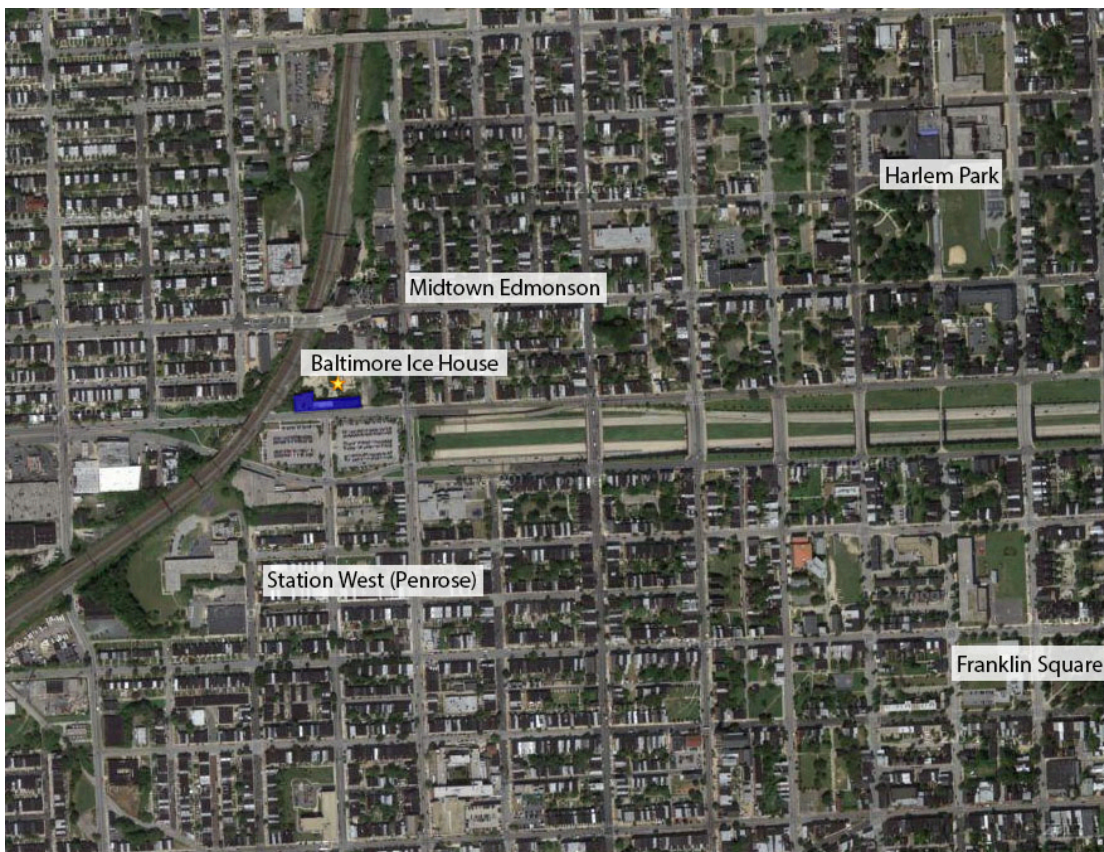


Figure 52: Map of West Baltimore neighborhoods (Google Maps).

⁹⁸ Roderick N. Ryon, "Old West Baltimore," *Maryland Historical Magazine* (77-1: 1982), 66.



Figure 53: Proximity of Baltimore Ice House to the unfinished I-70 project (Google Maps).

The area does have designated historic sites and districts, however only one is a local historic district: Union Square. Old West Baltimore and Franklin Square are on the National Register, but are not locally designated. Working to locally designate these districts would allow for more funding possibilities. This funding would help the community to revitalize and protect the neighborhoods, homes, and industrial sites, something the community members value greatly.⁹⁹

Today West Baltimore is primarily home to families rather than single or childless couples. Demographics show a population of low-to-moderate income, working class households.¹⁰⁰ The 2010 U.S. Census states that 50.1% of housing units in Census Tract 1604 are vacant, only 38% of these occupied units are owner-

⁹⁹ Baltimore Red Line, “Vision Plan,” 7.

¹⁰⁰ Maryland Department of Transportation and City of Baltimore Department of Planning, “West Baltimore MARC Station Area Master Plan: A Transit-Centered Community Development Strategy,” (2008), 26.

occupied. This means that not only does the area around the Baltimore Ice House have a large vacancy problem, but the overwhelming majority of occupied units are rented and not owned. The neighborhood is suffering from a large amount of disinvestment, and those that have remained cannot afford to purchase the home in which they live.

The census tract nearest the Ice House has a 24% unemployment rate, which is almost three times that of the national unemployment rate. Compare that to Baltimore City's overall unemployment rate, which is just over 14%. Thirty-one percent of the employed population in this census tract has to commute to work, and the mean travel time is 39.7 minutes. Only 5.7% of the employed population walked to work, indicating that there are no major sources of employment in the area. The median household income is \$27,813 and the mean household income is \$37,581. Compare that to Baltimore City's median household income of \$38,346 and mean household income of \$54,165. Over 45% of households in the census tract nearest the Ice House earn under \$25,000, whereas only 35% of households in Baltimore City as a whole earn less than \$25,000. From these few statistics it is clear that the census tract nearest West Baltimore's Ice House resides far below the city averages in every category.¹⁰¹ A more extensive look at the area surrounding the Ice House can be seen in Table 5.

¹⁰¹ U.S. Census 2010, 2010 Demographic Profile of Census Tract 1604; U.S. Census 2010, Selected Economic Characteristics, 2010 American Community Survey 1-Year Estimates, Baltimore City, Md. Census Tract 1604 is bounded on the south by Franklin Ave., on the north by Presstman St, on the west by the B & O Railroad tracks and Pulaski St. and on the east by Fulton Ave.

| Household Income 2010 in West Baltimore, Census Tracts 1604, 1603, 1602¹⁰² | | | | | | |
|--|-------------------|------------|-------------------|------------|-------------------|------------|
| | Tract 1604 | | Tract 1603 | | Tract 1602 | |
| Income and Benefits (In 2010 Inflation-Adjusted Dollars) | Households | Percentage | Households | Percentage | Households | Percentage |
| Total households | 823 | 100.0% | 553 | 100.0% | 945 | 100.0% |
| Less than \$10,000 | 133 | 16.2% | 147 | 26.6% | 151 | 16.0% |
| \$10,000-\$14,999 | 47 | 5.7% | 32 | 5.8% | 29 | 3.1% |
| \$15,000 to \$24,999 | 193 | 23.5% | 101 | 18.3% | 281 | 29.7% |
| \$25,000 to \$34,999 | 131 | 15.9% | 111 | 20.1% | 108 | 11.4% |
| \$35,000 to \$49,999 | 74 | 9.0% | 65 | 11.8% | 152 | 16.1% |
| \$50,000 to \$74,999 | 168 | 20.4% | 57 | 10.3% | 190 | 20.1% |
| \$75,000 to \$99,999 | 31 | 3.8% | 0 | 0.0% | 21 | 2.2% |
| \$100,000 to \$149,999 | 46 | 5.6% | 40 | 7.2% | 13 | 1.4% |
| \$150,000 to \$199,999 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| \$200,000 or more | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| | | | | | | |
| Median household income | \$27,813 | n/a | \$22,292 | n/a | \$25,417 | n/a |
| Mean household income | \$37,581 | n/a | \$31,247 | n/a | \$32,802 | n/a |

Table 5: Household Income 2010 in West Baltimore, Census Tracts 1604, 1603, and 1602.

¹⁰² Census Tract 1604 is bounded on the south by Franklin Ave., on the north by Presstman St, on the west by the B & O Railroad tracks and Pulaski St. and on the east by Fulton Ave; 1603 is bounded on the south by Franklin Ave., on the north by Presstman St., on the west by Fulton Ave, and on the east by N. Gilmor St.; 1602 is bounded on the south by Franklin Ave., on the north by Presstman St., on the west by N. Gilmor St., and on the east by N. Carey St.

Current Development Efforts

The Baltimore Ice House is currently in the hands of a private developer, who has yet to make any redevelopment plans available to the public. The building has, however, recently received some publicity, featured in a *Baltimore Brew* article on January 2, 2013. The article, entitled “Transit, ‘The Ice House’ and West Baltimore,” provides history of the site as well as current conditions of the structure. But the main focus of this article was on this building’s potential for redevelopment, especially when combined with improved transit.¹⁰³

There were two planning documents created with the help of community members that speak to this potential for the area in terms of transit oriented development. These documents work hand in hand to describe the conditions and assets of West Baltimore and visions for transit oriented development that could bring community improvement. Both documents lay out plans that strive to avoid displacement and maintain housing affordability, while increasing housing diversity and decreasing vacancies. The first document, “West Baltimore MARC Station Area Master Plan: A Transit-Centered Community Development Strategy” was created in 2008 by the Maryland Department of Transportation and the Baltimore City Planning Department. The second document, entitled “Vision Plan: West Baltimore MARC” was created by the Baltimore Redline Station Area Advisory Committee (SAAC) (2011).

¹⁰³ “Transit, ‘The Ice House’ and West Baltimore” *Baltimore Brew*, <http://www.baltimorebrew.com/2013/01/02/transit-the-ice-house-and-west-baltimore/>.

I will speak more specifically about the SAAC document as it is more recent and restates many of the same ideas as the Master Plan. The SAAC is guided by public involvement and the goal of creating housing diversity without displacing community members. The document states that the SAAC is concerned with the current West Baltimore MARC Station, or lack thereof. Currently the station consists of two platforms with minimal shelters. They propose that something more substantial should be constructed, perhaps even a “regional intermodal transit hub” that would act as a catalyst for other forms of Transit Oriented Development in the area.¹⁰⁴ Many local bus routes also serve the area around the MARC stop. The SAAC suggested that a circulator also be established in the area.¹⁰⁵ This could potentially bring more people into and out of the area. However, currently there is no reason for non-community members to spend time in the area for non-commuting purposes.

The document also addresses economic development and the community’s specific desires. Residents have “expressed concern over the lack of job opportunities in the immediate area.” They state that most jobs are either low paying retail or temporary positions. The community wants long-term and stable full-time employment. New construction and renovation of existing structures like the Ice House would provide construction jobs, while the Red Line and the MARC station would provide new maintenance and technical jobs.¹⁰⁶ Community members also

¹⁰⁴ Baltimore Red Line, “A Vision Plan,” 3.

¹⁰⁵ Baltimore Red Line, “A Vision Plan,” 4.

¹⁰⁶ “The proposed Red Line is a 14.1-mile, east-west transit line connecting the areas of Woodlawn, Edmondson Village, West Baltimore, downtown Baltimore, Harbor East, Fell’s Point, Canton and the Johns Hopkins Bayview Medical Center

expressed an interest in opportunities to train for health and biotech jobs increasingly available in East Baltimore, therefore the SAAC proposed the establishment of training centers for both these health/biotech jobs as well as those for the Red Line and MARC station.¹⁰⁷

The Vision Plan for West Baltimore MARC also discusses the concept of sustainability. They proposed that the Ice House and other existing industrial sites be reused for green manufacturing. This would ensure a sustainable and environmentally conscious community and aid in the creation of permanent full time employment opportunities.¹⁰⁸

Reuse Proposal

The industrial reuse of the Baltimore Ice House presents an interesting opportunity to unite the many varying goals and desires of the community residents, the City of Baltimore, the State of Maryland, and the preservation community. Converting the Baltimore Ice House into a center for biotech manufacturing is a program to unite all of these goals. Not only would this proposal help to establish West Baltimore as part of the state biotech initiative, but it would serve to provide community members with the employment opportunities they desire and ensure preservation of the historic fabric of this neighborhood. It also brings jobs back into

Campus”; Department of Transportation, Maryland Transit Administration, “Overview and Timeline,” *Baltimore Red Line*, <http://www.baltimoreredline.com/project-information/overview-timeline>.

¹⁰⁷ Baltimore Red Line, “A Vision Plan,” 5.

¹⁰⁸ Baltimore Red Line, “A Vision Plan,” 7.

the neighborhood and would allow for a resurgence of a “live where you work” lifestyle that draws on historic precedent.

My reuse proposal could help to make this portion of West Baltimore into more of a destination rather than a stop on the way to somewhere else.¹⁰⁹ The SAAC’s report also proposed that the Ice House be “redeveloped as a focal point for the West Baltimore Station [Transit Oriented Development] TOD.”¹¹⁰ Overall these ideas support my proposed redevelopment plan for the American Ice Company building, which includes the idea of Transit Oriented Development and the construction of an actual MARC station instead of simply a stop.

Transit Oriented Development is the key to a feasible and successful reuse project for the Ice House. Directly across the street from the Ice House is a park-and-ride lot for commuters. The lot is heavily utilized, which means people commute from this station on a daily basis. However, the current West Baltimore “station” is simply two platforms with minimal shelter. There is no completely enclosed space where commuters can sit and wait for the train if the wait is long. As such, a new station needs to be developed, and there are planning documents that are working towards such a plan. There is space around the Ice House where a more appropriate station could be constructed. If this is not a viable option, a station could be constructed on the current park-and-ride lot, with parking remaining underneath. Planning documents for the area (along with the input of community members) also

¹⁰⁹ I am referring more specifically to the Harlem Park and Edmondson neighborhoods as well as Evergreen Terrace and Smallwood.

¹¹⁰ Baltimore Red Line, “A Vision Plan,” 5.

stress the idea of reusing and preserving the historic fabric that remains in West Baltimore. This includes industrial sites, like the Baltimore Ice House.

Reuse of the Baltimore Ice House as a biotech manufacturing site, could be completed in conjunction with the MARC station and the implementation of the Red Line. Hopefully it would bring more people in and out of the area every day. This combined with the jobs for the current community provided by the Ice House reuse, would help to encourage further economic growth in the area. If current community members are able to work in the neighborhood, then amenities such as grocery stores, restaurants, drug stores and the like will open to serve the needs of the residents during the workday. The development of such amenities further support those who currently pass through the community as part of their commute, and they will spend more money and time in the neighborhood as opposed to simply passing through.

As the planning documents state, many community members agree that new residents from higher economic tiers need to be brought into the area; without these new residents the current residents do not believe they will get the type of resources and amenities they desire. It is likely that reuse of the Baltimore Ice House, in conjunction with the construction of a new MARC Station, could lead to the reinvestment in the housing stock and the introduction of new residents. However, steps need to be taken to ensure that this development does not displace current residents, allowing for housing diversity and affordability. One strategy would be to make sure residents are prepared for jobs in the biotech sector through the creation of training centers. Another housing strategy would be to have the biotech firm actually purchase some of the currently vacant homes near the Ice House. They would then

rehabilitate these homes into workers housing, which follows another historic precedent. These projects would be eligible for both affordable housing tax credits and historic preservation rehabilitation tax credits, thus making the process economically feasible for the biotech company.

The Pfizer Factory project is a good example on which this project can be based. Pfizer demonstrates how industrial buildings can be reused for light industrial purposes, specifically housing small food start-ups in the Pfizer building and by promoting and housing biotech manufacturing in the case of the Ice House. Either way this project has potential to inspire preservationists and developers to look beyond the typical mixed-use and high-end housing strategies, demonstrating that large industrial buildings can be used to truly benefit the community. Pfizer intends to use some of the very large building for commercial/retail; the available space allows for multiple uses in addition to the industrial reuse.

The Ice House project should seek local designation whether as an individual site or as part of a district in order to assure that historic resources will be preserved and utilized. Such designation will allow funding sources such as grants and tax credits that were not utilized in the Pfizer project. Like Pfizer, the Ice House would be a reuse plan that responds to the surrounding community and its needs. It too would be a plan designed for the current residents and not hypothetical future residents. Both Pfizer and the Ice House projects focus on bringing revenue into the neighborhood, by creating jobs for current residents. They also seek to develop a project to which residents can feel connected and not excluded.

The traditional approach to the reuse of industrial buildings as seen in the case of Clipper Mill would not work in many areas, including West Baltimore. West Baltimore has experienced much more disinvestment and was impacted by urban renewal in a way Woodberry and Hampden were not. Planning documents have begun to discuss what the residents of West Baltimore want for their neighborhood, specifically jobs and services. In areas like West Baltimore, the traditional Clipper Mill type of project would have the undesired effect of pushing out current residents. However, the potential reuse of the Ice House *can* look to Clipper Mill as to how it encourages local businesses, especially artisans and artists.

Historically the Ice House neighborhood housed working class residents, many of whom were employed in one of Baltimore's many industrial and manufacturing trades. This includes laborers employed in garment factories, cooper shops, and box factories. There were also professional jobs at these factories such as bookkeeper for the Ice House.¹¹¹ An industrial reuse plan for the Ice House is therefore in keeping with historical precedent. The community could again become a flourishing working class neighborhood, where residents can live near their place of employment. It could also become a place where vital amenities are located in close proximity to residents.

Statement of Plan

At the start of the twenty-first century, Baltimore set the goal of becoming a center for biotechnology. In 2008, Maryland Governor Martin O'Malley, announced

¹¹¹ LaCombe, "Life on a Small Street in Baltimore," 124-128.

the *Maryland Bio 2020 Initiative* that established the Maryland Biotechnology Center, as well as programs to help fund and attract biotechnology companies to the state. One of the sources of funding is the Biotech Investment Tax Credit, which if combined with a historic tax credit, could help to fund the rehabilitation and reuse of the Ice House. The state is still looking to expand their biotech efforts, for example, “[a] recent study found that there is a strong demand for additional space [to house these companies]. Maryland’s incubators comprise more than 453,061 square feet, create more than 14,000 jobs, and provide \$104 million in state and local taxes.”¹¹² The Ice House could add more than 21,784 square feet of usable biotech space. This initiative clearly connects with West Baltimore residents’ interest in biotech jobs; the desires of West Baltimore residents align with the goals and needs of the Maryland Bio 2020 Initiative.

Biotech is a huge and multifaceted industry, and given this complexity a reuse plan for the Ice House cannot just stop at “reuse as a biotech center.” There are so many types of companies with many different goals. Some biotech jobs are centered on the creation and research of pharmaceuticals and vaccinations, while others are concerned with manufacturing medical equipment. There are also biotech companies who focus on agriculture, others that look at industrial cleanup, and still others that are concerned with animal health. If this site is to be reused to house a biotech company the first order of business is to decide what type of biotech company should be located in the Ice House. The type of biotech companies and jobs already located in Baltimore are focused on medical research and the manufacturing of

¹¹² “Governor O’Malley Announces Maryland Bio 2020 Initiative” Press Release, 2.

pharmaceuticals and medical equipment. Therefore if the Ice House is going to be occupied by a growing and already established Baltimore biotech firm it will most likely be somewhere in the realm of the manufacturing of health and medical equipment. If the Ice House is occupied by a new start-up company the space would be conducive to the production of agricultural products or industrial clean up materials.

The next decision in considering the type of reuse includes determining the sizes of these companies both in numbers of personnel and in the physical size of needed facilities. What would be the best for the site? A brand-new start up or a branch of a large and already successful company? To begin to answer these questions, it is necessary to look at all of the information known about the site and the surrounding neighborhood. Using the Ice House as a site of manufacturing instead of research would provide permanent and steady employment for current residents, even if they are not trained biotech professionals. Manufacturing is also the best use for the Ice House because it is more in line with the historical use of the space and draws again on historical precedent. However without substantial investment it is probably not possible for it to be completely sterile for the production of pharmaceuticals (like the Pfizer Factory was). For this reason the Ice House should focus on the manufacturing of health and medical products that do not require completely sterile facilities. The building is divided into three main blocks, but each of these blocks is fairly open, thus allowing the building much flexibility. Retrofitting the infrastructure for use as a site of biotech manufacturing would not be difficult. The building provides 18,700 square feet of production space (almost 33,000 square feet if

the “Ice Houses” that were once attached to northeastern portion of the building are reconstructed) and approximately 3,000 square feet of office space. For these reasons, the Ice House would be best used to produce some sort of medical equipment.

The Ice House could be used by a newly founded start-up company, which would more than likely employ between 11 and 50 people. This could be a new company involved in the production of health and medical products, as is popular in Baltimore, or a firm interested in the manufacturing of agricultural or industrial clean up products. The Ice House allows for a start-up to grow and provides space for expansion on the site, something that many companies do not have. Another option is for the Ice House to be used by an expanding biotech company that is looking to expand and does not have the necessary space located on site. It is also possible for the Ice House to be used by an already established company that is looking to diversify or expand its production efforts. For example, Baltimore company Arcion Therapeutics is a biotech startup that focuses on the creation of “innovative topical treatments and leverage its expertise in understanding the biology underlying the neuropathic pain condition.”¹¹³ As the company progresses on the development of the pharmaceutical product, ARC-4558, they will seek “partnership-related options for further development and commercialization of the lead product candidate.”¹¹⁴ The Ice House could be part of this expansion in terms of a site for production and manufacturing of the product.

¹¹³ “About,” *Arcion Therapeutics*, <http://www.arciontherapeutics.com/about>.

¹¹⁴ “About,” *Arcion Therapeutics*, <http://www.arciontherapeutics.com/about>.

BioStorage LLC is an example of a company that might want to expand, or is at least a type of production that might suit the Ice House. This Baltimore company located in Northeast Baltimore “has provided expertise in liquid nitrogen (LN2) and ultra-low temperature (ULT) freezer technologies since 1990.”¹¹⁵ BioStorage has multiple partnerships and provides multiple services including, biological specimen management (long/short term storage and proper disposal), transportation and shipment of bio specimens and freezers, and supplying freezer and accessories to institutions. Any or a combination of these services might be suitable for location in the Ice House. As stated above, most start-ups and small companies seem to employ between 11 and 50 people. Such small start-ups or small, but established companies could serve as a start for the Ice House potentially adding more personnel or jobs as the business becomes more successful or wishes to expand. This type of production is interesting given the site’s historic use for ice production. The building’s construction allows for an environment with low enough temperatures that ice could be both produced and kept frozen. This might be a great asset if BioStorage or a similar company were to move in. Reusing the Ice House to manufacture and deal in freezer technology is a great way to connect the past and present use of the building.

Other benefits of using this historic industrial building as a site for biotech manufacturing are tax credits. Part of the Maryland Bio 2020 Initiative is the creation of the Biotech Investment Tax Credit, which “provides income tax credits equal to 50% of an eligible investment for investors in qualified Maryland biotechnology companies. This tax credit program offers incentives for investment in seed and early

¹¹⁵ *BioStorage LLC*, <http://www.biostorage.net/index.htm>.

stage, biotech companies, up to \$250,000.”¹¹⁶ This project could also apply for the state and federal Historic Preservation Tax Credit, which each provide “20% credit for qualified capital costs expended in the rehabilitation” of a commercial building that is also a certified historic structure.¹¹⁷ The Ice House is already on its way to being qualified for these credits as the building has been nominated for listing on the National Register of Historic Places.

Obviously much more needs to be done in the way of detailed planning and research, but this hypothetical plan is not meant to be comprehensive. This chapter (and this project) is about suggesting new options and opening the way for further conversation. It is meant to demonstrate that these industrial buildings are not unusable, and there are other options besides high-end mixed-use that often ends in gentrification. Industrial reuse does not mean a return to the industrial cities of the nineteenth and early twentieth centuries. Instead it means a return to “live where you work” urban communities, where jobs and amenities are located in the neighborhood. It means hope for the creation of the positive aspects of gentrification (decreased vacancy, unemployment, and crime) and the avoidance of the negative aspects (increased real estate values and the displacement of current residents).

¹¹⁶ “Business Resources: Biotechnology Investment Tax Credit,” *Department of Business and Economic Development*, <http://www.choosemaryland.org/businessresources/pages/biotechnologyinvestmenttaxcredit.aspx>.

¹¹⁷ “Maryland Sustainable Communities Rehabilitation Tax Credit Program,” *Maryland Department of Planning: Maryland Historic Trust*, <http://mht.maryland.gov/taxcredits.html>.

Chapter 6: Conclusions

The hypothetical reuse plan for the Baltimore Ice House laid out in Chapter 5 explores the possibilities provided by industrial reuse plans. Reusing the Ice House as a site for the manufacturing or production of a biotech project has great potential to positively impact the surrounding neighborhoods. This plan fulfills the requests of current residents by creating permanent jobs in the area and giving current residents access to employment in biotechnology.

This plan would allow for the recreation of a “live where you work” community, which used to be the rule in Baltimore and not the exception. Hopefully, giving current residents access to steady employment would prevent the whole scale displacement of residents, while still encouraging a small influx of new residents in higher economic tiers. Creating jobs in the neighborhood as well as a small influx of these new residents would spur economic development and encourage the opening of local businesses that could provide much needed amenities.

Reusing the Baltimore Ice House as a biotech manufactory is also in keeping with current residents’ desire to preserve their historic community landmarks. Preserving the Ice House and reusing it instead of razing it to construct new developments encourages sustainable development and urban planning. This gives this project economic, cultural, and environmental value.

There is a historic precedent for the use of this building as a site of manufacturing. Having been constructed to accommodate the production of ice, this building contains a fairly open floor plan similar to many industrial buildings. Thus

the building is versatile and fairly easy to retrofit for the purpose of biotech production.

In addition to all of these elements, this project is economically feasible. Applying for the Biotech Investment Tax Credit could provide up to 50% of qualified project costs. The Federal and state historic preservation tax credits could each provide up to 20% of qualified project costs. If the details Baltimore Ice House reuse project are planned carefully, with the help of preservation consultants and an expert biotechnology management, this project will be successful. But no matter how the Ice House is reused, the plan needs to be designed for the current residents, with their needs and concerns in mind.

Much can be learned from this project. The exploration of Baltimore as an industrial city is something that should be considered when undertaking reuse projects of the many industrial sites in the area. This history cannot and should not be removed or ignored. In order to find successful reuse for a building, all of this must be taken into consideration. By failing to consider this history of industrial development and the neighborhood growth that followed, reuse projects often follow the popular and prescribed strategy of high-end mixed-use. While this is a perfectly acceptable approach for some buildings, it is not for others. Preservationists, developers, and architects must look to the historical context of the city, neighborhood, and building as well as the current needs and desires of the community residents before choosing a reuse strategy. If all of these factors are ignored, displacement of current residents could occur. By showing a project that is already implementing these ideals and by proposing a hypothetical project that follows this

example, it is clear that these empty and underutilized industrial buildings that were once the centerpieces of the community are still vital to the health of a neighborhood. These buildings do not have to remain vacant or fear demolition. They can be reused. Industrial reuse is a feasible option that could take many different forms. The key is to look at the historical factors and the needs current residents alongside business and industrial opportunities unique to the area (like the Biotech 2020 Initiative). If preservationists, developers and the like adopt this approach, these buildings, and possibly the surrounding neighborhoods will see a bright future.

Bibliography

- Abrash, Merritt. 1974. "Institute on Industrial Archaeology." *Journal of Field Archaeology* 1 (3/4) (January 1): 237–239. doi:10.2307/529292.
- "Affordability Index for Medfield/Hampden/Woodberry/Remington Between 2000 and 2010." *Baltimore Neighborhood Indicators Alliance*.
<http://www.bnijfi.org/vs/indicators/10?csa=34>.
- "American Ice Company Baltimore Plant No. 2". National Register # 02001589.
Baltimore, Md.: National Register of Historic Places.
- Arcion Therapeutics. "About." <http://www.arciontherapeutics.com/about>.
- Austin, Richard L., Woodcock, David G., Steward, W. Cecil, and Forrester, R. Alan. 1988. *Adaptive Reuse : Issues and Case Studies in Building Preservation*. New York: Van Nostrand Reinhold.
- "Baltimore City View." <http://cityview.baltimorecity.gov>.
- Baltimore Redline: Station Area Advisory Committees. 2001. "Vision Plan: West Baltimore MARC."
- Beirne, D. Randall. 1982. "Hampden-Woodberry: The Mill Village in an Urban Setting." *Maryland Historical Magazine* 77 (1): 6–26.
- "BIG ICE PLANT STARTED." 1911. *The Sun (1837-1986)*, September 6.
- "Biohabitats." <http://www.biohabitats.com>.
- BioStorage LLC*. <http://www.biostorage.net/index.htm>.
- Bromley and Caldari Architects. "3 Projects, Work Portfolio."
- Bruchey, Eleanor S. 1969a. "The Development of Baltimore Business, 1880-1914 Part I." *Maryland Historical Magazine* 64 (1): 18–42.

- . 1969b. “The Development of Baltimore Business, 1880-1914 Part II.” *Maryland Historical Magazine* 46 (2): 144–160.
- “Business Resources: Biotechnology Investment Tax Credit.” *Department of Business and Economic Development*.
<http://www.choosemaryland.org/businessresources/pages/biotechnologyinvestmenttaxcredit.aspx>.
- Cantell, Sophie Francesca. 2005. “The Adaptive Reuse of Historical Industrial Buildings: Regulation Barriers, Best Practices, and Case Studies,” Masters Thesis, Virginia Polytechnic Institute and State University.
- “Clipper Mill.” 2013a. *Explore Baltimore Heritage*. Accessed March 23.
<http://explore.baltimoreheritage.org/items/show/29>.
- . *History*. <http://www.clippermillbaltimore.com>.
- . *Site Plan*. <http://www.clippermillbaltimore.com>.
- . *Tenants*. <http://www.clippermillbaltimore.com>.
- “Cochran-Older Ice Company, Cedar Grove, Maine, 1885.” 1997. *Maryland Historical Magazine* 92 (4): 411.
- Cummings, Richard Osborn. 1949. *The American Ice Harvests; a Historical Study in Technology, 1800-1918*. Berkeley: University of California Press.
- Fischetti, David C. 2009. *Structural Investigation of Historic Buildings : a Case Study Guide to Preservation Technology for Buildings, Bridges, Towers, and Mills*. Hoboken, N.J.: John Wiley & Sons.

- Fox, Charles J. 1912. "Twentieth Annual Report of the Bureau of Statistics and Information of Maryland 1911". Governmental 20th. Report of the Bureau of Statistics and Information of Maryland. Baltimore, Md.: Bureau of Statistics and Information of Maryland.
- "Gentrification." *Merriam Webster Dictionary Online*. <http://www.merriam-webster.com/dictionary/gentrification>.
- Gordon, Robert B., and Malone, Patrick M. 1994. *The Texture of Industry*. New York: Oxford University Press.
- "Gutierrez Studios." <http://www.gutierrezstudios.com>.
- "Hampden Historic District". National Register #04001405. Baltimore, Md.: National Register of Historic Places.
- Hayward, Mary Ellen. 2008. *Baltimore's alley houses : homes for working people since the 1780s*. Baltimore: Johns Hopkins University Press.
- Hayward, Mary Ellen, and Charles Belfoure. 2001. *The Baltimore Roughhouse*. New York: Princeton Architectural Press.
- Hayward, Mary Ellen, and Shivers, Frank R. 2004. *The Architecture of Baltimore : An Illustrated History*. Baltimore: Johns Hopkins University.
- Hemenway, David. 1977. *Prices and Choices : Microeconomic Vignettes*. Cambridge, Mass.: Ballinger Pub. Co.
- Historic Photograph of the Baltimore Ice House*. 1911. Maryland Room, University of Maryland, College Park.
- Holusha, John. 1996. "Commercial Property/Recycling; A New Factory and New Jobs? For New York? Yes." *New York Times*, July 7.

<http://www.nytimes.com/1996/07/07/realestate/commercial-property-recycling-a-new-factory-and-new-jobs-for-new-york-yes.html>.

Howard, George W. 1873. *The Monumental City: Its Past History and Present Resources*. Baltimore: J.D. Ehlers & Co., Engravers and Steam Book Printers.

Howland, Marie. 2000. "The Impact of Contamination on the Canton/ Southeast Baltimore Land Market." *Journal of the American Planning Association* 66 (4) (September): 4-11.

———. 2011. "Planning for Industry in a Post-Industrial World." *Journal of the American Planning Association* 77 (1): 39–53.

———. 2003. "Private Initiative and Public Responsibility for the Redevelopment of Industrial Brownfields: Three Baltimore Case Studies." *Economic Development Quarterly* 17 (4) (November): 367–381.

Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. New York: Random House.

———. 1969. *The Economy of Cities*. New York: Random House.

Kaysen, Ronda. 2012. "Food Start-Ups Flock to Old Pfizer Factory in Brooklyn." *The New York Times*, March 27, sec. Business Day.

<http://www.nytimes.com/2012/03/28/business/food-start-ups-flock-to-old-pfizer-factory-in-brooklyn.html>.

LaCombe, Philip C. 2012. "Life on a Small Street in Baltimore: One Hundred Fifty Years of an Evolving, Unique Urban Landscape". Master's thesis, College Park, MD: University of Maryland.

- Lederer, Victor, and Brooklyn Historical Society. 2005. *Williamsburg (NY)*. Arcadia Publishing.
- Liebel, Tom. 2006. *Industrial Baltimore*. Charleston, SC: Arcadia Pub.
- Linebaugh, Donald W. 2011. *The Springfield Gas Machine: Illuminating Industry and Leisure, 1860s-1920s*. Knoxville, TN: University of Tennessee Press.
- Maryland Department of Transportation, and City of Baltimore Department of Planning. 2008. "West Baltimore MARC Station Area Master Plan: A Transit-Centered Community Development Strategy."
- "Maryland Sustainable Communities Rehabilitation Tax Credit Program." *Maryland Department of Planning: Maryland Historic Trust*,. <http://mht.maryland.gov/taxcredits.html>.
- Meyers, Charles H. 1897. "Sixth Annual Report of the Bureau of Industrial Statistics of Maryland." Governmental 6th. Report of the Bureau of Industrial Statistics of Maryland. Baltimore, Md.: Bureau of Industrial Statistics of Maryland.
- "Millrace: Baltimore's Historic Clipper Mill." <http://www.millrace.net>.
- Muller, Edward K., and Paul A. Groves. 1979. "The Emergence of Industrial Districts in Mid-Nineteenth Century Baltimore." *Geographical Review* 69 (2) (April 1): 159–178.
- Novak, Renée Sciuto. 2006. "Industrial Heritage in Baltimore: Analyzing the Role of Historic Preservation in Brownfield Redevelopment". Master's thesis, College Park, MD: University of Maryland.
- "Press Release Governor O'Malley Announces Maryland Bio 2020 Initiative."
- Rodengen, Jeffrey L. 1999. *The Legend of Pfizer*. Ft. Lauderdale, FL: Write Stuff Syndicate, Inc.

- Ryon, Roderick N. 1982. "Old West Baltimore." *Maryland Historical Magazine* 77 (1): 54–69.
- "Sanborn Fire Insurance Maps, Baltimore Md., Volume 2, Sheet 148." 1928. Sanborn Publishing Company.
- "Sanborn Fire Insurance Maps, Baltimore Md., Volume 2, Sheet 149." 1928. Sanborn Publishing Company.
- "Sanborn Fire Insurance Maps, Baltimore Md., Volume 6, Sheet 691." 1928. Sanborn Publishing Company.
- Shackel, Paul, and Matthew Palus. 2006. "Remembering an Industrial Landscape." *International Journal of Historical Archaeology* 10 (1) (March 26): 49–71.
- "Transit, 'The Ice House' and West Baltimore." 2013. *Baltimore Brew*.
<http://www.baltimorebrew.com/2013/01/02/transit-the-ice-house-and-west-baltimore/>.
- "Trulia." 2082 *Eric Shaefer Way, Baltimore, MD*.
<http://www.trulia.com/property/3097188547-2082-Eric-Shaefer-Way-Baltimore-MD-21211#photo-19>.
- "U.S. Census 2010, Selected Economic Characteristics, 2010 American Community Survey 1-Year Estimates, Baltimore City, Md." 2010. Washington: Government Printing Office.
- "U.S. Census 2010: 2010 Demographic Profile of Census Tract 1604." 2010. Washington: Government Printing Office.
- "U.S. Census, 1880: Heads of Families, Baltimore, Md." 1880. Washington: Government Printing Office.

“U.S. Census, 2000: Profile of Selected Housing Characteristics, Census Tract 1308.06.”

2000. Washington: Government Printing Office.