

THE PRESERVATION OF POST WORLD WAR II FOOD MANUFACTURING FACILITIES
OF MACON, GEORGIA

by

LISA SHERRIÉ RALEIGH

(Under the Direction of Mark Reinberger)

ABSTRACT

This thesis is an analysis of Macon, Georgia's post-World War II food manufacturing facilities, their local context and significance as a part of Macon's industrial history, and ideas for potential adaptive reuse of these buildings. Included is a history of national manufacturing and its architecture, a synopsis of the general postwar factory and postwar industrial districts in America, and Macon's industrial and economic background. Three case studies focus on both large and small facilities in Macon, including two vacant facilities and one still operating as a food manufacturer. Since the case studies are in different areas of the city there is also a brief review of zoning and how zoning affects potential reuse of industrial buildings.

INDEX WORDS: Industrial Architecture, Manufacturing Architecture, Postwar
Manufacturing, Postwar Industry, Decentralization, Adaptive Reuse, Food
Manufacturing, Macon, Georgia

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DEDICATION

To my grandfather, who loved history, and whose job with the Central of Georgia Railroad (later the Southern Railway) was to drive trains on the Mead line – to pick up finished products from manufacturers for shipping and to drop off raw resources.

“Mac”

12 July 1913

12 June 1980

To my parents, who have always encouraged me to continue my education, and to my brother, who sent me care packages when I returned to graduate school.

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I would like to extend a special note of thanks to Mr. Jim Weatherford of the Crown Candy Company in Macon for giving me an extended tour of their facility (and allowing me to sample a wonderfully warm coconut macaroon); the Bentley family of Bentley & Sons Funeral Home for allowing me to visit the Colonial Bread facility and take photographs of the interior of the building; and Conveying Solutions for allowing me to photograph the exterior of the former Tru-Ade Bottling plant on Broadway. I would not have been able to write this thesis without their gracious cooperation. Finally, I would like to thank Muriel Jackson, Head of the Genealogy & Historical Room at the Washington Memorial Library in Macon, Georgia for her immense help in identifying potential archival resources for this thesis.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	v
LIST OF MAPS.....	viii
LIST OF FIGURES.....	ix
CHAPTER	
1 INTRODUCTION	1
2 A GENERAL HISTORY OF NATIONAL MANUFACTURING AND ITS ARCHITECTURE.....	6
An Overview of Food Product Manufacturing in the United States	12
An Overview Southern Manufacturing	13
Important Factors in Location of Manufacturing Industries in the United States ..	17
3 POST-WORLD WAR II FACTORIES.....	19
Progression of the Twentieth Century Factory	20
Postwar Industrial Districts and Decentralization	30
4 A BRIEF HISTORY OF SOUTHERN FOOD MANUFACTURING AND A HISTORY OF INDUSTRY IN MACON	34
5 CASE STUDIES.....	52
Criteria	52
Case Study No. 1: Crown Candy Company	56
Case Study No. 2: Colonial Baking Company	68

Case Study No. 3: Tru-Ade Bottling	79
6 PRESERVATION OF HISTORIC INDUSTRIAL BUILDINGS AND ADAPTIVE REUSE.....	87
Economic Incentives.....	89
Renewed Appreciation for Mid-Century Modern	92
Preservation of Modern Resources.....	93
General Preservation in Macon	98
7 ANALYSIS OF CASE STUDIES.....	100
Retaining Character Defining Features	102
Potential Adaptive Reuse and Zoning Concerns	103
National Register of Historic Places and Historic Districts	108
8 CONCLUSIONS & RECOMMENDATIONS	111
Preservation and Potential Adaptive Reuse Ideas	112
Recommendations for Colonial Bread	113
Recommendations for Crown Candy	115
Recommendations for Tru-Ade Bottling.....	115
National or Local Register Considerations.....	116
REFERENCES	119
APPENDIX: FOOD RELATED INDUSTRIES IN MACON, 1960.....	133

LIST OF MAPS

	Page
Map 1: Context Map of Bibb County, Georgia and the City of Macon	5
Map 2: Areas of Twentieth Industry in Macon, Georgia	33
Map 3: Elevation and Hydrology of Macon, Georgia	42
Map 4: Locations of Food Industries in Macon in 1960	50
Map 5: Kernel Density Test – Food Industries Located ½ Mile from State Highways in 1960 ...	51
Map 6: Map from “Mapping Inequality: Redlining in New Deal America” – Macon’s neighborhoods in 1940 as coded for insurance	69
Map 7: Zoomed map from “Mapping Inequality: Redlining in New Deal America” – Macon’s neighborhoods in 1940 as coded for insurance	70
Map 8: The Colonial Bread facility as located within a C-2 district in the Unionville area	105
Map 9: Crown Candy as located within an M-1 district.....	106
Map 10: Tru-Ade facility as located within an M-1 zoning district.....	107

LIST OF FIGURES

	Page
Figure 1: Engraving of the Boston Manufacturing Company in Waltham, Massachusetts, ca. 1813-1816 by Elijah Smith.....	8
Figure 2: Grain elevator in Illinois, ca. 1873.....	9
Figure 3: Cast iron factory at North First Street in St. Louis, ca. 1849-1850	10
Figure 4: Textile factory in Lowell, Massachusetts, ca. 1908	10
Figure 5: Advertisement for the Simonds Saw & Steel Company’s Windowless Factory	11
Figure 6: Sketch of the Highland Park Powerhouse, featuring extensive windows.....	21
Figure 7: The 1923 Glass Plant at the Ford River Rouge Complex	22
Figure 8: The 1938 Chrysler Half-Ton Truck Plant	23
Figure 9: The Chrysler Half-Ton Truck Plant railroad spurs	23
Figure 10: A factory flow diagram example	26
Figure 11: A 3D model of the Dearborn Motor Plant in Michigan helped designers, owners, and architects visualize the entire project to make final decisions.....	27
Figure 12: The Ampul Building at the Winthrop Chemical Company in Rensselaer, New York featured tiled walls and opaque glass brick windows – features also used on the Durkee Foods Facility in Macon, Georgia in 1947	28
Figure 13: The simple brick wall of the Studebaker Corporation’s plant in South Bend, Indiana shows typical building materials of the time	29

Figure 14: The Atlanta Envelope Company factory harkens back to the Modern style with influences from LeCorbusier and Frank Lloyd Wright	29
Figure 15: An aerial view of the General Motors Corporation Assembly Plant in Atlanta, built in 1946 shows flat roofs with a light-colored top coat to help with cooling	29
Figure 16: The Sunshine Diaries building on Hardeman Avenue, built in 1929	32
Figure 17: Findlay Iron Works in Macon, GA during the antebellum period.....	36
Figure 18: A cotton mill in Macon, Georgia, ca. 1876.....	37
Figure 19: The former NABISCO building on 5 th Street was constructed in 1909 and served the company until 1985	39
Figure 20: An example of common turn-of-the-century industrial architecture in Macon’s Railroad Industrial District	39
Figure 21: The Beaux-arts Italian Renaissance building at the corner of Hazel & 5 th Street was built in 1900 for Proctor & Gamble.....	40
Figure 22: The Proctor & Gamble building at Hazel & 5 th during the early twentieth century after employees received Christmas baskets.....	40
Figure 23: The Birdsey Flour Mills on Lower Poplar Street, built in 1921	44
Figure 24: The former American Bakeries Company building in Macon, built ca. 1921	44
Figure 25: Dr. Pepper Bottling building, ca. 1941, constructed in 1930.....	45
Figure 26: Inset from a Macon map, ca. 1945-1955 promoting the city	48
Figure 27: Crown Candy manufacturing facility in Macon, Georgia in 2018	56
Figure 28: The facility as it appeared when owned by the J. H. Filbert, Inc. Company showing the original loading dock and rail spur	57
Figure 29: North elevation of Crown Candy	58

Figure 30: North elevation of the addition, built in the 1970's	59
Figure 31: The original 1948 northeast elevation from the exterior.....	60
Figure 32: East elevation, looking south	60
Figure 33: Original east elevation, which is now enclosed to form a corridor.....	61
Figure 34: North elevation of two adjoining secondary structures on the property	61
Figure 35: West elevation of secondary building	62
Figure 36: A secondary structure connected to the secondary buildings	62
Figure 37: Original watch clock station in the secondary structure	63
Figure 38: Original ammonia pressure gauge in the secondary structure	63
Figure 39: Original ammonia tanks, located within the secondary structures (1).....	63
Figure 40: Original ammonia tanks, located within the secondary structures (2).....	63
Figure 41: Original tank used to hold additional ammonia, now repurposed to hold fructose corn syrup for candy making	64
Figure 42: Original exterior electric box, currently not in use	64
Figure 43: Original exterior electric pole, currently not in use	64
Figure 44: Original mid-twentieth century electric boxes, currently not in use (1)	65
Figure 45: Original mid-twentieth century electric boxes, currently not in use (2)	65
Figure 46: Original glass block windows in the south portion of the factory, dating to 1948	65
Figure 47: Original bay door in the south portion of the factory (1).....	65
Figure 48: Original bay door in the south portion of the factory (2).....	65
Figure 49: Original sprinkler system for fire suppression, currently not in use (1)	66
Figure 50: Original sprinkler system for fire suppression, currently not in use (2)	66
Figure 51: Original sprinkler system for fire suppression, currently not in use (3)	66

Figure 52: Original sprinkler system for fire suppression, currently not in use (4)	66
Figure 53: Lee Baking Company's south elevation	68
Figure 54: Colonial Bread advertisement, 1957	71
Figure 55: South elevation, looking east	72
Figure 56: Exterior alarm dating to the mid-twentieth century	73
Figure 57: Mid-century strip windows along the south elevation of the structure	73
Figure 58: West elevation of the main structure, showing three loading docks	74
Figure 59: A portion of the west elevation, featuring a recessed loading bay	74
Figure 60: East elevation of the facility	75
Figure 61: Interior of the south elevation, facing east	76
Figure 62: Interior of the south elevation, facing east showing water damage (1)	76
Figure 63: Interior of the south elevation, facing east showing water damage (2)	76
Figure 64: The west interior (1)	77
Figure 65: The west interior (2)	77
Figure 66: The north interior	77
Figure 67: The former Tru-Ade Bottling Plant	79
Figure 68: Tru-Ade Advertisement, 1960	81
Figure 69: West elevation of the Tru-Ade Bottling facility	82
Figure 70: South elevation from the southwest corner of the Tru-Ade Bottling Facility	83
Figure 71: North elevation of the Tru-Ade Bottling facility	83
Figure 72: Glass block windows on the west elevation of the Tru-Ade Building	84
Figure 73: Detail of glass-block windows on the west elevation of the Tru-Ade Bottling facility showing the wooden boards added to the sides of the windows	84

Figure 74: Strip window on the west elevation of the Tru-Ade Bottling facility.....	85
Figure 75: The loading bay on the west elevation.....	85
Figure 76: Example of European International Style – The Bauhaus School in Dessau	93
Figure 77: Industrial buildings in SoHo, Manhattan	94
Figure 78: The Stern Building restored by Levi Strauss & Company.....	95
Figure 79: Sugar House, Jersey City	96
Figure 80: The Athens Bottleworks before renovation	97
Figure 81: Crown Candy Lofts, Atlanta	98
Figure 82: The former American Bakeries Company facility in Macon, Georgia.....	98

CHAPTER ONE

INTRODUCTION

I undertook this thesis for several reasons. First, I undertook it out of love for my hometown of Macon, Georgia. Like many towns, Macon has had its ups and downs, but it is still my home. Secondly, I grew up hearing about the food industry in Macon during the mid-twentieth century. My father worked the majority of his life in various food-related industries in Macon – as did many people. This thesis is for the people who worked in food industry in Macon: the blue-collar workers who made a living to support their families.

The city of Macon is situated in the center of the state of Georgia, on the fall line between the Piedmont and the Coastal Plain. Founded in 1823, Macon has been a strategic location in many historic contexts throughout her history, including riverboat travel, railroad commerce, interstate construction, wars, music, agriculture, and education. Though its historic contexts are many, they are often interconnected. Two important historic contexts, woven throughout the history of the city, are manufacturing/industry and agriculture/food. The context of agriculture/food has its origin in the creation of Georgia as a British colony, when arriving colonists had instructions to produce agricultural products for Britain. Agriculture has been a mainstay of the Georgia economy since that time. In 2017, Georgia's agricultural industry contributed billions to the state's economy. As a major state resource, Georgia's agriculture in turn contributed to food manufacturing throughout time.¹

¹ William P. Flatt, "Agriculture in Georgia: Overview," New Georgia Encyclopedia, <https://www.georgiaencyclopedia.org/articles/agriculture-georgia-overview> (accessed October 29, 2018).

Manufacturing in the South has a different history than agriculture. Southern manufacturing developed at a different pace and scale after the Civil War than with Northern states, and often relied upon resource-based industries and low-skilled labor. The location of such resources was an important factor in where factories were built. Macon's geographic location and connection to transportation routes helped the city attract industry. Located on the Ocmulgee River, Macon was a port city in the nineteenth century, and then a railroading hub, a center point for major state highways, and finally an interstate connection. By the late 1940's, twenty years before Interstate 75 cut through the city, Macon leaders were determined to attract industry to the city to stimulate economic growth. Approximately 38 manufacturers located to the city between 1945 and 1949. Though Macon has been home to a number of different manufacturing industries, I specifically chose the food industry due to the number of facilities.²

My methodology for this thesis involved locating potential case studies before researching historical background, to determine if there would be enough facilities for selection. Using local citizen knowledge and city directories in Macon's Washington Memorial Library archives, I compiled a list of food industries that were active in both 1955 and 1960 – approximately 64 food manufacturers. I then viewed Google maps to determine if buildings were still standing and narrowed the list again to 24 extant buildings. I cross-referenced those 24 buildings with tax assessor information to compile a list of 14 buildings that were constructed after World War II for food product manufacturing. Of those 14, approximately 10 buildings appeared to have integrity. I conducted drive-by site visits and attempted to contact owners for several buildings. Of the owners I attempted to contact, three returned my calls or emails and agreed to allow me to photograph their buildings. I was fortunate to speak further with the

² Ralph Temples, "Oxygen to Caskets Produced By 38 Post War Plants Here," *The Macon Telegraph and News*, February 27, 1949.

owners of two buildings (Colonial Baking and Crown Candy), who met with me to take me into their facilities. In the case of Crown Candy, the owners were interested in history and escorted me on an extended tour of their facility. The owners of the former Colonial Bread facility in Macon were gracious to allow me into the building to take photographs. The owners of the former Tru-Ade Bottling facility gave me permission to photograph the exterior of the building but as they lived out of town, they were unable to meet me to allow me to photograph the interior. As noted, some owners did not return my calls or emails for information, which resulted in some facilities not being included in my case study research even though the buildings dated to the relevant time period and appeared to have integrity.

While arranging to meet with building owners to photograph case studies, I did secondary source research for the historical sections of this thesis. Two sections (Post-World War II Factories, and History of Industry in Macon) included primary research in the form of reviewing editions of *Architectural Record* from the 1940's and 1950's, newspaper articles, city directories, archival research, and historic maps. I also reviewed primary and secondary sources on adaptive reuse, National Register requirements, and tax incentives.

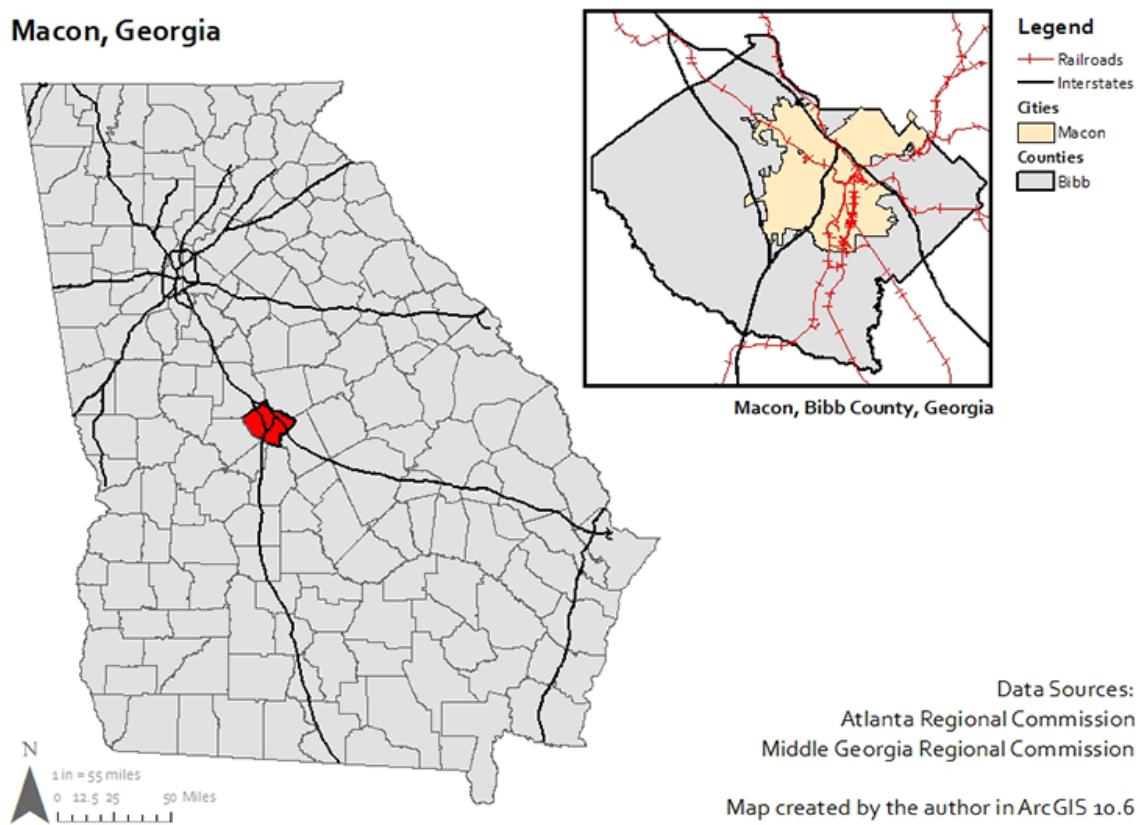
This thesis examines the cultural significance and context of Macon's food-related industries constructed after World War II and considers options for the reuse and maintenance of such buildings. The thesis starts with a general overview of manufacturing history in the United States and a general overview of food manufacturing in the United States and the South. Secondly, I examine post-World War II manufacturing and the concept of decentralization. I finally narrow my history to Macon's historic background from 1823 through the 1940's.

After the history sections, the thesis covers three case studies in Macon: one factory that is still producing food product (Crown Candy), and two facilities that are currently vacant or

listed as warehouse storage (Colonial Baking and Tru-Ade Bottling). The information for the case studies came from primary and secondary sources, communication with the owners of the buildings, and photographs taken of each facility. After the case studies, I examine general adaptive reuse of industrial buildings and potential options for food facility reuses. Finally, the thesis finishes with an analysis of the case studies and conclusions on my research.

These facilities were built for functional use and they were important to the city's mid-twentieth century economy and industrial history. Saving them presents challenges, but this thesis cannot help anyone decide the future of these structures – whether in Macon or any other city. What it can do is assist in an overview of Macon's manufacturing history and potential adaptive reuse ideas should someone decide to purchase such a building.

Macon, Georgia



Map 1: Context Map of Bibb County, Georgia and the City of Macon. Map created by the author in ArcGIS 10.6.

CHAPTER TWO

A GENERAL HISTORY OF NATIONAL MANUFACTURING & ITS ARCHITECTURE

The history of manufacturing in the United States began in the colonial era and progressed throughout the antebellum era. After the Civil War, the country saw a large increase in manufacturing techniques and production, which continued into the twentieth century with the rise of the automobile and mass production. Economic historian Victor S. Clark published a number of books in his lifetime, three of which were particularly useful for this thesis. Clark graduated from the University of Minnesota and Columbia University. In 1913, he was placed in charge of the division of manufactures and economic history at the Carnegie Institution in Washington, D.C. Between 1929 and 1940, he was a consultant in economics. Most important for this thesis was a three-volume set titled *History of Manufacturers in the United States*, published between 1916 and 1929, which gives a good background of America's manufacturing history through the turn of the twentieth century. In addition, author James Munce's book *Industrial Architecture* (published in 1960) has been useful to this thesis. Munce was a British architect known for his work in concrete. His book focuses on postwar factory trends in America, Germany, and Britain, as well as a general history of industrial architecture.³

The history of European manufacturing in the United States can be traced to colonial times, when colonists hoped to build industries in the New World. For example, the Virginia

³ Library of Congress, "Victor S. Clark papers, 1827-1944," loc.gov, <https://www.loc.gov/item/mm81016014/> (accessed April 3, 2019); Taylor & Francis Online, Book Reviews, Architectural Science Review, <https://www.tandfonline.com/doi/abs/10.1080/00038628.1961.9696017?journalCode=tasr20> (accessed April 3, 2019).

colony hoped to construct iron and glass factories, but labor shortages made such manufacturing impossible. As a result, relatively little manufacturing existed in the colonies until after 1760. When the colonies did start manufacturing goods, their industries remained decades behind Europe's industrial progress. Furthermore, since the initial, primary purpose of the British colonies was to supply *materials* for British manufacturing, Britain did not want the American colonies to become industrialized.⁴

During and after the Revolutionary War, American factories were built in and around major cities like Boston, Philadelphia, and Baltimore. These factories mostly produced guns, bricks, and some iron. There were also textile mills, gristmills for flour, sawmills, and sugar refineries. British-born Samuel Slater is arguably one of the most important figures in American manufacturing, particularly for textiles. While in England, Slater memorized the plans for the layout of cotton mills, as well as the machinery used to power them. When he immigrated to the United States in 1789, he brought his extensive knowledge with him (against British law) and built his own textile mills in Rhode Island.⁵

After the war, large cities like Philadelphia and Baltimore soon featured a variety of manufacturing with the main emphasis being on the processing of agricultural products such as textiles, tobacco, sugar, beer, and leather goods. Factories during this early period relied heavily on waterpower and were usually built near water sources. Textile factories in particular flourished during this period. By 1830, water-powered textile factories had become large

⁴ Stories of USA, "American Patriotism – Success in America: Industrial Revolution Inventions Timeline – 1712-1942," <http://storiesofusa.com/industrial-revolution-inventions-timeline-1712-1942/> (accessed August 20, 2018); Lawrence A. Peskin, *Manufacturing Revolution: The Intellectual Origins of Early American Industry*, (Baltimore, The Johns Hopkins University Press, 2003), 9-11, 18, 56-57; Victor S. Clark, *History of Manufactures in the United States – Volume 1: 1607-1860* (New York: Carnegie Institution of Washington, 1929), 9-30.

⁵ Stories of USA, "American Patriotism"; Peskin, *Manufacturing Revolution*, 9-11, 18, 56-57; Clark, *History of Manufactures in the United States*, 9-30; PBS, "Who Made America? Innovators: Samuel Slater", accessed August 20, 2018, https://www.pbs.org/wgbh/theymadeamerica/whomade/slater_hi.html, last accessed August 20, 2018.

establishments in the northern United States, with Lowell, Massachusetts being a notable example of a textile town. Many such factories boasted over one hundred workers and contained all work beneath one roof. However, other manufacturing saw relatively little expansion progress during this time frame.⁶



Figure 1: Engraving of the Boston Manufacturing Company in Waltham, Massachusetts, ca. 1813-1816 (Elijah Smith.)

Important for this early era was the technical progress of manufacturing. Factories employed new and innovative machinery in an effort to “enlarge production, improve products, economize labor and materials, utilize new substances, and produce a greater variety of articles for consumption.”⁷ Prior to 1812, goods were produced primarily for the American people, but after the War of 1812, American factories began selling goods abroad. Steam power was used as early as 1801 in America’s factories, though such cases are isolated. Steam power became more important to manufacturing between 1820 and 1860, where it found practical uses in textile and sugar mills, iron and glass works, and sawmills. With the increase in steam-powered machinery, factories had the ability to produce larger quantities of product regardless of the industry or location. After 1860, steam power had effectively gained a stronghold in the American manufacturing process. Since waterpower was abundant and cheap in the United States, water

⁶ Peskin, *Manufacturing Revolution*, 56-64, 133-138.

⁷ Clark, *History of Manufactures in the United States*, 402.

wheels were still commonly employed in manufacturing during this period, but eventually, after improvements in metalworking, iron turbines became more practical.⁸

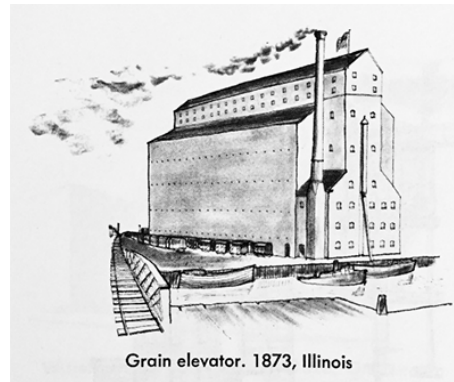


Figure 2: Grain elevator in Illinois, ca. 1873 (Muncie, *Industrial Architecture*, 8.)

A key date for major changes in American industrialization is 1870. After the Civil War, the United States stretched from the Atlantic to the Pacific, having completed a railroad network between the two oceans, and the nation truly began to discover its resources and how to properly utilize them to manufacture goods to sell both at home and abroad. It was also during this time that construction techniques shifted. In the early nineteenth century, unadorned brick walls were common for industrial architecture. By the 1840's cast iron was in use. After the Civil War, steel became popular for its strength and ability. During the 1890's, reinforced concrete was being used in some industrial construction. Americans readily rebuilt factories and warehouses that did not meet increasing demands, using newer, stronger materials and construction techniques.⁹

⁸ Clark, *History of Manufactures in the United States*, 402-437.

⁹ Malcolm Keir, *Manufacturing Industries in America: Fundamental Economic Factors*, (New York: The Ronald Press Company, 1920), 30; James F. Muncie, *Industrial Architecture: An analysis of international building practice* (F.W. Dodge Corporation: New York, 1960), 7-11.

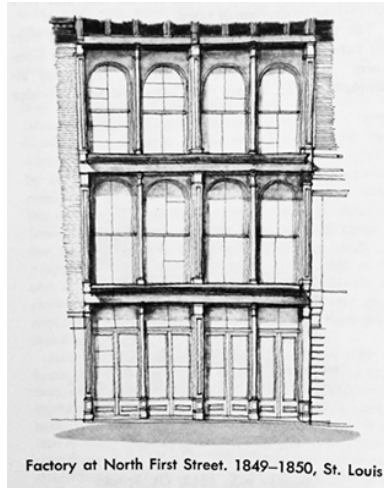


Figure 3: Cast iron factory at North First Street in St. Louis, ca. 1849-1850 (Munce, *Industrial Architecture*, 8.)



Figure 4: Textile factory in Lowell, Massachusetts, ca. 1908 (History of Massachusetts, <https://historyofmassachusetts.org/lowell-mills-factory-system/>.)

The American factory continued to evolve throughout the building boom of the early twentieth century. In 1929, Simonds Saw & Steel Company of Fitchburg, Massachusetts began construction of the first windowless plant in America. Though the factory was not completed due

to the Depression, the windowless trend would become popular during the war when such measures were necessary for security.¹⁰



Figure 5: Advertisement for the Simonds Saw & Steel Company's Windowless Factory (Simonds International, <http://www.simondsint.com/aboutus/history/Pages/1930s.aspx>.)

Despite the economic slump, many factories continued to flourish through the Depression. The automobile industry soared and major automobile factories were built in the Midwest. Single-story factories became more popular than factories with multiple floors as single-story factories were more suited to horizontal transport and advancing technologies. The American factories of this time period were designed entirely for function. This trend continued through World War II and after. Many American factories during the late 1930's and early 1940's featured similar designs regardless of product manufactured. Uniformity is a character-defining feature from this time period. The uniformity also meant that virtually any factory could be converted into wartime manufacturing if necessary. The windowless concept from 1929 reemerged due to potential wartime blackout conditions, but also because artificial light provided unlimited options as opposed to factories that utilized daylight to operate.¹¹

¹⁰ Munce, *Industrial Architecture*, 10-11, 39-57.

¹¹ IBID

An Overview of Food Product Manufacturing in the United States

“It is a strange misconception regarding the relation between agriculture and manufacture that has rooted itself in peoples’ minds. It is generally supposed that these two industries are antagonistic and that the one can grow only at the expense of the other.”¹²

The earliest food manufacturing “plants” were households in colonial America, where domestic manufacturing was a necessity for survival. However, in the late eighteenth century some localized food manufacturing in the United States was destined for markets instead of simply home use. Grain mills in the New England area were simple, functional, and multi-storied to handle mechanization processes. By the late nineteenth century, larger food production factories were in use. In 1865, the first mechanical bakery was operating in Brooklyn, New York. This bakery contained an oven three stories in height, with elevator-like machinery inside. Chains holding flat “cars” constantly rotated bread throughout the oven.¹³

Until the mid-twentieth century, food manufacturing was typically located near the raw product source. Though food processing was the top manufacturing industry in America during the late nineteenth century, manufacturing processes were fairly straightforward. Food processing factories used machinery that could be operated by unskilled labor as opposed to other types of manufacturing that required skilled workers to produce goods. Because food products were grown in every state, food factories were scattered throughout the United States due to the perishable nature of raw agricultural resources. There were two exceptions to this rule: meat packing, which became localized in Chicago since it was the city nearest to the grain belt and the large cattle herds of the Midwest; and flour milling, which became localized in the upper

¹² Keir, *Manufacturing Industries in America*, 52-53.

¹³ Peter A. Coclanis and Louis M. Kyriakouides, “Selling Which South? Economic Change in Rural and Small-Town North Carolina in an Era of Globalization, 1940-2007,” *Southern Cultures* 13, no. 4 “The Global South” (Winter 2007), 86-102; Munce, *Industrial Architecture*, 39.

Midwest and parts of the Canadian plains, due to the massive production of grain in these regions.¹⁴

An Overview of Southern Manufacturing

It was common throughout the nation to build food factories near agricultural products, and the southern United States was no exception as much of the region was agricultural in nature. Agriculture and manufacturing often facilitated each other and farms were the greatest resource for food factories due to their abundance of raw materials. By 1920, southern farms were supplying almost eighty percent of necessary materials for southern factories.¹⁵

Food manufacturing in the South dates to the nineteenth century. While the Northern states gravitated towards textile mills and metal manufacturing before and after the Civil War, the Southern states concentrated on agricultural-based manufacturing. Prior to the Civil War, southern manufacturing was similar to that of the non-South but developed a wide divergence in the second half of the nineteenth century compared to the rest of the United States. Between 1849 and 1899, the South focused on manufacturing food, tobacco, textiles, and lumber, while the rest of the United States focused on metals, machinery, and equipment. Further pushing the South towards resource-based manufacturing was a fairly uneducated labor supply. Immediately after the Civil War, the South was faced with a severe reduction in the male labor supply. Skilled labor was required needed for machine-based and metal-based manufacturing during this period. However, food manufacturers typically used machinery that could be operated by unskilled labor, of which the South had a large supply.¹⁶

¹⁴ Keir, *Manufacturing Industries in America*, 292-293; Clark, *History of Manufacturers in the United States*, 263.

¹⁵ IBID

¹⁶ Albert W. Niemi, Jr., "Structural Shifts in Southern Manufacturing, 1849-1899," *The Business History Review* 45, no. 1 (Spring 1971), 79-84.

The South began modern industrialization in the 1880's. Cotton gins and other agricultural machinery were used in industrial processes during this time period and southern industrialization efforts typically focused on rural areas. Though some larger cities in the South became prominent manufacturing centers for their region, the bulk of the South's industrial activity was built in rural areas and towns outside of major cities because these locations were more accessible to farms and other raw materials. At the end of the nineteenth century, food, lumber, and tobacco provided forty to sixty percent of regional output. Food production was less localized in the South during this time, and there was an increased emphasis on food manufacturing in the latter portion of the nineteenth century. By 1900, Georgia's labor supply was replenished from the toll of the Civil War. This labor supply was largely uneducated, which resulted in lower wages within the state and prompted local manufacturers to make use of the labor supply in order to produce goods more cheaply.¹⁷

The South continued to focus on the production of low-skill, nondurable goods throughout the early twentieth century. An estimated two-thirds of southern manufacturing in 1939 was focused on resource-based industries. These industries had firmly embedded themselves in the South due to the nature of post-Reconstruction industrial growth. The South's manufacturing during the first half of the twentieth century was not insignificant, but although the region did not produce an economy to rival the rest of the country, the system worked fairly well for the South and was a viable economic strategy for the region at the time.¹⁸

During the 1930's, some southern politicians attempted to modernize governments, expand and improve public facilities, and encourage new industrial growth. The result was fierce

¹⁷ Coclanis and Kyriakoudes, "Selling Which South?," 86-102; Albert Neimi, *State and Regional Patterns in American Manufacturing, 1860-1900*, (Westport, Connecticut: Greenwood Press, 1974), 10, 19, 35, 42, 71.

¹⁸ Robert Lewis, "World War II Manufacturing and the Postwar Southern Economy," *The Journal of Southern History* 73, No. 4 (Nov. 2007), 837-866.

competition between towns and manufacturing firms. In 1936, Mississippi introduced a program for industrial subsidization known as Balance Agriculture with Industry (BAWI). In this system, the state sanctioned municipal bonds in order to finance industrial development. Other states also began industrial subsidization. Political leaders touted the benefits of industrialization to rural southern communities, citing better wages and careers, the ability for young adults to stay near their family homes, and improved standards of living. While Republican leaders had some success at bringing industry to the South, there were problems. The South still could not keep up with the North's industrial success. The complicate matters, New Deal policies had attempted to reduce southern farm production and pushed rural farmers to larger cities in an attempt to find work. These refugees kept national industrial wages low as they were willing to work for less in the wake of the Depression.¹⁹

World War II brought additional changes, though not as quickly as expected. There is debate regarding whether the war drastically changed southern manufacturing or not. While the war brought new industries to the South, the region continued to focus on low-wage, labor-intensive goods. The South's industrial sector was larger by 1945, but compared to other regions of the United States, Federal spending on war industry in the South was relatively low – less than eight percent of the total national supply contracts. As a result, the pre-World War II southern economy shaped the postwar southern economy until the early 1950's, at which point the South saw a jump in manufacturing growth and large industries. These large firms had varied and extensive product lines in order to better serve the public. They began placing plants throughout the South, focusing on one or two products at each individual location, while other regional plants focused on different products for the same company. For example, Coca-Cola (based out

¹⁹ James C. Cobb, *The Selling of the South: The Southern Crusade for Industrial Development 1936-1980*, (Baton Rouge: Louisiana State University Press, 1982), 5-11; Philip Scranton, ed., *The Second Wave: Southern Industrialization from the 1940s to the 1970s*, (Athens, Georgia: The University of Georgia Press, 2001), iiiix-x.

of Atlanta, Georgia) had 20 different plants in 1963 throughout the nation, and the National Biscuit Company (which operated a plant in Macon at the time period), had 38 nationwide plants in total.²⁰

It is important to note that after World War II, southern politicians in numerous cities began the recruitment of northern manufacturers. This phenomenon is often referred to as the “selling of the South” – in which southern leaders not only sought northern firms to industrialize the South but believed that in doing so, they were obtaining a “symbolic revenge for the Civil War.”²¹ Leaders from different southern towns and cities usually cited the same factors for attracting industry to their location: climate, low taxes, an abundance of eager, non-union labor, cheap raw materials, resources (like untainted water supplies), and cooperative government. Macon was no exception. Many southern towns used boosters to convince northern firms of endless, willing workers in the South, while also encouraging southern citizens of the benefits of industrialization to their communities. This push to attract industries to the South created the Sunbelt – a region of manufacturing located from Virginia down to Florida and west to California. On the downside, the push for industries created a one-sided system that invited abuses. Firms sought for more concessions from southern communities and rural southern towns were eventually placed into direct competition with unregulated third world countries, with which southern towns simply could not compete.²²

²⁰ Lewis, “World War II Manufacturing and the Postwar Southern Economy,” 837-866; Martin A. Garrett, Jr., “Growth in Manufacturing in the South, 1947-1958: A Study in Regional Industrial Development,” *Southern Economic Journal* 34, no. 3 (January 1968), 352.

²¹ Cobb, *The Selling of the South*, 76.

²² Cobb, *The Selling of the South*, 88, 93; Thomas A. Lyson, *Two Sides to the Sunbelt: The Growing Divergence Between the Rural and Urban South*, (New York: Praeger Publishers, 1989), xiv.

Important Factors in Location of Manufacturing Industries in the United States

Several important factors have driven decisions on where to build factories throughout American history. Topography was oftentimes the major factor. In the early period of American manufacturing, waterpower ensured that many industries were directly situated on rivers and lakes. Raw material was also a large factor in placement of factories. Raw goods needed to be close to their manufacturing facilities. Food products could easily spoil if not quickly processed. It was easier to saw lumber if the timber resources were nearby rather than shipping timber long distances to a sawmill. However, it is also important to note that some industries remained in an area even after the local supply of raw materials was exhausted, creating continued concentration of an industry. In some instances, factories were built near potential labor supplies. In his book *American Manufacturing Industries*, Malcolm Keir gives the example of Allentown, Pennsylvania for this situation. Allentown experienced an increase in silk mills in order to tap the female population as a source of labor, since the male work force was already employed in coal mining. Closeness to trade markets is also a viable reason for placing factories in specific locations. For example, the manufacturing of agricultural implements moved westward over time, eventually settling near Chicago, which had the best access to the states producing grain in the upper Mississippi Valley.²³

Another factor in choosing location for factories are large corporations that have a monopoly on an industry. These corporations often dictate the location of factories due to family control of a business. Sometimes corporations select locations due to the necessary division of manufacturing products (i.e. – making different product parts in different factories in different locations, depending on where resources and supplies are available), the prestige of a specific area or city, the location of skilled or unskilled labor supplies, advantages to employees such as

²³ Keir, *Manufacturing Industries in America*, 62-65.

closeness to city markets, disadvantages of certain locations such as lack of hospitals and healthcare, or labor unions.²⁴

Transportation is also a key factor in location of factories. During the late nineteenth century and after, improvements to railroads meant that goods could travel greater distances faster. With the entire country linked by rail, every region became accessible to manufacturers, regardless of where a factory was built. While rail was the dominant method for shipping prior to the 1910's, World War I began to change the way goods were shipped. With American railroads stretched to capacity by 1917, trucking became a viable option and was essential to the war effort, despite the fact that many American roads were still unpaved. By the 1950's, with the advent of the Eisenhower Interstate System, manufacturing saw another avenue for transporting goods and raw materials across the country. During the same time period, shipping containers were invented and larger trucks became common. This combination enabled goods to be shipped by train, truck, or both. As a result, the location of manufacturing plants was less dependent on the location of raw materials as it had been prior to World War I. Goods also spent less time waiting to be shipped, lowering overhead and thus consumer costs. A new system was in place to more effectively move product and resources.²⁵

²⁴ Keir, *Manufacturing Industries in America*, 66-85.

²⁵ Keir, *Manufacturing Industries in America*, 56; Kat Eschner, "Three Ways the Interstate System Changed America," *Smithsonian Magazine*, <https://www.smithsonianmag.com/smart-news/three-ways-interstate-system-changed-america-180963815/> (accessed October 24, 2018); Richard F. Weingroff, "Moving the Goods: As the Interstate Era Begins," *Federal Highway Administration*, <https://www.fhwa.dot.gov/interstate/freight.cfm> (accessed October 24, 2018); Adam Burke, "A Road System's Unintended Consequences," *NPR*, <https://www.npr.org/templates/story/story.php?storyId=5515361> (accessed October 24, 2018).

CHAPTER THREE

POST-WORLD WAR II FACTORIES

“Now almost two years after the end of the fighting war, the small industrial building has its day in the sun.”²⁶

In 1947, the United States government lifted factory building permits and restrictions that had been placed during the war. With these restrictions removed, anyone who wanted to build a factory and could pay for one was allowed to do so once again. The war had brought unprecedented industrial growth and pulled the nation out of the depths of the Depression. America was ready to continue the economic boom associated with manufacturing in the postwar era.

Due to extensive war production, the word “industrial” brought to mind massive plants that had been built during the war years. Such plants were accepted as the standard for American industrial buildings. However, while there were massive plants built during this time period for colossal war industry, the bulk of postwar manufacturing actually took place in small factories because these were more efficient. Small factories were more popular than large industrial complexes because they offered more freedom and wider opportunities for production. These smaller factories (during the war and in the postwar era) were a result of the industrial progression that began in the early twentieth century.²⁷

²⁶ “Industrial Buildings: *Architectural Record’s* Building Types Study Number 128,” *Architectural Record* 8 (1947), 85.

²⁷ “Industrial Buildings: *Architectural Record’s* Building Types Study Number 128,” *Architectural Record* 8 (1947), 85; Roland A. Wank, “The Architect’s Opportunities in Factory Design,” *Architectural Record* 8 (1947), 86-87.

Progression of the Twentieth Century Factory

During the early twentieth century, changes in production processes naturally resulted in factory changes. The automobile had a profound, revolutionizing effect on American manufacturing and factory development, particularly in the shift from vertical to horizontal production. Architect Albert Kahn was at the forefront of automobile factory designs. Khan realized that an ideal factory could only be achieved if multiple specialists worked together to design a plant. To that end, he studied production problems alongside structural, mechanical, and electrical engineers. The result of their research resulted in more efficient and faster processes in factories by moving products horizontally. The prototype of the new design debuted in 1905 with Kahn's tenth Packard automobile factory. Concurrently, automobile legend Henry Ford also recognized the need for improved factory processes. Though many of his factories continued to have vertical processes, a large portion of the processes shifted to horizontal transport. In 1908, Kahn and Ford teamed up to build a reinforced concrete factory known as the Highland Park Model T complex, which opened in 1910. It was not only a huge success, but a major architectural shift. The Highland Park complex had shorter spans between its structural columns than the 1905 Packard plant. It used imported English steel sash windows and as much glass as the building could structurally hold. Due to the extensive use of glass, it earned the nickname "The Crystal Palace" and was likened in newspapers to the building feats of the ancient Egyptians.²⁸

²⁸ Michael H. Hodges, *Building the Modern World: Albert Khan in Detroit* (Wayne State University Press: Detroit, 2018), 43-51; Lindy Biggs, *The Rational Factory: Architecture, Technology, and Work in America's Age of Mass Production* (The Johns Hopkins University Press: Baltimore, 1996), 118-136; Munce, *Industrial Architecture*, 39-41.

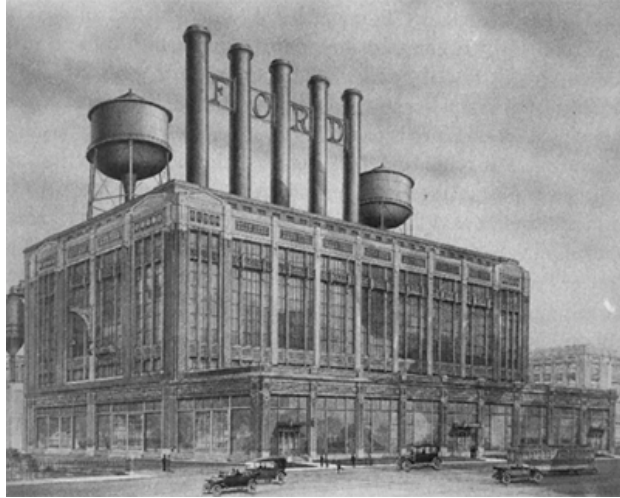


Figure 6: Sketch of the Highland Park Powerhouse, featuring extensive windows (Lindy Biggs, *The Rational Factory*, 104.)

Highland Park proved that Kahn and Ford were a design force to be reckoned with. Kahn was able to translate Ford's progressive ideas into buildings and he continued to design for Ford throughout the next three decades. In the early 1920's, Kahn designed Ford's famous River Rouge industrial complex in Dearborn, Michigan. The River Rouge complex was a vast industrial city that used a circulatory system for production. Freighter ships unloaded raw materials at the docks and all raw resources moved through the plant until finished vehicles exited the opposite side onto trains. Most noteworthy about this plant was that the buildings were almost all one story in height, creating complete implementation of Ford's horizontal assembly line from start to finish. The single-story design also meant changes in building materials. Kahn switched from reinforced concrete to steel frame construction because steel frames were lighter and easier to erect. The River Rouge Glass Plant building, constructed in 1923, is particularly important due to its futuristic in design. It became Kahn's new template for factories. Prior to the

Glass Plant, American architects thought little of industrial design, but the building helped change this thought process.²⁹

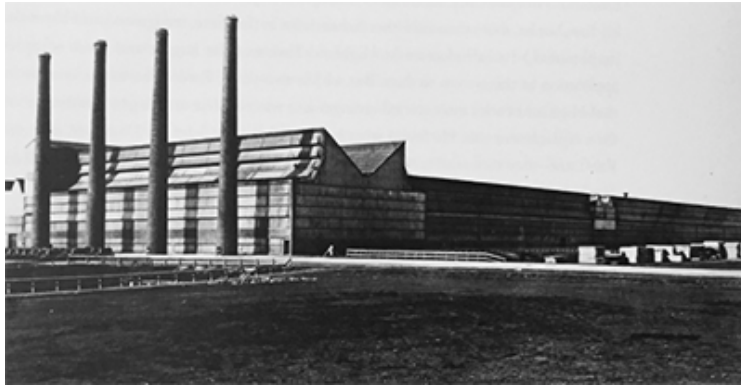


Figure 7: The 1923 Glass Plant at the Ford River Rouge Complex (Hodges, 82.)

Throughout the 1930's, Kahn focused primarily on industrial buildings. By 1938, his firm held one-fifth of "all new architect-designed industrial projects in the United States."³⁰ The Chrysler Half-Ton Truck plant designed in 1938 featured an aggressively modern design of glass and was declared a masterpiece of manufacturing architecture. Kahn used crisp, planar forms that gave the building the appearance of having been machined. It was this clean, sharp appearance that continued to capture the imagination and intrigue critics.³¹

²⁹ Hodges, *Building the Modern World*, 81-82; Biggs, *The Rational Factory*, 137-160.

³⁰ Hodges, *Building the Modern World*, 139.

³¹ Grant Hildebrand, *Designing for Industry: The Architecture of Albert Kahn* (MIT Press: Cambridge, 1974), 172-173; Hodges, *Building the Modern World*, 139-151.



Figure 8: The 1938 Chrysler Half-Ton Truck Plant (Hodges, 151.)



Figure 9: The Chrysler Half-Ton Truck Plant railroad spurs (Hildebrand, 176.)

By 1940, two major changes occurred in factory design as a result of the war. Firstly, many new factories eliminated windows for security purposes (though not all architects followed this standard – Kahn among them). The Simond's Saw & Steel Company's windowless plant from 1929 was the inspiration for these black-out designs. Secondly, the majority of steel was regulated to military applications. Steel-framed factories were no longer viable and reinforced concrete returned as the major industrial building material. Always at the forefront, Kahn introduced an arch-ribbed concrete factory roof that cut the amount of steel typically used in reinforced concrete buildings by half. He documented in his personal notes on war plant design that standardization and simplicity of design were crucial. Manufacturing buildings needed to go up quickly. He informed his architectural firm to use structural shapes that were the easiest to

construct. Kahn put this new theory into practice in 1940 with the Chrysler Tank Arsenal plant in Detroit. Unlike windowless factories, the Chrysler Tank Arsenal's exterior was primarily glass and steel, though some of the glass was opaque instead of glazed. The new designs worked well.³²

Though Kahn passed away in 1942, his firm continued designing plants throughout the war. After the war, the firm quickly responded to the post-war industrial need and assigned a project manager to each contract to ensure personal attention. Kahn's firm continued to build automobile factories but also constructed International-style university buildings, headquarters and offices for major companies, and airplane hangers.³³

War production had shown that factories needed to be flexible. If a factory was required to produce a new product, the ability to convert production was critical. Kahn's recognition of this fact manifested itself in building designs that could quickly accommodate changes in production. After the war, uniformity and adaptability continued to be key factors in factory design. An early-twentieth century industrial building constructed to hold vertical machinery now ran the risk of becoming structurally unstable if newer, heavier machines were installed. However, new construction could accommodate the rapidly changing production techniques and heavier machines. A new, flexible factory could also better adapt to process changes. Architects kept this in mind when designing postwar factories. Processes could change virtually overnight simply with a new invention, and this often resulted in fewer human workers and more machinery. Existing machines had to be easily modified. New machines had to be easily installed

³² Munce, *Industrial Architecture*, 10-11, 39-57; Hodges, *Building the Modern World*, 139-152, 197-205; Hildebrand, *Designing for Industry*, 197.

³³ The Detroit Institute of Arts, *The Legacy of Albert Kahn* (Gaylord Printing Company: Detroit, 1970), 113-176.

without risking the factory's structural integrity. Flexibility also had to take into account a factory's potential future expansion should the need arise.³⁴

During this time period, manufacturers preferred large, uninterrupted floor spaces to encourage circulation. Locker rooms, bathrooms, and necessary mechanical equipment (such as air conditioners and transformers) were often located in separate areas to prevent clutter on the factory floor space. Suspended walkways were utilized to allow managers, supervisors, and visitors the ability to walk above the factory floor and survey the work taking place without getting involved or disrupting the flow of production. The windowless factory continued to be popular, with some minor modifications. Artificial lighting provided better light and allowed factories to more easily operate throughout the night, but the effect of windowless factories on workers also had negative psychological impacts. Vision strip windows broke the monotony and ventilation outlets were important for air circulation. Not all factories adopted strip windows to prevent claustrophobia and other psychological effects, but strip windows did become more popular in the mid-century. Lobbies also became important features in the post-war era. Just as strip windows proved to have a positive psychological effect on workers, so did impressive entrances. Studies found that factory workers dressed better if they had to pass through a clean lobby rather than entering the building through a separate workers' entrance. A grand entrance also made an impression on visitors and important personages.³⁵

Postwar factories continued to focus heavily on materials handling due to the time and money expended on materials. Most American factories of the mid-century followed a standard production procedure: the process line, the production area, the final product, and storage areas. Plant designs needed to ensure the smooth flow of materials throughout these areas. A functional

³⁴ Munce, *Industrial Architecture*, 41-42, 47; Wank, "The Architect's Opportunities in Factory Design," *Architectural Record* 8 (August 1947), 86-87.

³⁵ IBID

factory design ensured lower costs, increased production, maximum effectiveness of machinery, improved working conditions, and company prestige. As mentioned, machines replaced many human functions. For example, in 1950 at a large Coca-Cola Bottling facility in Houston, Texas, architects implemented a new design to reduce human handling as much as possible. Fifteen drive-through lanes were installed where trucks could drop off empty bottles and load full cases. Conveyors on raised platforms between lanes saved as many as 44,000 manual case-handlings daily and the mechanized system became a prototype for new bottling plants. Reducing human handling took other forms as well. Forklifts became popular during this time to quickly move materials. Pallets became standard to ensure that materials did not touch the factory floor for sanitary purposes. Architects took all work flow into consideration when designing post-war factories and flow charts became popular as a method to reduce waste and identify best practices.³⁶

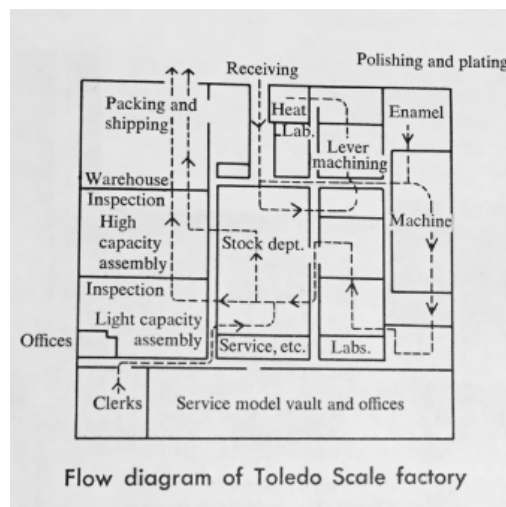


Figure 10: A factory flow diagram example (Munce, 43.)

³⁶ Munce, *Industrial Architecture*, 42-43; Kenneth K. Stowell, "The Designing of Industrial Buildings," *Architectural Record* 10 (1948), 109; Stone & Pitts, "Prototype for Bottling Plants," *Architectural Record* 2 (February 1951), 121.

Flow charts not only included factory flow, but employee flow. Since efficiency was a key issue for factory production, architects created flow charts to show an employee's progress throughout the day in a factory – from where the employee parked in the parking lot, to entering the building, through changing rooms and machine stations, to the cafeteria for lunch and back to the production floor, and finally exiting after their shift. Time and motion studies were completed in order to eliminate manpower wherever it could be replaced and in order to reduce human traffic within factories. Parking lot design was key due to the increased usage of automobiles and the rise of suburbs. Parking had to be adequate for all employees and had to take into consideration the possibility of all shifts on duty at the same time. Off-street parking was essential for even small-scale factories in order to reduce congestion.³⁷

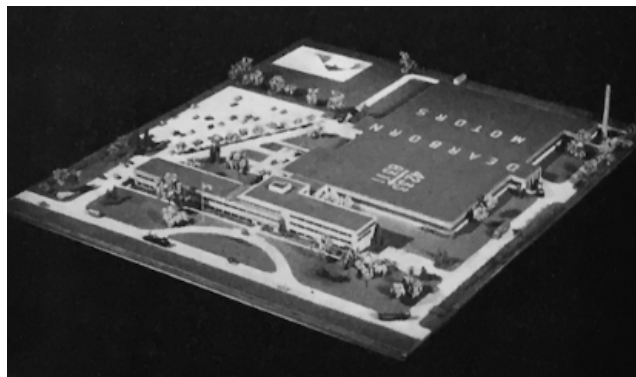


Figure 11: A 3D model of the Dearborn Motor Plant in Michigan helped designers, owners, and architects visualize the entire project to make final decisions (*Architectural Record*, October 1948, 110.)

Architecturally, the factory did not change much between World War II and the mid-century. Due to the continued need for flexibility and uniformity, mid-century factories utilized several common architectural elements, including the steel frame, reinforced and precast concrete, flat roofs, panel walls, and strip windows. Walls were usually brick or tile (the Crown

³⁷ Munce, *Industrial Architecture*, 43-45; Wank, "The Architect's Opportunities in Factory Design," *Architectural Record* 8 (August 1947), 86-87.

Candy case study features both of these building materials). Wall colors were often lacking; the two most popular colors were a green-gray and cream. Factory floors were typically poured concrete or terrazzo, and then covered with sealant to ensure sanitary conditions. Like walls, floor colors tended to be gray, white, or cream. Roofs were generally steel framed with steel decking or concrete slabs. Concrete roofs were finished with insulating material, followed by a tar-and-gravel top coat and asphalt layers. Some factories placed white finishes on top of the final layer of roofing material to reflect sunlight and lower cooling costs. Despite the constant uniformity, the very standardization and repetition was impressive.³⁸

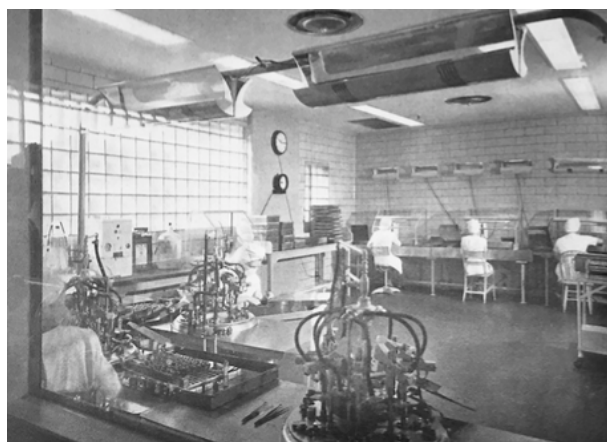


Figure 12: The Ampul Building at the Winthrop Chemical Company in Rensselaer, New York featured tiled walls and opaque glass brick windows – features also used on the Durkee Foods Facility in Macon, Georgia in 1947 (*Architectural Record*, February 1947.)

³⁸ Munce, *Industrial Architecture*, 47-48.



Figure 13: The simple brick wall of the Studebaker Corporation's plant in South Bend, Indiana shows typical building materials of the time (*Architectural Record*, October 1948, 112.)



Figure 14: The Atlanta Envelope Company factory harkens back to the Modern style with influences from LeCorbusier and Frank Lloyd Wright (*Architectural Record*, August 1953.)

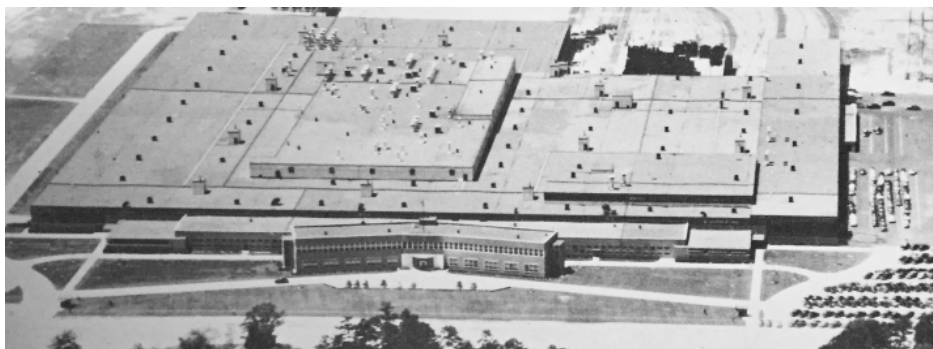


Figure 15: An aerial view of the General Motors Corporation Assembly Plant in Atlanta, built in 1946 shows flat roofs with a light-colored top coat to help with cooling (The Detroit Institute of Arts, 151.)

Postwar Industrial Districts and Decentralization

Creating new industrial districts was also common in the mid-twentieth century. Older industrial districts were often located near downtown cores and offered little room for expansion. Some of the new districts were as large as cities to accommodate multiple new factories. The Los Angeles International Airport Industrial District had over 40 plants by February 1952. In the case of this district, the same architects and project managers oversaw the majority of the district's planning to ensure uniformity. In Chicago, the Clearing Industrial District was built on the south side of the city and featured mostly small-scale factories typical of the postwar period. Plants within the Clearing District were referred to as unspectacular but straightforward, clean, economical, and efficient – exactly what the postwar factory was meant to be in the eyes of business owners and architects.³⁹

Another trend with postwar industrial districts was decentralization. During the war the dispersal of industry had been a safety measure in case of bomb attacks. After the war, decentralization continued to develop due to transportation factors and inner-city issues. Automobiles were now commonplace and congestion within downtown cores created problems for even small-scale factories. There was often little room for expansion in the dense downtown industrial districts that had been built in the late nineteenth and early twentieth centuries for vertical production. Moving new industries to a decentralized district enabled factories to spread out and include large parking lots for employees, which in turn reduced some congestion within city cores. Johnson & Johnson manufacturers noted that moving their factories outside of busy city centers was crucial. They did not want to be associated with “industrial slums” of original downtown industrial cores. The company believed decentralized industrial zones were a better

³⁹ S. Charles Lee and Samuel Hayden, “Tilt-Up Building for Industrial District,” *Architectural Record* 2 (February 1952), 188-189; Munce, *Industrial Architecture*, 70-85; John S. Cromelin, “Four Typical Small Factory Buildings,” *Architectural Record* 10 (October 1948), 122-123.

environment for their factories and their employees. Highway crossroads became common locations for new decentralized districts as this ensured the ability to move product by truck, but it was also important to consider railroad siding requirements. Johnson & Johnson's designers noted that it would take 3½ acres of land to incorporate a railroad siding with a right-angle turn. Employee parking required at least one full acre to cover all shifts, and the building required room to be expanded on any of its four sides if necessary. Finally, the firm wanted ample space for grass to create a park-like setting that fit with the postwar image of the American family and the suburbs: landscaped, easy to maintain, pleasant, and beautiful. They believed such a setting would put their workers in a better mood and create a better work environment, which in turn would create better quality and more quantity. For this amount of space, a decentralized zone was absolutely necessary – such acreage could not be found within downtown cores. Building outside of downtown areas also offered the added benefit of lower building costs and lower taxes.⁴⁰

The Mead Road Industrial District in Macon was the result of city officials desiring to continue building industries after the war. Located south of Macon but directly accessible to downtown via rail and state highway, the Mead Road District allowed for industrial expansion and new growth. While some companies used late-nineteenth and early-twentieth century buildings in the Railroad Industrial District (which was Macon's original industrial district attached to the downtown business district), the Mead Road District and the Broadway area offered more space for expansion. Other pockets of industry also sprung up in Macon, though they did not contain as much industry as the Railroad Industrial District or the Mead Road Area. Additional areas included the Hardeman Avenue and Vineville Avenue areas, which typically

⁴⁰ Frank L. Whitney, "Newer Trends in Industrial Buildings," *Architectural Record* 8 (1953), 149-152; "An Enlightened Look at a Factory," *Architectural Record* 8 (1948), 108-111.

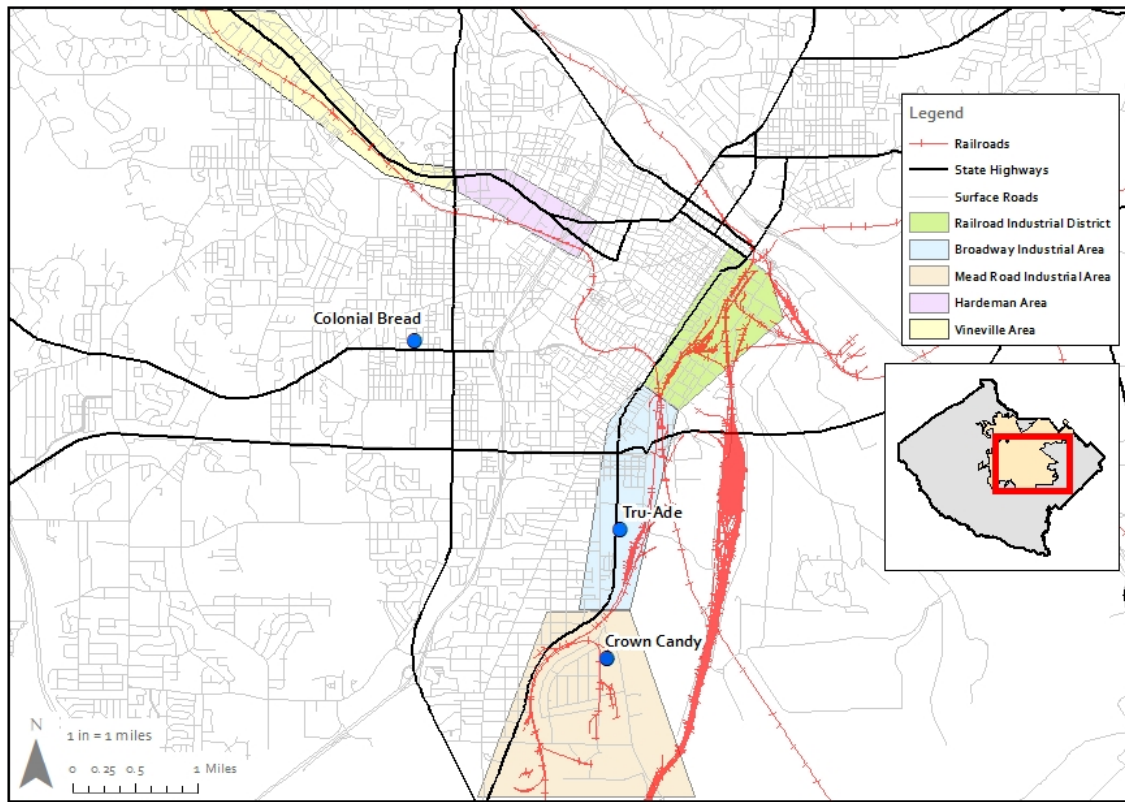
featured dairies (only one of which has an extant building, originally constructed in 1929.) The Vineville area had also been home to textile mills in the nineteenth and early twentieth century.⁴¹



Figure 16: The Sunshine Dairies building on Hardeman Avenue, built in 1929 (Author.)

⁴¹ Ida Young, Julius Gholson and Clara Nell Hargrove, *History of Macon, Georgia: 1823-1949*, (Macon: Lyon, Marshall & Brooks: 1950), 558.

Case Studies in Relation to Areas of Mid-Century Industry



Sources: ARC, MGRC, Author

Map 2: Areas of Twentieth Industry in Macon, Georgia. All industrial district boundaries are approximate and not exact. Map created by the author in ArcGIS 10.6.

CHAPTER FOUR

A HISTORY OF INDUSTRY IN MACON

To understand the importance of manufacturing and industry of Macon, Georgia, it is necessary to examine the origins of the city. As early as 1802, President Thomas Jefferson authorized a fort and trading post to be built on the Ocmulgee River in order to facilitate trade with the Creek Nation. Colonel Benjamin Hawkins selected the site and the fort was named in his honor. The settlement that grew up adopted the name Newtown in 1821, although only local residents used this name. On December 22, 1822, the Georgia legislature organized the county of Bibb, which encompassed Fort Hawkins and the surrounding area. The same month, the legislature authorized the commissioners to lay out a plan for the town of Macon, built on the west side of the Ocmulgee River. Fort Hawkins remained on the east side. The neighborhood of Newtown was incorporated into Macon in 1829.⁴²

Fort Hawkins and the city of Macon were located at a crucial point on the Ocmulgee River, which encouraged the city's industrial and economic growth. As a port city at the near-geographic center of the state, Macon was an ideal distribution point. At Macon, product (primarily cotton) could be bought and sold while specialized products (farm equipment) could be supplied to planters and farmers. By January of 1826, the town contained approximately 800 inhabitants and 32 stores. It received cotton from sixteen counties and engaged in trade. Also

⁴² John C. Butler, *Historical Record of Macon and Central Georgia*, (Macon, Georgia: J.W. Burke Co., 1958), 56-78; Bowling C. Yates, "Macon, Georgia, Inland Trading Center 1826-1836," *Georgia Historical Quarterly* Vo. 55, No. 3 (Fall 1971), 365-377; James H. Stone, "Economic Conditions in Macon, Georgia in the 1830's," *The Georgia Historical Quarterly* Vo. 54, No. 2 (Summer 1970), 209-225.

noteworthy is the fact that in 1824, the city only had one bank (a branch of the Bank of Darien), but by 1837 there were eight separate banking companies in Macon. By 1837, there were also sixty towboats, seven steamboats, and nine cotton warehouses, and the estimated value of the retail goods sold in Macon was over \$1,500,000.⁴³

In the 1840's, travelers noted that Macon was strategically located and one of the state's leading commercial and financial towns. Macon was one of the most important inland locations in Georgia for buying and selling cotton, and it was well known that cotton drove the economy. Wealthy local planters purchased goods at Macon stores to complete the economic cycle. During the 1840's and 1850's, there were at least three major foundries producing goods: the Ocmulgee Iron Foundry and Machine Shop, the Macon Iron and Brass Foundry, and the Findlay Foundry and Machine Shop. Two companies manufactured carriages and coaches, and two companies manufactured furniture – including Wood and Bradley, who were the largest furniture producers in the state in 1840 and operated as one of Macon's first substantial factories. Numerous smaller industries produced textiles, tinware, other metal products, and wood products. By the 1850's, Macon boasted a steam-powered textile mill. Throughout the central Georgia region, other manufacturers included cotton gins, lumber mills, and gristmills. Bibb County's farms were below state value when compared to other nearby counties, but these farmers maintained a fairly diverse line of produce and foodstuffs, which easily sustained the Macon population. Macon grocers of the time carried a variety of items, including bale rope, butter, cheese, molasses, potatoes, raisins, rum, whiskey, gin, candles, iron, and pork products.⁴⁴

⁴³ George David Anderson, *A City Comes of Age: An Urban Study of Macon, Georgia, During the 1920's: A Thesis Submitted to the Faculty of the Department of History in Candidacy for the Degree of Master of Arts*, (Milledgeville, GA: Georgia College, August 1975), 3.; Butler, *Historical Record of Macon and Central Georgia*, 91.

⁴⁴ John A. Eisterhold, "Commercial, Financial, and Industrial Macon, Georgia During the 1840's," *The Georgia Historical Quarterly* 53, No. 4 (December 1969), 424-441.

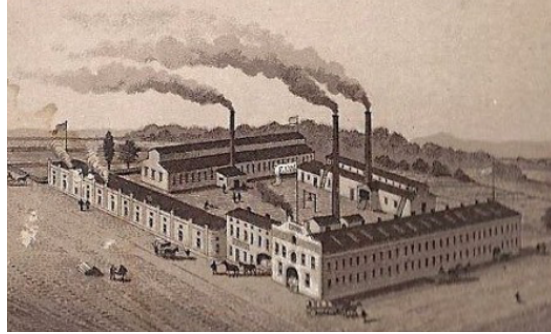


Figure 17: Findlay Iron Works in Macon, GA during the antebellum period (*Vintage Macon* Facebook Group.)

During the antebellum era, Macon also began building an impressive railroad system. By 1860, three major railroads all found termini within the city of Macon. The Macon & Western Railroad ran north to Atlanta and on to Chattanooga; the Central of Georgia Railroad ran east to Savannah; and the South-Western Railroad ran south to Albany, Georgia and then on to Florida and Alabama. Several other smaller branch railroads also connected into Macon.⁴⁵ During the Civil War, Macon played an important role in the Confederacy, serving as a hospital center, a troop center, a treasury depository, and a transportation hub. The railroads, which had been built to haul cotton, were put to use hauling food, guns, ammunition, other war items, and troops. In 1864, General Sherman bypassed the city of Macon in favor of going through the state capital of Milledgeville. As a result, the city of Macon was spared from major attack, though her economy was left in ruins.⁴⁶

By the 1880's, Macon had mostly recovered from the financial depression caused by the Civil War in the South. New banks and improved transportation helped boost the city's economy

⁴⁵ Washington Memorial Library Archives, "South-Western Railroad Collection," Washington Memorial Library (Macon, Georgia); William Thomas Jenkins, "Ante Bellum Macon and Bibb County, Georgia: A Dissertation Submitted to the Graduate Faculty of the University of Georgia in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy," (University of Georgia: Athens, 1966), 150, 153, 159-160, 169; Butler, *History of Macon and Central Georgia*, 169.

⁴⁶ Anderson, *A City Comes of Age*, 5.

and put the city back into her position as a central distribution point within the state of Georgia.

It was during the post-Civil War era that Macon's industrial expansion saw unprecedented growth. Between 1880 and 1890,

...the city added 110 factories--increasing its manufacturing establishments 815 per cent and its capital investments 454 per cent. The output of its factories nearly [tripled] to a gross income of \$45,441,650 for eighty-six classes of business in 1890. Cotton warehouse receipts averaged 63,000 bales per year, valued at \$2,923,500. Some of the important industrial firms started during this era were the Davenport Chemical Company, the Macon Brewery, and the Bibb Manufacturing Company. Macon was beginning to develop a varied economy.⁴⁷

While cotton certainly drove the economy, the food industry also made progress. The Georgia State Fair (held in 1873, 1883, and 1885) was a large success. In 1886, Macon became the permanent home for the fair by entering into a long-term contract with the Georgia Agriculture Society.⁴⁸



Figure 18: A cotton mill in Macon, Georgia, ca. 1876 (Georgia Archives, Vanishing Georgia Collection.)

Macon's Railroad Industrial National Historic District encompasses a number of industrial buildings constructed during the later portion of the nineteenth and early twentieth century. The remaining buildings within the district provide an overview of the type of construction commonly seen in Macon's industrial structures during this time period. Many were

⁴⁷ Anderson, *A City Comes of Age*, 6.

⁴⁸ Anderson, *A City Comes of Age*, 7.

used for food or beverage-related industry. The construction and materials were fairly consistent. Most were either one or two-story brick buildings. A number of the buildings had concrete floors. A few buildings had chimneys. Some buildings, like the Waggenstein Bakery, were designed as commercial buildings that featured a store on the ground level with a residence space on the second floor. Others, like the Macon Brewing Company, were larger complexes constructed over a longer period as needs changed. The Southern Cotton Oil Factory featured firewalls, corrugated metal and brick construction, and backed up to the railroad line for loading and unloading. This was a typical building within the district.⁴⁹

Some of the original food industries in the district remained in their original buildings for a long period of time, such as the National Biscuit Company (NABISCO), which occupied its 1909 brick, one-story building until 1985. The earliest constructed food-related building in the district was the Macon Brewing Company, built in 1889. The latest food-related building in the district was built in 1930 for Swift & Company Creamery, which manufactured ice cream.⁵⁰

⁴⁹ National Park Service, National Register Nomination for Macon, Georgia's Railroad Industrial District, 1986.

⁵⁰ IBID



Figure 19: The former NABISCO building on 5th Street was constructed in 1909 and served the company until 1985. As of winter 2019 it was vacant (Author.)



Figure 20: An example of common turn-of-the-century industrial architecture in Macon's Railroad Industrial District. This building at 503 5th Street was once a wholesale produce warehouse (Author.)



Figure 21: The Beaux-arts Italian Renaissance building at the corner of Hazel & 5th Street was built in 1900 for Proctor & Gamble. According to an article in *The Macon Telegraph* dated June 27, 1937 the interior was marble finish (Author.)

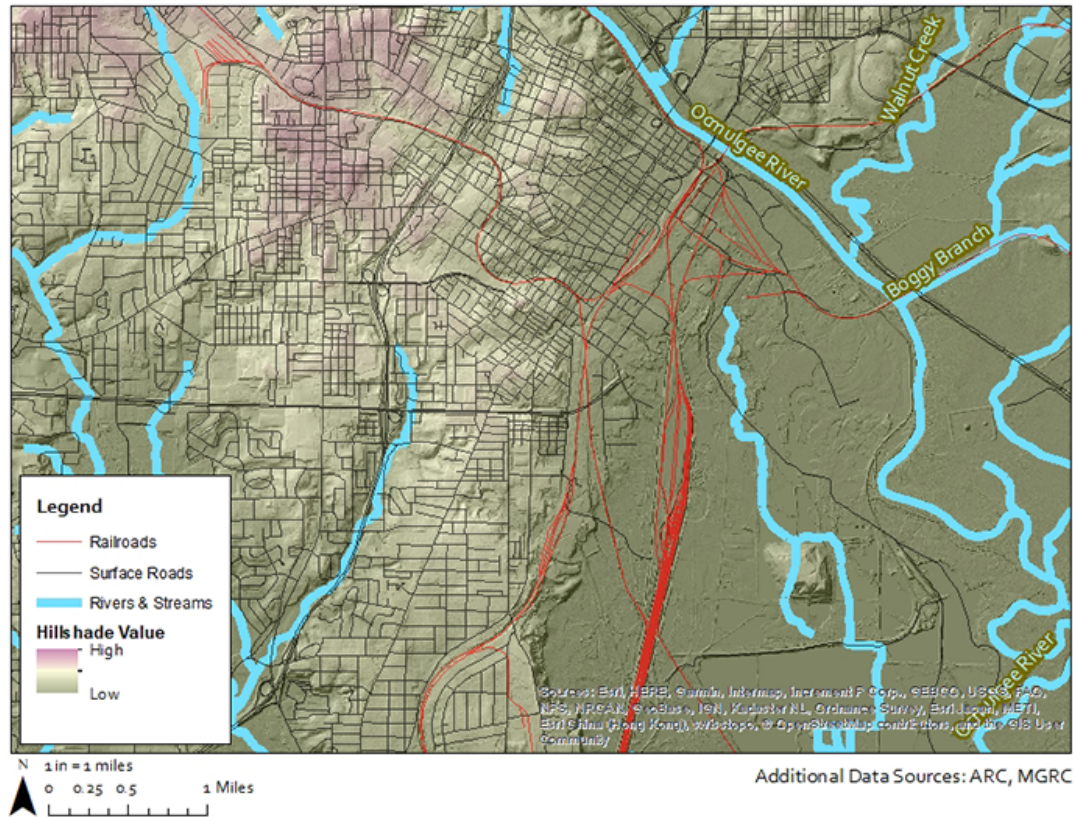


Figure 22: The Proctor & Gamble building at Hazel & 5th during the early twentieth century after employees received Christmas baskets (*Vintage Macon Facebook Group*.)

Industries from this period were built near the Macon rail yard as they relied almost entirely on trains to transport their products. The location of the rail yard was a direct result of Macon's geography. Macon is located on the Atlantic Seaboard Fall Line, a prehistoric geographic feature where the Appalachian piedmont once met the Atlantic coastal plain. While Macon's location on the Ocmulgee River was important for river transport and access, there is also a noticeable change in geography that facilitated railroad construction. In the north area of the city are foothills, while flat land lies to the south and east. Railroads took advantage of the flat areas when constructing their facilities.⁵¹

⁵¹ Bob Freitag et al., *Floodplain Management: A New Approach to a New Era* (Washington, Covelo, London: Island Press, 2009), 77.

Elevation & Hydrology



Map 3: Elevation and Hydrology of Macon, Georgia. This map shows the change in elevation along the Atlantic Seaboard Fall Line, clearly visible through the center of the map. Map created by the author in ArcGIS 10.6.

By the turn of the century, Macon experienced another shift in industrial manufacturing. As national population migrations occurred, more people moved from rural areas to urban areas and new manufacturing businesses were built throughout the country. Macon was no exception. By 1910, the city saw a population boom of almost seventy-five percent from the previous decade. By 1920, the city “was large enough to require the services of a dogcatcher, yet rural enough for cows to pass without notice along its main streets. The city was caught up in transition...from a rapidly-growing but uncontrolled and unorganized town to an organized urban community.”⁵² As the decade progressed, the city also passed through a sociological change. There was some organization and political involvement of labor unions in effort to obtain better working conditions, hours, and pay for employees, including the Union of Carpenters and Joiners; the Georgia, Southern, and Florida Railroad Workers Union; the Textile Workers Union; the Macon Federation of Trade; and the Police and Fireman’s Union.⁵³

Cotton continued to dominate Macon’s economy and industrial sector during the 1920’s, as the city was still a collection point for the central region of Georgia. There were eleven textile mills in Macon during this time. However, the city was also diverse enough to welcome other manufacturing in order to create a more balanced economy. In 1925, there were a total of 150 manufacturing firms in Macon with an annual payroll amounting to around \$7,000,000. By 1927, the value of manufactured products in Macon reached approximately \$60,000,000. During this era, buildings constructed for food-related industries included the Birdsey Flour Mills (1920), the American Bakeries Company building (1921), the Sunshine Dairies building (1929.)⁵⁴

⁵² Anderson, *A City Comes of Age*, 8-13.

⁵³ Anderson, *A City Comes of Age*, ix, 19.

⁵⁴ Anderson, *A City Comes of Age*, 52; National Park Service, National Register Nomination for Macon, Georgia’s Railroad Industrial District, 1986; QPublic, Georgia, Bibb County, “Parcel Number Q073-0374”; QPublic, Georgia, Bibb County, “Parcel Number R081-0016”; QPublic, Georgia, Bibb County, “Parcel Number Q082-0266”; QPublic, Georgia, Bibb County, “Parcel Number Q082-0036”; QPublic, Georgia, Bibb County, “Parcel Number Q082-0456”.



Figure 23: The Birdsey Flour Mills on Lower Poplar Street, built in 1921. Photograph dates to the mid-twentieth century (*Vintage Macon* Facebook Page.)



Figure 24: The former American Bakeries Company building in Macon, built ca. 1921 (Author.)

This upward swing reversed with the onset of the Great Depression. In November 1928, a loss of confidence occurred in local banks, and 1929 was a year of both nervous anticipation and the start of the Great Depression. By 1930, local employment was declining. Industrial production slumped and unemployment hit unprecedented heights. Despite this economic change, some industrial construction did occur in the 1930's. The Cagle Egg & Poultry Company and Dr. Pepper Bottling both built facilities in 1930. Stokes-Shaheen Wholesale Grocers constructed a main facility in downtown Macon in 1940 at the end of the Depression. These buildings were of brick construction like buildings from the previous era.⁵⁵



Figure 25: Dr. Pepper Bottling building, ca. 1941, constructed in 1930 (*Vintage Macon* Facebook Group and the Washington Memorial Library Archives.)

Of the examples of food and beverage industrial buildings constructed between 1920 and 1940 in Macon, the Birdsey Flour Mills is the tallest of the structures. It is three stories in height (though one small portion of the main building is four stories in height). This does not include the grain elevator structure, which is taller. The height of this building is directly related to its function as a flourmill. The American Bakeries building and Cagle Egg & Poultry building are

⁵⁵ Anderson, *A City Comes of Age*, 68-69. Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 558-579; National Park Service, National Register Nomination for Macon, Georgia's Railroad Industrial District, 1986.

both two stories in height. Other examples are one story in height. While most of the buildings are unadorned, the American Bakeries building features subtle architectural elements and the Birdsey Flour Mills borrows elements from early Modern architecture. Overall, these early-twentieth century industrial buildings in Macon were designed for function.

By the 1940's, Macon's manufacturing output was on the rebound. In August 1940, local businessmen voted for an increase to their license fees, with the understanding that the funds would be used to attract military facilities and industry to the area. The mayor, city council, and local business leaders felt that Macon was well qualified for such industry, citing advantages such as location, facilities, and climate. This decision proved successful. Camp Wheeler, which had been active during World War I, was reactivated for World War II. A flight training school was built at Cochran Airfield, and the city of Warner Robins, Georgia (located just south of Macon) sprang up around a new military air base. During the war years, industry played a vital role in Macon's economy as well as the war effort. Textiles remained the dominant industry with eight textile mills producing over 11,000 different articles used by the Army alone.

Approximately 500,000 pounds of textile products were produced per week. In 1941, the government opened the Macon Naval Ordinance Plant, which supplied additional jobs to non-military citizens. This plant made fuses for bombs and other explosive devices.⁵⁶

The population of Macon doubled between 1939 and 1949. Soldiers, defense workers, and families moved to Macon either as a result of being in the army, or for employment at the ammunition plant. The city itself grew physically during this time, from 8.9 square miles to 17.48 square miles. Retail sales jumped from \$24,000,000 to \$103,000,000 and industrial payrolls increased from \$4,000,000 to \$32,000,000.⁵⁷

⁵⁶ Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 579-580

⁵⁷ Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 558

As a result of World War II industry, the postwar years of 1946 to 1949 continued to be prosperous in the field of manufacturing for Macon. Wartime construction restrictions were lifted and new industries were built. Development accounted for an average of \$1,000,000 per month in industrial investments. Smaller industries also sprang up following the war and farms saw a major increase in agricultural production and income. In 1940, roughly 6,000 people were employed in industrial manufacturing. By 1949, the number had risen to 20,000 – approximately 1 out of 4 people in Macon. Payrolls increased from \$3,810,593 to \$32,000,000, annually. A major reason for this monumental shift was due to the organization of the Macon Area Development Commission in 1944, which was designed to promote local business development, expansion, and the prosperity of Macon and its trade area. Members of the commission actively worked to promote trade, manufacturing, industrial, and agricultural interests of the city. As previously noted, this was a popular stance with many southern cities at the time as local governments made efforts to attract large manufacturing firms to promote economic development.⁵⁸

⁵⁸ Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 558; Ronald Kalafsky, “The Manufacturing Sector in the South Status and Recent Trends,” *Southeastern Geographer* 46, no. 2 (November 2006), 259-277; James O. Wheeler, “Regional Manufacturing Structure in the Southeastern United States, 1973,” *Southeastern Geographer* 14, no. 2 “An Issue Devoted to Manufacturing in the South” (November 1974), 67-83; James C. Cobb, *The Selling of the South: The southern crusade for industrial development, 1936-1990*, (Urbana, Illinois: University of Illinois Press, 1982).

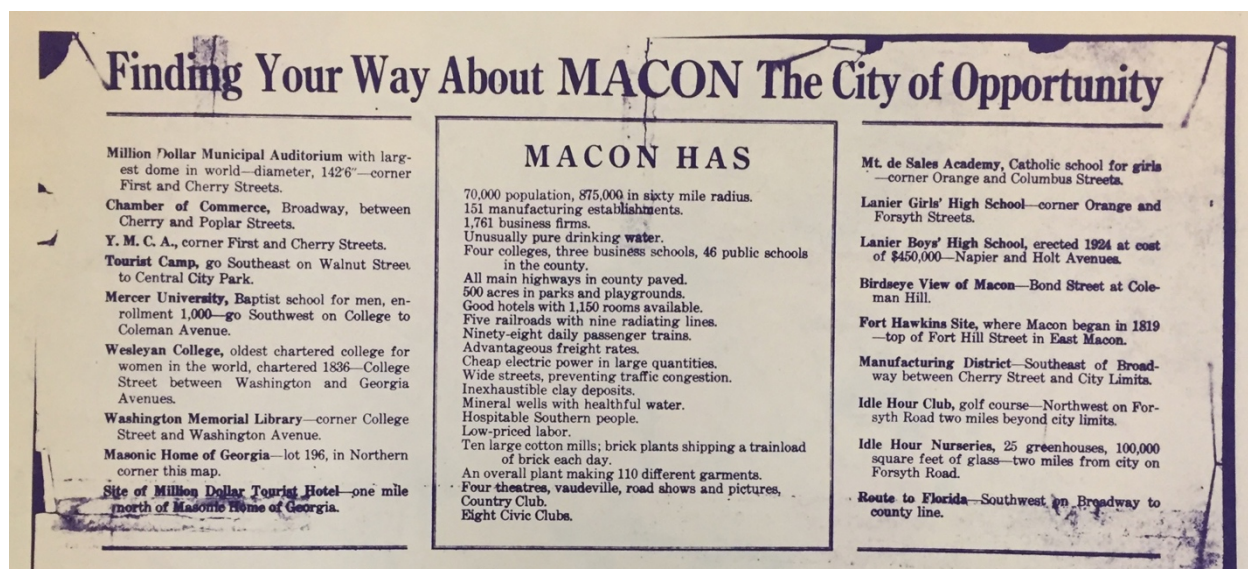


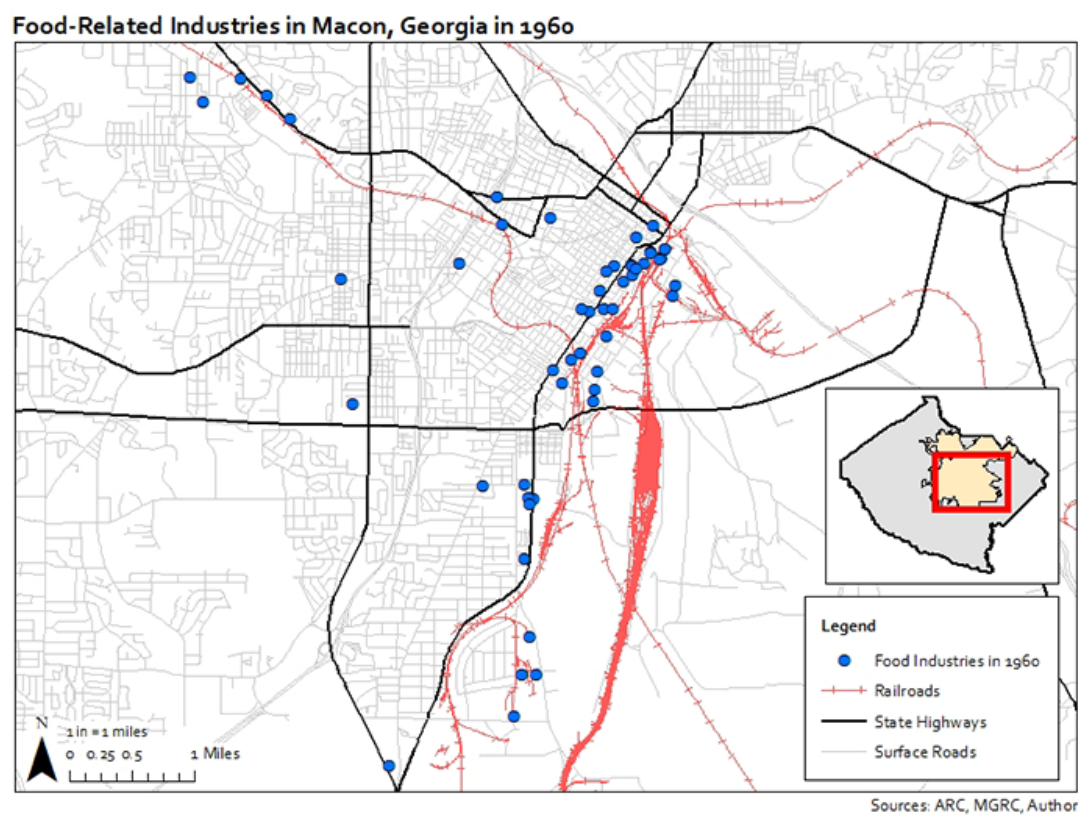
Figure 26: Inset from a Macon map, ca. 1945-1955 promoting the city's benefits (University of Georgia Map Library.)

In September 1945, the Mead Corporation of Dayton, Ohio agreed to establish a container board plant in Macon. This plant paved the way for additional industry. It was followed by the Macon Kraft Company, the Armstrong Cork Company, Durkee Famous Foods Division of New York, the Glidden Company, Inland Container Corporation, Delta Tank Manufacturing, Berry-McAfee Box Company, Macon Hosiery Company, Bowers Battery and Spark Plug Company, Georgia Oxygen Company, Lee Baking Company (which later became the Colonial Baking Company), Bateman Frozen Foods, General Chemical Company, Beneeda Bedspring Company, Bibb Shirt Company, Macon Shirt Company, and the Sears Roebuck Company – as well as large supermarkets, chain stores, and smaller industries. By 1949, Macon was home to 172 manufacturing companies, representing a total of 70 classifications of production. Food-related manufacturing industries included 17 bakers, 7 carbonated beverage

bottlers, 10 candy manufacturers, 11 dairies, 348 retail grocers and meat markets, 8 wholesale grocers, 10 fish dealers, 23 fruit dealers, and 7 poultry dealers.⁵⁹

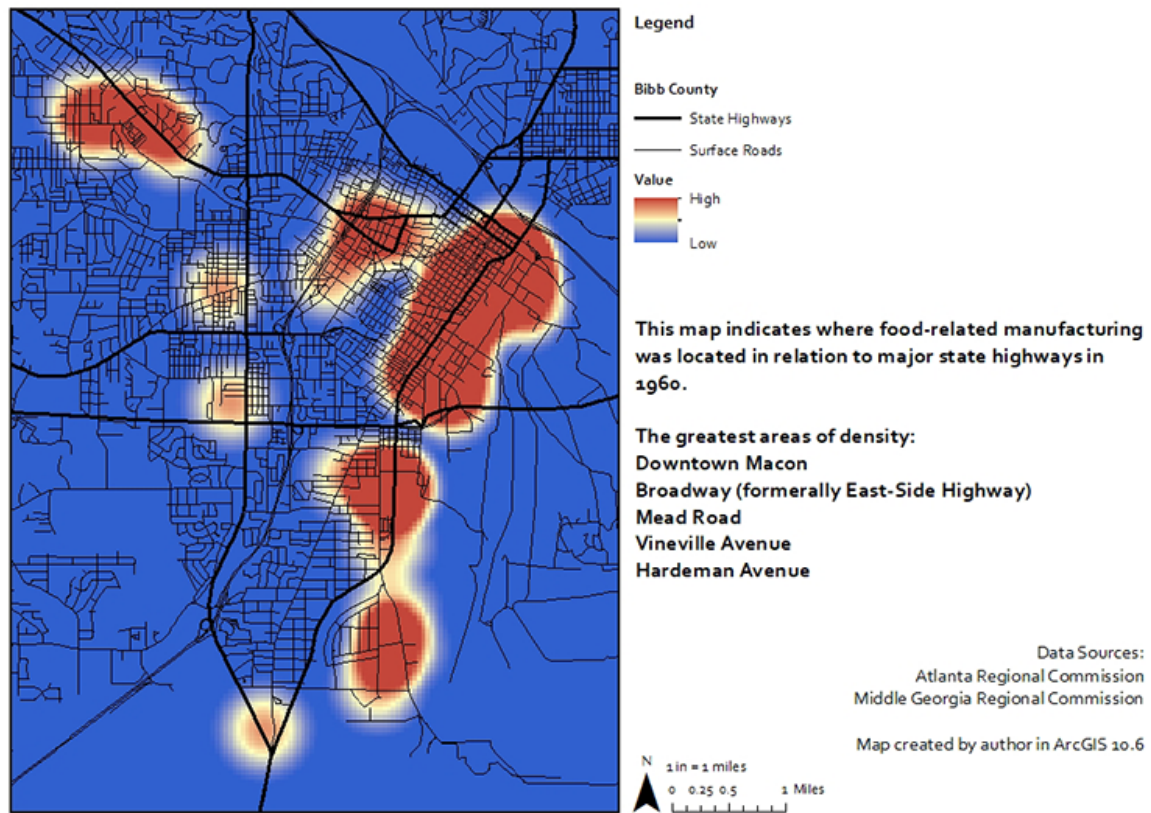
It was during this time that Macon's second industrial district was created. The second industrial area was decentralized, located south of the city in the Mead Road area. The Railroad Industrial District continued to attract some businesses, but these businesses typically used the extant buildings rather than building new construction. Most new construction centered on the Mead Road District and utilized the corridor known as the East-Side Highway (later known as Broadway.) This highway linked the downtown Railroad Industrial District directly to the Mead Road District. Railroad spur lines were also constructed from the rail yard to the Mead Road District. Buildings in the Mead Road District focused on efficiency and functionality, and most were built in the International architectural style associated with the mid-century.

⁵⁹ Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 581-582



Map 4: Locations of Food Industries in Macon in 1960. Map created by the author in ArcGIS 10.6.

Kernel Density Test: 1/2 Mile



Map 5: Kernel Density Test – Food Industries Located $\frac{1}{2}$ Mile from State Highways in 1960.
Map created by the author in ArcGIS 10.6.

CHAPTER FIVE

CASE STUDIES

Criteria

In searching for case studies, I examined four initial criteria: that they be food-related, that they be of the post-World War II period, that they have appropriate features for architecture of the time (International style character-defining features), and that they be located in Macon and/or Bibb County, Georgia.

I wished to examine food-related manufacturing because there seemed to be a large number of these types of facilities in Macon after World War II. Macon was near agricultural areas that provided resources for food manufacturing. I also wanted to specifically examine buildings constructed between 1945 and 1950, immediately following the war during the resulting economic boom. To compile a list of such buildings, I reviewed city directories to locate food-related manufacturing industries in Macon in 1946, 1947, 1948, 1949, 1950, 1955, 1960, 1965, and 1970. I created a list of food-related businesses and their addresses from these years. I also noted if the manufacturers were operating during the entire 25-year period or only a part of the time. I compiled a list of 64 food-related manufacturers from 1955 and 1960 for potential case studies. From this list, I cross-referenced the addresses in Google maps to determine if the buildings in question were still extant, and then against tax assessor information to determine the approximate date of their construction. I located 24 buildings that were still extant in the summer of 2018. From this list, I selected facilities that were built in the late

1940's, during the time when Macon leaders wished to encourage economic growth by welcoming new industries.

The second factor for case studies was the location of the buildings. While all of the buildings needed to be within the city of Macon and/or Bibb County, I wanted to see exactly where the buildings were located. Using ArcGIS 10.6, I mapped the buildings that were still standing to view their locations. I wanted to select at least one building in the Mead Road Industrial Area. Throughout the 1940's, the Macon City Council, Mayor, and local businessmen felt that that Macon was well qualified for manufacturing and cited her advantages of location, facilities, and climate for new industry. The Naval Ordinance Plant, which was built on Guy Paine Road in Southeast Macon in 1941, paved the way for the Mead Road area to become a second manufacturing corridor. These roads were located outside of the city limits at the time, which was ideal for a manufacturing corridor. This area was easily connected to the nearby rail yard and manufacturing plants built in the area during the postwar era often included a rail spur to their loading docks for easy transfer of goods.⁶⁰

In examining the industries in the Mead Road area, I narrowed my potential case studies to three: Crown Candy, California Cereal (formally the Keebler Company), and Albert's Wholesale Foods. As the current owners of California Cereal and Albert's Wholesale Foods did not return my telephone calls or emails, I chose the Crown Candy facility as a case study. This facility originated as a food manufacturing factory in 1948 and continues to operate in that capacity today. The owners are interested in history and were willing to allow me inside the factory to photograph original features for my case study.

For my second case study, I wished to select a building that was being used for something other than its intended purpose. I selected the Colonial Baking facility for two

⁶⁰ Young, Gholson and Hargrove, *History of Macon, Georgia: 1823-1949*, 579-580.

reasons. It is not being used for its original purpose as a food manufacturing facility, but more importantly, it is located outside of the industrial corridors, within a neighborhood. Historically, this African-American neighborhood has been known as Unionville. It remains an African-American community to the present. The Colonial Baking factory was built in the center north area of the neighborhood, on the border of the neighborhoods referred to as Napier Heights and Cherokee Heights. Between the 1930's and 1950's, the Napier Heights neighborhood was comprised of blue-collar white families (businessmen, clerical workers, and skilled mechanics). I chose this case study to illustrate that not all post-World War II factories were built within industrial corridors. A portion of the building is currently utilized by a funeral home for vehicle storage, but the bulk of the building remains vacant. This also allows for the discussion of potential adaptive reuse options.⁶¹

For my third case study, I wished to select another building that was vacant or used for storage. The final case study proved the most difficult to narrow down. I was only able to identify two buildings that were currently vacant and built in the late 1940's. One of these two buildings (a Quonset hut) is currently under reconstruction and I was unable to reach the owners. I selected the Tru-Ade Bottling facility because the owners responded to my telephone call and agreed to allow me to photograph the exterior of the building. The purpose of selecting a vacant building for my third case study was primarily to highlight the possibilities for adaptive reuse and rehabilitation of postwar industrial buildings.

Finally, it was necessary to examine whether the buildings in question retain any character-defining features from the post-World War II era. This era featured a late-modern architecture style commonly referred to as the International style. International style has several

⁶¹ Mapping Inequality: Redlining in New Deal America, "Macon, Georgia 1930-1940," <https://dsl.richmond.edu/panorama/redlining/#loc=15/32.7880/-83.6490&opacity=0.8&city=macon-ga&area=D11> (accessed October 30, 2018).

character-defining features. These features include ribbon or strip windows, glass curtain walls, use of rectangular forms, flat roofs, lack of ornamentation and minor details, cantilever projections, asymmetrical façades, and smooth wall surfaces. The three case studies in question all feature, to some extent, character-defining features from the International style. It should be noted that the three case studies have all been altered (to some extent) in their history, though they still retain prominent features from the postwar period. The alterations will be discussed in each case study.⁶²

⁶² A Digital Archive of American Architecture, “Chronology of Styles in American Architecture,” BC.edu, https://www.bc.edu/bc_org/avp/cas/fnart/fa267/amstyles.html (accessed October 30, 2018); Pennsylvania Historical & Museum Commission, “International Style 1930-1950,” PHMC, <http://www.phmc.state.pa.us/portal/communities/architecture/styles/international.html> (accessed October 30, 2018).

Case Study No. 1
Crown Candy Company
4145 Mead Road, Macon, GA
Built 1948



Figure 27: Crown Candy manufacturing facility in Macon, Georgia in 2018 (Author.)

The Building's Manufacturing History

The manufacturing facility located at 4145 Mead Road in Macon, Georgia was originally built in 1948 as a factory for Durkee Famous Foods, a major division of the Glidden Company. Eugene Durkee created Durkee Famous Foods in 1850 in Buffalo, New York as Durkee Spices. They were the first company to offer consumer sized packaging, cans for spices instead of paperboard cartons, pure ground pepper, and the company also helped establish the American Spice Trade Association. The Macon factory was constructed in the Mead Road District as the headquarters for Durkee's Southeast Division. Between 1948 and 1959, the factory produced 70,000 pounds of margarine each day under "modern, efficient and sanitary" conditions.⁶³ The local newspaper reported,

⁶³ QPublic, "Georgia, Bibb County, Parcel No. Q101-0182"; "Durkee Plans Open House Wednesday at Macon Plant," *The Macon Telegraph*, June 19, 1949; Durkee Foodservice, "About Us", <https://www.durkeefoodservice.com/about> (accessed December 16, 2018); "Durkee' Famed Products are Supplied To Southeastern Area by Macon Plant," *The Macon Telegraph*, March 6, 1955.

One of the features of the new margarine plant is its thoroughly modern construction, inside and out. The exterior is of brick and glass block. Interior walls are faced with cream colored tile and a portion of the wall between the production and packaging rooms is made of transparent glass block. Aside from the pleasant atmosphere created by the tile and glass, such construction has a practical purpose in a food plant where cleanliness is of utmost importance. Before each day's production starts, the entire production and packaging rooms are thoroughly cleansed with live steam, from the ceiling to the floor, equipment included.⁶⁴

Durkee remained in the factory for approximately ten years and sold it in 1959 to J. H. Filbert, Inc., a company that primarily used the building to make margarine and salad dressing products. J. H. Filbert, Inc. used the building until 1968. The building was vacant throughout 1969 before being briefly used by the Armstrong Cork Company as a distribution center in 1970. The Armstrong Cork Company left by 1971.⁶⁵



Figure 28: The facility as it appeared when owned by the J. H. Filbert, Inc. Company showing the original loading dock and rail spur (Crown Candy Company.)

The Crown Candy Corporation purchased the building in 1971 and by 1974 they reopened the factory. Crown Candy originated in 1917 in Atlanta and relocated to Macon to a “larger more modern facility.” The company made some improvements to the facility, mostly in

⁶⁴ “Durkee Plans Open House Wednesday at Macon Plant,” *The Macon Telegraph*, June 19, 1949.

⁶⁵ “Glidden Plant Here Sold to Firm From Baltimore,” *The Macon Telegraph*, February 19, 1957; R.L. Polk & Co., Publishers, “Polk’s Macon (Bibb County, GA.) City Directory: 1959 – Polk’s Macon Directory of Households, Occupants of Office Buildings and Other Business Places, Including a Complete Street and Avenue Guide”, 155; Polk & Co., “Polk’s Macon City Directory: 1968”, 168; Polk & Co., “Polk’s Macon City Directory: 1969”, 164; Polk & Co., “Polk’s Macon City Directory: 1970”, 163.

new equipment suited for candy making.⁶⁶ This company is still using this facility and is currently one of the top producers of coconut candies in the United States.

Existing Conditions: Exterior

In August 2018, I met with the current owners of Crown Candy's Macon facility and learned that there have been few changes to the building since 1971. Many original character-defining features from the mid-twentieth century are still present, though there have been additions. The most noticeable addition is to the front of the building. After Crown Candy purchased the building, they built an addition on the northwest corner to accommodate new offices. The addition is noticeable due to the subtle change in brick color and the late-century porch roof that was added over the newer entrance.



Figure 29: North elevation of Crown Candy. The original entrance is still visible towards the right side of the image. The addition has a slightly darker color tone in the brick, noticeable to the left side. A new main entrance was added with a 1970's style awning (Author.)

⁶⁶ Polk & Co., "Polk's Macon City Director: 1974", 168; Crown Candy, "History," <http://www.crowncandy.com/History.aspx> (accessed December 20, 2018); "Candy Firm Gets Filbert Land Here," *The Macon Telegraph*, January 5, 1971.; "Candy Firm to Improve Old Filbert Building," *The Macon Telegraph*, January 6, 1971.



Figure 30: North elevation of the addition, built in the 1970's. The brick color tone is darker than the original brick. The front stoop and porch roof were added at the same time as the addition. The upper stringcourse was carried through from the original building to make the addition appear continuous (Author.)

Character-defining features on the exterior include the streamlined, horizontal appearance common in modern architecture, as well as strip windows. Two stringcourses appear on the front elevation to emphasize the horizontal appearance. The first stringcourse is located above the windows and extends into the addition on the left side. The second stringcourse is only on the original portion of the structure and is below the windows. It does not carry into the addition.

The east elevation of the main building also saw additions in the 1970's. Originally the east elevation featured a rail line spur, which delivered goods to a loading dock and left with product. With the decline in rail transport, the rail spur was no longer needed at the time Crown Candy purchased the facility and the loading dock also became obsolete. To create a functional space, Crown Candy enclosed the east elevation's loading dock to create an interior corridor, wide enough to accommodate forklifts.



Figure 31: The original 1948 northeast elevation from the exterior. The 1970's corridor addition (which enclosed the loading dock) is constructed of concrete block painted gray. The original loading dock is visible, sloping downward. The windows are also original (Author.)



Figure 32: East elevation, looking south. This photograph shows the original railroad line spur, which ran north to south, parallel to the east loading dock. The gray concrete wall is a modern addition to enclose the loading dock and create an interior corridor (Author.)



Figure 33: Original east elevation, which is now enclosed to form a corridor. This was the original exterior of the 1948 building. The original concrete floor was the loading dock, and the original exterior brick wall (now interior) is visible. Original windows were removed and filled with concrete block, which damages some of the integrity of the structure, but was necessary for safety reasons (Author.)

At least three secondary buildings were added to the facility, which serve a variety of purposes. Most of these secondary structures retain some integrity, though their purposes have changed throughout the years depending on the type of food product being manufactured at the location.



Figure 34: North elevation of two adjoining secondary structures on the property. These structures date to 1948 and originally held large drums of ammonia for the factory cooling system. Today, the same drums have been repurposed to hold diesel fuel for operating machinery and fructose corn syrup for candy making (Author.)



Figure 35: West elevation of secondary building (Author.)



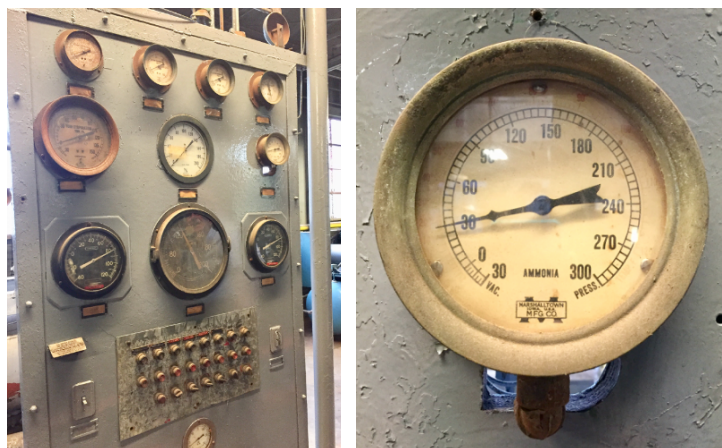
Figure 36: A secondary structure connected to the secondary buildings. This structure was built ca. 1950's for the Colonial Bread factory in Macon but was sold to Crown Candy post-1971. The tank originally held syrup for the Lee Baking Company (later Colonial Bread) and continues in that use today for Crown Candy as an extra storage tank (Author.)

Existing Conditions: Interior

Interior conditions have changed to suit the needs of Crown Candy. However, many original features of Durkee Foods still remain. The factory still retains portions of the original ammonia cooling system. Ammonia systems were refined in the 1930's and 1940's and used through the 1960's.⁶⁷ Original glass blocks, doors, drain systems, and electrical systems are still visible, though the drain systems and electrical systems are no longer in use due to code

⁶⁷ George C. Briley, "A History of Refrigeration," *Insulation Outlook*, <https://insulation.org/io/articles/a-history-of-refrigeration/> (accessed December 31, 2018).

regulations and newer technology. Owner Jim Weatherford indicated in personal conversation that it was costly to remove these original features and they were not affecting the current candy-making operation, so such features had been left in place.



Figures 37 & 38: Original watch clock station and ammonia pressure gauge in the secondary structure, both currently inoperable. Used to regulate ammonia for cooling and refrigeration from 1948 through the 1960's. Owner Jim Weatherford indicated that a small amount of ammonia remains in the system, though it is inoperable, as indicated by the slight pressure reading on the gauge (Author.)



Figures 39 & 40: Original ammonia tanks, located within the secondary structures. The second tank has been repurposed to hold diesel fuel (Author.)



Figure 41: Original tank used to hold additional ammonia, now repurposed to hold fructose corn syrup for candy making (Author.)



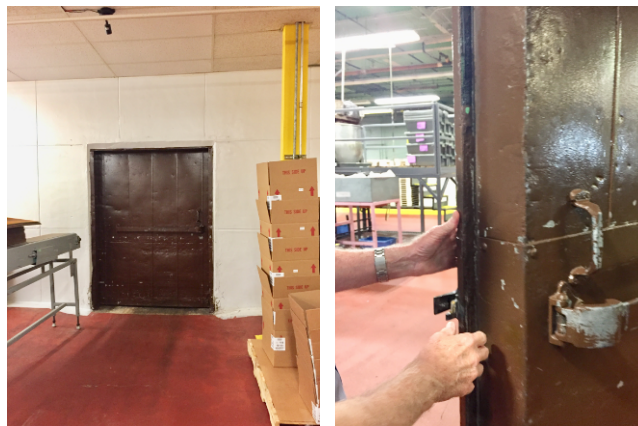
Figures 42 & 43: Original exterior electric box and electric pole, currently not in use (Author.)



Figures 44 & 45: Original mid-twentieth century electric boxes, currently not in use (Author.)



Figure 46: Original glass block windows in the south portion of the factory, dating to 1948. They have been covered from the outside for security reasons. The cream-colored tile is also original to 1948, as indicated in the June 19, 1949 *Macon Telegraph* (Author.)



Figures 47 & 48: Original bay door in the south portion of the factory (Author.)



Figures 49, 50, 51 & 52: Original sprinkler system for fire suppression, currently not in use (Author.)

Significance & Context

The significance and context of the Crown Candy facility dates to its original construction as one of the new factories built in Macon after World War II during a time when community leaders were eager to introduce new manufacturing to the city and boost the economy. Furthermore, the facility retains many of its original character-defining features and equipment (the latter inoperable). The factory's context within the city's manufacturing history continues to the present as an operable food factory that employs local citizens. The factory has had few periods of vacancy during its 71-year history. The Crown Candy facility is proof that a seventy-year old, mid-century factory can continue operating for its intended purpose as a food manufacturing facility, saving the cost and energy that would accompany new construction. The uniformity and repetition of the structure was successfully able to be converted into new production uses in 1959 and 1971, indicating that small-scale postwar factories can continue operating for their intended use due to their functional designs.

Case Study No. 2
Colonial Baking Company
2743 Montpelier Avenue, Macon, GA
Built 1948

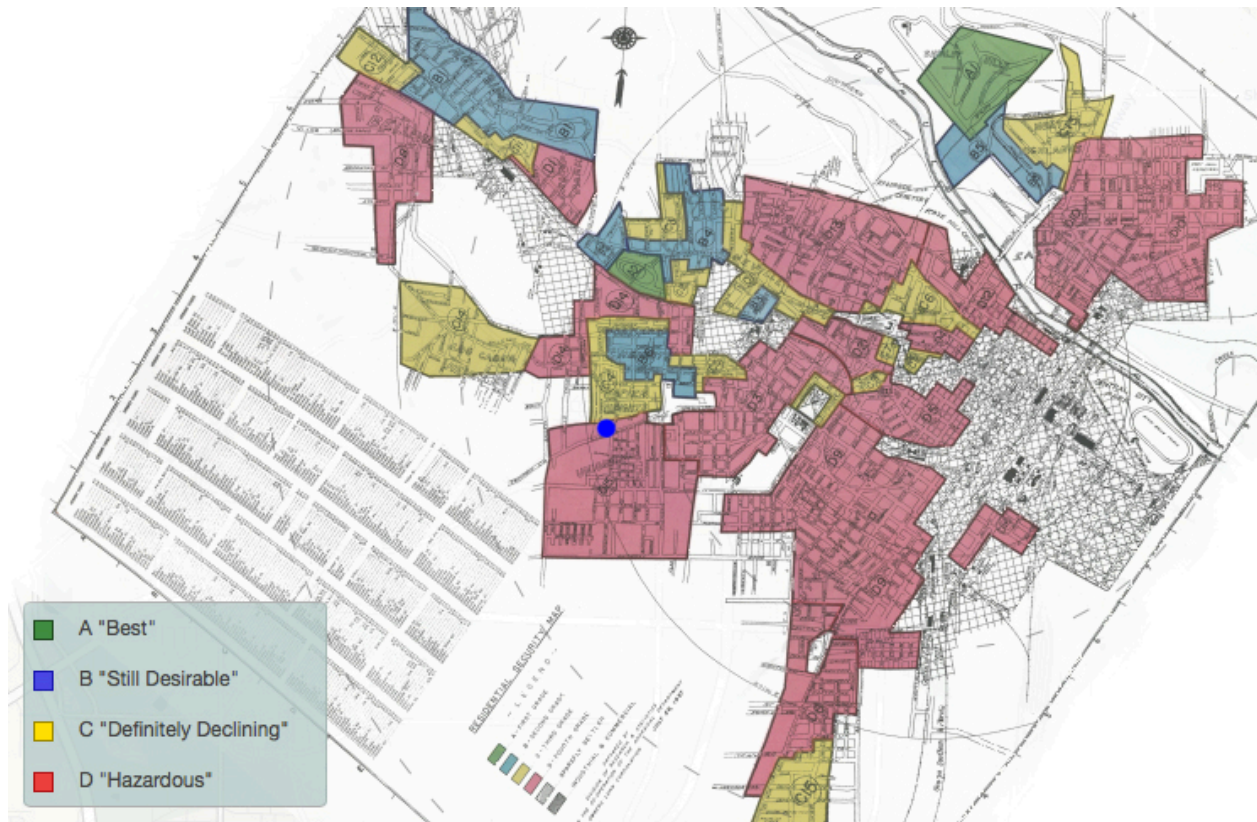


Figure 53: Lee Baking Company's south elevation (Author.)

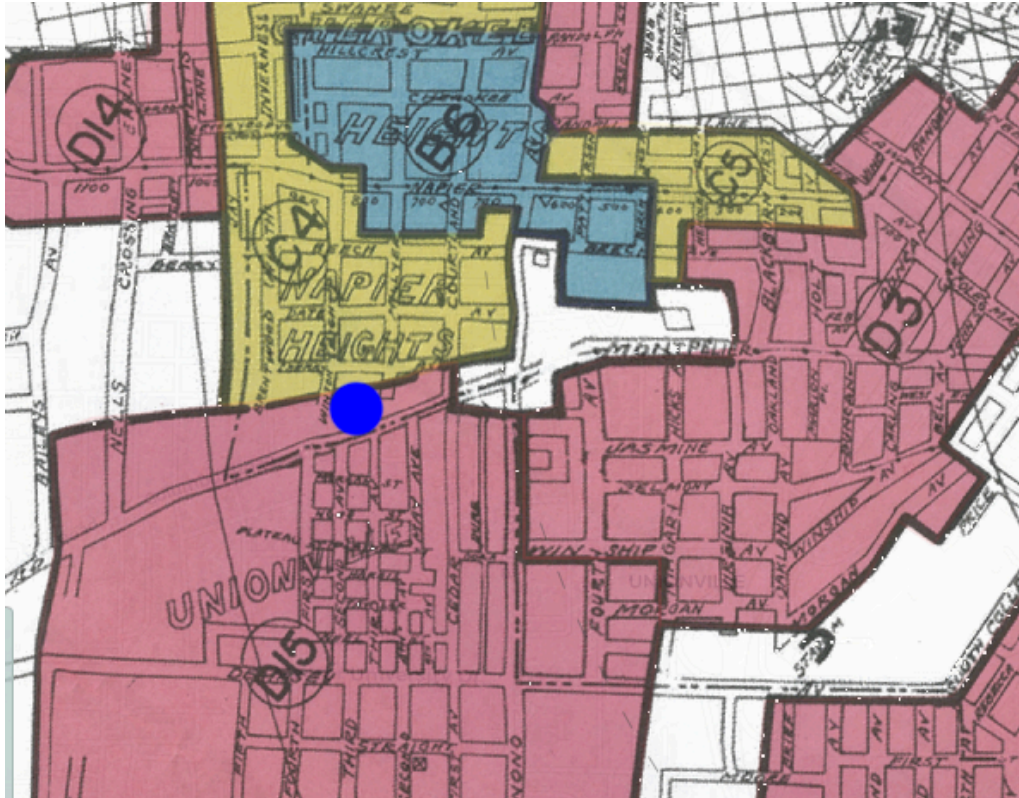
The Building's Manufacturing History

The facility was constructed in 1948 for the Lee Baking Company ~ Bakers of Colonial Bread and Cakes, which was established in 1929 in Atlanta. The Montpelier Avenue factory was built almost directly between the African-American neighborhood of Unionville and the blue-collar white neighborhoods of Napier Heights and Cherokee Heights, though slightly within the boundary of Unionville.⁶⁸

⁶⁸ Mapping Inequality, "Macon, Georgia 1930-1940," <https://dsl.richmond.edu>.



Map 6: Map from “Mapping Inequality: Redlining in New Deal America” – Macon’s neighborhoods in 1940 as coded for insurance. The blue dot represents the approximate location of the Colonial Bread factory between the redlined African-American neighborhood of Unionville and the yellow-lined white neighborhood of Napier Heights. The uncolored section to the right represents Macon’s downtown business core and Railroad Industrial District (<https://dsl.richmond.edu>.)



Map 7: Zoomed map from “Mapping Inequality: Redlining in New Deal America” – Macon’s neighborhoods in 1940 as coded for insurance. The blue dot represents the approximate location of the Colonial Bread factory between the redlined African-American neighborhood of Unionville and the yellow-lined white neighborhood of Napier Heights (<https://dsl.richmond.edu>.)

The company selected the site due to its closeness to a labor supply and because of the desirable gas pressure in the area. The facility initially covered 33,000 square feet, was brick construction, and was capable of baking 2,500 loaves of bread per hour. It produced products for Macon and northern Florida. In 1953, the company requested and received permission to build an addition to the facility. By 1958, the company was using the name Colonial Bread and the bakery maintained constant day and night operations so that bread could be packaged early in the morning and shipped fresh daily to local grocery stores. Brown-and-serve rolls were produced during daytime. By this point, the facility was producing 80,000 loaves of bread in a 24-hour period and had 100 employees. In 1961, the factory expanded a second time to a total of 57,635

feet. The addition was a “contemporary design with hard-burned face brick matching the existing brick” and a “bulk flour storage tower being constructed of steel paneling would house 43-foot storage tanks.” An oval neon sign was added to the flour tower but is no longer present.⁶⁹



Figure 54: Colonial Bread advertisement, 1957 (The Macon Telegraph.)

The facility continued to be listed as Colonial Baking Company until 1998, at which point it was listed jointly as The Colonial Baking Company and The EarthGrains Company.⁷⁰ EarthGrains was a division of the Sara Lee Company, which purchased the Colonial Bread franchise. Shortly afterwards the factory closed and remained vacant until purchased by Bentley & Sons Funeral Home, who owned several buildings on Montpelier Avenue (most notably their

⁶⁹ QPublic, “Georgia, Bibb County, Parcel Number O082-0099”; Mapping Inequality, “Macon, Georgia 1930-1940,” <https://dsl.richmond.edu>; Polk & Co., “Polk’s Macon City Directory: 1948,” 70; “Colonial Bread Is Always Baked ‘That Day’,” *The Macon Telegraph*, March 3, 1957; “Huge Bakery Planned Here,” *The Macon Telegraph*, July 14, 1947; “Colonial Uses Best Ingredients And Result Is Top Quality Bread,” *The Macon Telegraph*, February 27, 1966; “Baking Firm Sets Opening of New Plant,” *The Macon Telegraph*, May 10, 1948; “Approaches to Cochran Field Permanently Zoned by Board,” *The Macon Telegraph*, April 28, 1953; “Colonial Baking Co. Plans to Enlarge Its Plant Here Due to Optimism in Growth of Market in Macon Area,” *The Macon Telegraph*, February 26, 1961.

⁷⁰ Polk & Co., Publishers, “Polk’s Macon City Directory: 1998,” 122.

funeral facility). The Colonial Bread factory is presently used to store funeral vehicles but is otherwise vacant.⁷¹

Existing Conditions: Exterior

The building retains its original design and a number of original exterior features, but overall the facility is in a state of disrepair as it is only being used for partial storage. Water damage is a serious issue, likely the result of leaks in the roof and windows. The exterior is overgrown with vines and other plants, which can cause issues such as rising damp and mortar decay. Original character-defining features include the remnants of a fire alarm system, strip windows, the classic horizontal lines that were popular in the modern architectural style, and the 1961 flour tower addition on the east elevation.



Figure 55: South elevation, looking east. The flour tower was added in 1961. This entire portion of the facility is currently vacant (Author.)

⁷¹ Greg Winter, “Sara Lee to Buy Earthgrains, a Top Bread Maker,” *The New York Times*, July 3, 2001.



Figure 56: Exterior alarm dating to the mid-twentieth century. Strip windows are visible in the lower right portion of the photograph. Evidence of water damage is visible along the top of the window beneath the brick, and as evidenced by the structural cracks moving upward from the corner of the window towards the roof of the structure, through the bricks and mortar (Author.)



Figure 57: Mid-century strip windows along the south elevation of the structure. Water damage is visible at the top of the windows, just below the brick. Some windows are also loose from their frames allowing water to enter the building, as evidenced by the second window from the right (Author.)



Figure 58: West elevation of the main structure, showing three loading docks. Climbing vegetation is clearly visible on this elevation. This side of the building also features the classic horizontal mid-century profile, as well as an original mid-century awning over the door (Author.)



Figure 59: A portion of the west elevation, featuring a recessed loading bay. The windows face north. The window frames are original to the structure, though the glass is missing. This elevation shows ample vegetation growing around the building. Some salt efflorescence problems are visible on the north-facing brick wall between the windows (Author.)

Unfortunately, due to a heavy fence along the north boundary of the property and the close proximity of residential areas, I was unable to photograph the north elevation. The fence also protects the east elevation, but I was able to photograph the east elevation from a nearby parking lot.



Figure 60: East elevation of the facility, which borders a large parking lot and is surrounded by the heavy fence. The east elevation more clearly shows the flour tower as well as additional loading docks (Author.)

Existing Conditions: Interior

Much of the interior of the Colonial Bread factory is in disrepair. As of 2018 the west portion of the facility was being used to store funeral vehicles, while the south, east, and north portions were vacant. Electricity was minimal within the structure, used only to power emergency lights in the west portion of the building. Water damage was evident along the south elevation floor, ceiling, and steel truss system. Photographs were difficult to obtain due to lack of light. I was not allowed in the east portion of the building due to safety concerns. I would like to thank Bentley & Sons for graciously allowing me inside this structure to capture a few photographs the interior and view the construction.



Figure 61: Interior of the south elevation, facing east. This room was once part of the bread production line. Water damage is clearly visible by the large puddle in the center of the space. It appears water is entering the building from the roof and windows (Author.)



Figures 62 & 63: Interior of the south elevation, facing east showing water damage. Water damage is visible along the wall, coming from the roof (Author.)



Figures 64 & 65: The west interior is currently used to store funeral vehicles for the funeral home. This portion of the facility is in less disrepair than the south portion. The roof has been repaired and the trusses do not show signs of flaking paint. The concrete floor is clear of debris. Originally, this area was of the production line for Colonial Bread. The only current electricity is within this section of the building (Author.)



Figure 66: The north interior of the Colonial Bread facility is currently vacant, with some light provided from the emergency lights in the west portion. Paint litters the floor from the ceiling, and evidence of vandalism appears on the rear wall. This portion of the facility was once used for bread production (Author.)

Significance and Context

Like the Durkee Food factory on Mead Road, the Colonial Bread factory was also built in 1948 to encourage economic growth. Unlike Durkee Foods, which was built in an industrial corridor, the Lee Baking facility was constructed between existing residential neighborhoods. This gave the facility the advantage of a constant labor supply of nearby black and white employees and accessibility to nearby grocery stores.

The factory's context to the city's manufacturing history is evident in newspaper articles and with local citizens. Many people who lived in this area remember the smell of baking bread, walking to the factory to purchase bread, or visiting the factory on a school field trip. The building retains several of its original character-defining features, including strip windows, original fire alarm system, the 1961 flour tower, and its emphasis on horizontal construction. While the factory is not currently in operation for its intended purpose, it could be repurposed to save new construction costs and energy but would require significant rehabilitation due to water damage. The location is zoned C-2 (General Commercial District) but due to the facility's proximity to residential zones and its current state of disrepair, it has not attracted any manufacturers willing to take on the project.⁷²

⁷² Macon-Bibb County Planning & Zoning, "Macon, Georgia Zoning Map," <https://gis.maconbibb.us/MBPZ/> (accessed January 20, 2019).

Case Study: No. 3

Tru-Ade Bottling

3080 Broadway, Macon, GA

Built ca. 1945-1947



Figure 67: The former Tru-Ade Bottling Plant (Author.)

The Building's Manufacturing History

Bottling companies were popular in Macon from 1866 through the late twentieth century. Local library archives indicate approximately 67 bottlers and brewers have historically operated in Macon. In 1950 there were ten bottlers in the city, including Pepsi Cola, Dr. Pepper, Seven Up, and Coca-Cola, as well as lesser known brands like Hycee, Grapette, NeHi, Royal Crown, and Tru-Ade.⁷³

The Tru-Ade Bottling Company building was built ca. 1945-1947 in the industrial area of the East-Side Highway (later known as Broadway), just south of downtown Macon but not quite within the Mead Road Industrial District. Tax assessment records indicate the building was built in 1945, though newspaper articles indicate the company began bottling in 1947. The facility was

⁷³ Washington Memorial Library Archives, "Business & Industry – Bottlers, Brewers, & Distillers Gen. & Misc.," Washington Memorial Library (Macon, Georgia).

located directly across the road from the Middle Georgia Bottling Company.⁷⁴ Prior to 1949, this section of Broadway was known as the East Side Highway.⁷⁵ The Tru-Ade Bottling facility at 3080 Broadway first appears in the joint 1949/1950 directory and had eight employees. Tru-Ade Bottling was a local outfit, not attached to any national brand or product. The facility bottled an orange-flavored pasteurized drink, advertised as non-carbonated. The company did not stay at the Broadway location for long. They moved out by 1952. In 1960, the company had relocated to Third Street in Macon, at the same facility where Dr. Pepper was bottled.⁷⁶

⁷⁴ The Middle Georgia Bottling Company building housed Rosson Sign Company at the time of my research and did not qualify for the third case study as it was not vacant.

⁷⁵ I searched city directory records under other names for this road, including Broadway and Henderson, but could not find this address listed until 1949.

⁷⁶ Washington Memorial Library, "Map of Metropolitan Macon Georgia by the Macon Chamber of Commerce, ca. 1945", Washington Memorial Library Archives (Macon, GA); Polk & Co., Publishers, "Polk's Macon City Directory: 1948," 34; Polk & Co., "Polk's Macon City Directory: 1949/50," 24; Tru-Ade Advertisement, *The Macon Telegraph*, August 24, 1949; Tru-Ade Advertisement, *The Macon Telegraph*, August 19, 1960; Ralph Temples, "Oxygen to Caskets Produced By 38 Post War Plants Here," *The Macon Telegraph*, February 27, 1949; Bill Boyd, "If I could save time in a bottle," *The Macon Telegraph*, March 20, 1992; Washington Memorial Library Archives, "Business & Industry – Bottlers, Brewers, & Distillers Gen. & Misc.," Washington Memorial Library (Macon, Georgia).



Figure 68: Tru-Ade Advertisement, 1960 (*The Macon Telegraph*.)

The Macon Salvage Company, which specialized in used furniture, moved into the original Tru-Ade Bottling facility in 1952 and remained there through the 1970's. In 1980, the building was used Southern Machine Corporation. This company also owned 3084 Broadway, a former potato chip manufacturing facility (no longer extant). By 1990, Macon Truck Parts, Inc. was using the Tru-Ade building for truck and trailer parts, and the potato chip factory had been demolished. In 1995, an auctioneer company was using the building, to be followed by an industrial equipment company. Conveying Solutions, a mining company from Butler, Georgia currently owns the building. The owners allowed me to photograph the outside of the building but could not meet me to allow me to photograph the interior.⁷⁷

⁷⁷ QPublic, "Georgia, Bibb County, Parcel Number Q091-0556"; Polk & Co., Publishers, "Polk's Macon City Directory: 1952," 32; Polk & Co., "Polk's Macon Directory: 1980," 40; Polk & Co., "Polk's Macon Directory: 1990," 38; Polk & Co., "Polk's Macon Directory: 1995," 44; Polk & Co., "Polk's Macon Directory: 2000," 30.

Existing Conditions

As I was only allowed to photograph the exterior of the building, I cannot comment on interior conditions or changes to the interior of the building. The exterior is in fair condition, though there are some issues present. The building has been used by a variety of businesses and industries throughout the years, which has aided in its general upkeep, but it shows the effects of age and use.



Figure 69: West elevation of the Tru-Ade Bottling facility, which features two block-glass windows, a strip window, a glass-front loading bay, and two entrances. The building was built of concrete block and features a stepped sign board. Due to the busy state highway in front of this building, I was unable to get a direct elevation photograph (Author.)



Figure 70: South elevation from the southwest corner of the Tru-Ade Bottling Facility. The building features a small overhang at the roofline. This photograph shows that the stepped cornice on the front is a parapet and sign board. Exterior problems include vegetation growing along the outside of the building, mostly grasses, weeds, and vines, but at least two potential trees. If allowed to grow, these could affect the foundation. Grasses and weeds create the potential for rising damp (Author.)



Figure 71: North elevation of the Tru-Ade Bottling facility. This elevation shows problems with rising damp, stemming from vegetation and moss growing along the bottom of the structure. Though the building has been painted, rising damp causes problems by attacking mortar (Author.)



Figure 72: Glass block windows on the west elevation of the Tru-Ade Building. Popular in the mid-century, these frosted glass blocks are set thirty-six to a frame. Wooden boards were added to the sides for stabilization, but the original iron frame is still located at the top of the windows. The windows were originally faced in brick instead of concrete block (Author.)



Figure 73: Detail of glass-block windows on the west elevation of the Tru-Ade Bottling facility showing the wooden boards added to the sides of the windows. The tops are still iron, evidenced by the rust. The windows were originally framed in brick instead of concrete block. The same types of glass blocks were also used in the Durkee Factory, built in 1948, and are present in another bottling facility located across the street from the Tru-Ade facility (Author.)



Figure 74: Strip window on the west elevation of the Tru-Ade Bottling facility. Like the glass-block windows on the same elevation, this strip window was framed in brick. The original iron frame is still visible around the strip windows, as evidenced by rust and iron jacking. A crack is visible in the bottom right corner, traveling through the concrete block towards the ground. Vegetation presents the problem of rising damp. Water could potentially be entering the building from the window frame (Author.)



Figure 75: The loading bay on the west elevation originally allowed trucks to load and unload product. The windows were added at a later date (Author.)

Significance and Context

Like the previous case studies, the Tru-Ade building was constructed after the war. Unlike the Colonial Bread facility, which was built within residential areas for its much-needed labor supply, the Tru-Ade Bottling was built on a major state highway between the city's two main industrial centers (the Railroad Industrial Area and the Mead Road Industrial Area), which allowed easier access for trucks to make deliveries. Bottling plants were popular in Macon, and Tru-Ade was unique in that it was a private label instead of a national brand, giving it more local significance than other bottling brands. The plant's context to the city's manufacturing history is evident from newspaper articles and advertisements even after Tru-Ade moved to a more centralized location in the early 1950's.

The building retains several of its original character-defining features, including its strip windows, concrete block construction, glass block windows, and its emphasis on the horizontal. While the plant is not currently in operation for its intended purpose, it could be easily repurposed. Since the building has been in almost continuous use since 1947 with only a few short vacant periods, the exterior is in relatively fair condition with some simple concerns like rising damp and vegetation. It is unknown if there are any interior leaks from the roof or windows that would create more serious rehabilitation costs.

CHAPTER SIX
PRESERVATION OF HISTORIC INDUSTRIAL BUILDINGS
AND ADAPTIVE REUSE

“Change is an inevitable part of life and it should be celebrated rather than regretted. What is so significant about the national mood today is the acceptance that change does not require a total abandonment of the past.”⁷⁸

Adaptive reuse is the process in which older buildings are redeveloped for new uses. It is necessary to note important definitions and common National Park Service bulletins for rehabilitating industrial buildings before discussing adaptive reuse and economic incentives. The National Park Service identifies four treatment options for historic properties. These are:

1. **Preservation:** the focus on repair and maintenance of historic materials; retaining a property’s form as it has evolved through time.
2. **Rehabilitation:** which acknowledges the need to alter or add to a historic property in order to meeting changing or continuing uses, while maintaining the historic character of the property.
3. **Restoration:** which depicts a property during a particular period of its history, while removing all evidence from any other period.
4. **Reconstruction:** recreating a non-surviving property for interpretive purposes.⁷⁹

⁷⁸ David G. Woodcock, W. Cecil Steward and R. Alan Forrester, eds., *Adaptive Reuse – Issues and Case Studies in Building Preservation* (New York: Van Nostrand Reinhold Company, 1988), vii.

⁷⁹ National Park Service, “Four Approaches to the Treatment of Historic Properties,” NPS, <https://www.nps.gov/tps/standards/four-treatments.htm> (accessed April 7, 2019).

For the purpose of adaptive reuse of industrial buildings, this thesis will discuss rehabilitation as an option for preservation. Treatment guidelines can be found on the National Park Service website. Rehabilitation projects which utilize tax credits have slightly different standards to help with long-term preservation and the repurposing of a building as these projects usually must be income-producing in nature.⁸⁰

In order to utilize tax credits, a building must be considered historic according to National Park Service standards. To be considered historic (either as an individual building or as a contributing building within a historic district), a building must retain **significance** and **integrity**. In order for a property to be considered significant within its historic context, it must represent an area of history within local, state, or national context and the property must be able to convey the historic context. The property's significance is determined by one or more of four criteria: (A) an association with events that have made a significant contribution to broad patterns of American history; (B) an association with significant persons in the past; (C) embodiment of distinct characteristics of a type, period, method of construction, or the work of a master; and (D) the potential to yield additional information important to history. Integrity is the ability of a property to convey its historic significance. Integrity is more subjective but must be grounded in the property's physical character-defining features.⁸¹

Macon's postwar factories fall under Criteria A for their association with events important to the overall patterns of American history; specifically local manufacturing/industrial

⁸⁰ National Park Service, "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings," NPS, <https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf> (accessed April 7, 2019); National Park Service, "Secretary's Standards for Rehabilitation," NPS, <https://www.nps.gov/tps/standards/rehabilitation.htm> (accessed January 30, 2019).

⁸¹ National Park Service, "National Register Bulletin: How to Apply the National Register Criteria for Evaluation," NPS, https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_5.htm (accessed April 7, 2019), https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm (accessed April 7, 2019), and https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm (accessed April 7, 2019).

history. These factories can be considered important to Macon's long-term manufacturing history as well as Macon's post-World War II manufacturing history. The properties could also be considered significant under the context of local economic history. While their significance is primarily local, there is also a possibility that these factories could be considered important to state and national postwar history since there was a postwar trend for southern towns to attract northern industrial firms by advertising climate, low wages, and abundant resources. These factories could also be considered under Criteria C for their vernacular interpretation of International style architecture.

Economic Incentives

Once significance and integrity has been established, economic incentives can play a large role in adaptive reuse. Older buildings are often more energy efficient and they represent a nonrenewable energy in construction costs alone. Building a new structure requires new materials, while the materials in an older structure already exist, allowing the building to be recycled for a new use. Furthermore, adaptive urban reuse encourages reinvestment within cities by "creating jobs during construction, jobs in revitalized business, greater stability and safety in a community, an improved visual environment, and an ultimate increase in the tax base."⁸²

In terms of actual funds, federal and state tax incentives encourage adaptive reuse. It is not within this thesis's scope to analyze all possible funding sources for adaptive reuse projects, as the list would be too long. Nor is it this thesis's scope to explain how best to apply tax credits for a specific project, since every project is different and must be reviewed individually by the National Park Service to determine if the project meets the Secretary of the Interior's Standards for Rehabilitation. Instead, this section examines the three most common rehabilitation tax

⁸² Woodcock, Steward and Forrester, eds., *Adaptive Reuse*, ix.

incentives for the state of Georgia and the basic principles of the Secretary of the Interior's Standards for rehabilitation projects. Those interested in rehabilitation projects should seek advice from professional tax consultants and explore other potential grants and tax opportunities for such projects.

Tax credits are processed through the State Historic Preservation Office. There are two options available in Georgia: The State Preferential Property Tax Assessment, which freezes county property taxes depending on how much the property increases in value after the rehabilitation is complete, and a State Income Tax Credit that equals 25 percent of qualifying rehabilitation expenses. Prospective properties must submit information to the State Historic Preservation Office prior to any work being done to ensure that all work meets the Secretary of the Interior's Standards for Rehabilitation. Additionally, a 20 percent tax credit is available through the federal government for the rehabilitation of income-producing buildings that are determined by the Secretary of the Interior to be a certified historic structure. The Department of the Interior defines a "certified historic structure" as,

...a building that is listed in the National Register of Historic Places, either individually or as a contributing building in a National Register district, or as a contributing building within a local historic district that has been certified by the Department of the Interior. Buildings in historic districts must be "certified" or approved by the NPS as contributing to the district as part of the Historic Preservation Certification Application. Only certified historic structures qualify for the credits...Character-defining aspects of the building that need to be identified and evaluated may include form and detailing of exterior materials, such as masonry, wood, and metal; exterior features such as roofs, porches, and windows; materials, such as plaster and wood; finished and unfinished interior spaces; and interior features, such as moldings and stairways, room configuration, and spatial relationships, as well as structural systems.⁸³

⁸³ National Park Service, "Incentives: A Guide to the Federal Historic Preservation Tax Incentives Program for Income-Producing Properties," NPS, https://www.nps.gov/tps/tax-incentives/incentives/application_1.htm (accessed January 30, 2019).

This tax credit is specifically for the rehabilitation of historic buildings that will be used for income-producing purposes. All work must first be approved by the National Park Service and must meet the Secretary's Standards for Rehabilitation. There are ten primary rehabilitation standards that apply to properties wishing to access this tax credit. Potential projects are submitted through the State Historic Preservation Office and the credit can be claimed through the Internal Revenue Service. In addition, the Department of the Interior also provides bulletins for interpreting the Standards of Rehabilitation, such as "Retaining Industrial Character in Historic Buildings" and "Treatment of Industrial Interiors," to further clarify the Standards. These bulletins note that character-defining features for industrial buildings are usually structural systems, open spaces, finishings, and architectural details. It is important to find a compatible use for these structures, retain their historic character, and preserve any distinctive features. The National Park Service reviews each potential rehabilitation project on an individual basis.⁸⁴

When rehabilitating a building, it is also crucial to remember the context of the area in which the building is located, as well as local values such as cultural importance, community wellbeing, and intangible attributes. As an extreme example, the Colonial Bread facility, while located in a C-2 commercial zone, should not be converted into heavy industrial manufacturing

⁸⁴ National Park Service, "Tax Incentives for Preserving Historic Properties," NPS, <https://www.nps.gov/tps/tax-incentives.htm> (accessed January 30, 2019); National Park Service, "The Treatment of Historic Properties," NPS, <https://www.nps.gov/tps/standards.htm> (accessed January 30, 2019); National Park Service, "Secretary's Standards for Rehabilitation," NPS, <https://www.nps.gov/tps/standards/rehabilitation.htm> (accessed January 30, 2019); National Park Service, "Interpreting The Secretary of the Interior's Standards for Rehabilitation: Retaining Industrial Character in Historic Buildings," NPS, <https://www.nps.gov/tps/standards/applying-rehabilitation/its-bulletins/ITS55-IndustrialCharacter.pdf> (accessed January 30, 2019); National Park Service, "Interpreting The Secretary of the Interior's Standards for Rehabilitation: Treatment of Interiors in Industrial Buildings," NPS, <https://www.nps.gov/tps/standards/applying-rehabilitation/its-bulletins/ITS15-IndustrialInteriors.pdf> (accessed January 30, 2019); Georgia Department of Natural Resources: Historic Preservation Division, "State Tax Incentives," GA HPD, <https://georgiashpo.org/tax-stateprograms> (accessed January 30, 2019).

facility as such a use would not fit with the character of the neighborhood. Zoning ordinances establish a good basis for what can and cannot work in certain areas.⁸⁵

Renewed Appreciation for Mid-Century Modern

In recent years, there has been a renewed appreciation for the mid-century modern and its sleek design style, including the International style of architecture. The term “mid-century modern” describes architecture and furniture from the middle of the twentieth century and is part of the larger modernist movement that dates to the end of the nineteenth century and early twentieth century. Various dates are given for the mid-century modern movement (as early as the 1920’s and as late as the 1970’s), but the most common dates are typically between 1947 and 1957. The International style is on the early end of the spectrum, dating to the 1920’s in Europe and the 1930’s in America. International style commonly featured white surfaces, strip windows, an emphasis on the horizontal, and flat roofs. Some roofs were even used for recreational space. On the late end of the mid-century modern architectural scale are American Ranch-style homes, popular from 1945 through 1965. These were usually built in suburban settings and represented American modern architecture after the war. They did not feature the International style of Europe but were a distinct twist to the modern movement. American Ranch homes featured open rooms, ample windows, were affordable to the vast majority of buyers, and focused on efficiency, function, and comfort.⁸⁶

⁸⁵ Joseph P. Luther, “Site and Situation – The Context of Adaptive Reuse,” eds. David G. Woodcock, W. Cecil Steward and R. Alan Forrester, *Adaptive Reuse – Issues and Case Studies in Building Preservation* (New York: Van Nostrand Reinhold Company, 1988), 48-60; Liliane Wong, *Adaptive Reuse: Extending the Lives of Buildings*, (Basel, Switzerland: Birkhauser Verlag GmbH, 2017), 6.

⁸⁶ Laura Fenton, “Why the world is obsessed with midcentury modern design – The story behind the ubiquity,” Curbed, <https://www.curbed.com/2017/11/22/16690454/midcentury-modern-design-mad-men-comes> (accessed January 23, 2019); Lawrence Wodehouse, *The Roots of International Style Architecture* (West Cornwall, CT: Locust Hill Press, 1991); Barbara Miller Lane, *Houses For a New World: Builders and Buyers in American Suburbs, 1945-1965* (Princeton: Princeton University Press, 2015), 221.



Figure 76: Example of European International Style – The Bauhaus School in Dessau (Britannica.)

Several of the International style's architectural details found their way into post-World War II American industrial construction, particularly the emphasis on the horizontal and strip windows. The postwar industrial style was often steel frame or reinforced concrete with a brick veneer and did not feature ornamentation. Though built initially for function instead of aesthetic, many of these buildings are on the cusp of a potential new life as their old purposes die out. They are also part of the mid-century modern movement, albeit perhaps not what most people typically think of in association with mid-century modern.⁸⁷

Preservation of Modern Resources

The preservation of modern industrial resources has its basis in urban environmental changes. Over time, city commercial and industrial areas often decline due to economic and demographic changes. The United States was an industrially-based economy until the second half of the twentieth century, when the economy became more knowledge-based and service-based. With this shift, many mid-twentieth century industrial and commercial buildings became obsolete.⁸⁸

⁸⁷ Linda Burnett, "What's Old Is New," *Contract* (August 2004, Vol. 46, Issue 8), 52-54.

⁸⁸ Jo Allen Gause et al., *New Uses for Obsolete Buildings* (Washington D.C.: The Urban Land Institute, 1996), 3-4.

This was not the first time such buildings faced general disuse. Nineteenth century industrial districts such as SoHo in New York City fell into decline by the early twentieth century. SoHo remained in decline until the 1960's when Greenwich Village artists revitalized the vacant industrial buildings, turning them into lofts and art studios. In doing so, the buildings proved they could endure and be repurposed for new uses. In the same way, mid-century buildings can also be adapted for new economic opportunities.⁸⁹



Figure 77: Industrial buildings in SoHo, Manhattan (New York Times.)

The biggest concern with mid-century industrial buildings is that they are falling into disrepair. Often the structure itself is sound while other portions, such as strip windows, were not built to last. The Colonial Bread facility in Macon is a good example of this situation: the structure itself is in good condition though the windows and roof have developed leaks over time. For such buildings, adaptive reuse is an option, with emphasis on reusing the buildings for similar purposes to their original uses – although in some cases, older industrial properties are not suited for modern manufacturing because they cannot accommodate larger equipment or

⁸⁹ Gause et al., *New Uses for Obsolete Buildings*, 4; Walks of New York, “New York’s SoHo: A Visitor’s Guide,” <https://www.walksofnewyork.com/blog/soho-in-new-york> (accessed January 23, 2019).

because there are no manufacturers who want to use the building. In such cases, other reuses must be considered.⁹⁰

The Stern Building is an example of adaptive reuse for an early twentieth century industrial building to a new purpose. It was originally built on the San Francisco waterfront in 1903 by the Italian Swiss Colony for wine production and was damaged in the 1906 earthquake. Though the building was structurally unsound, Levi Strauss & Company purchased the building and renovated it for continued use as their new headquarters. This included addressing the severe structural problems.⁹¹



Figure 78: The Stern Building (originally built by the Italian Swiss Company for wine production), restored by Levi Strauss & Company (Noehill.com.)

Office space is one adaptive reuse for industrial buildings. Another use is loft conversion. While not a new concept (SoHo buildings were converted into lofts during the 1960's), renovating industrial and commercial structures into lofts and apartments has gained momentum, particularly in downtown cores. In 1998, Diversified Management Systems in Long Valley, New

⁹⁰ Burnett, "What's Old Is New," 52-54; Gause et al., *New Uses for Obsolete Buildings*, 10-11.

⁹¹ Woodcock, Steward and Forrester, eds., *Adaptive Reuse*, 80-87.

Jersey renovated a former sugar refining plant in Jersey City. The developers created luxury lofts and studio apartments overlooking Morris Canal, the Statue of Liberty and lower Manhattan.⁹²



Figure 79: Sugar House, Jersey City (Jerseydigs.com.)

Examples of modern food-related industrial preservation exists within the state of Georgia, as well. In Athens, Georgia the Bottleworks plant was converted into a variety of adaptive reuse spaces, including restaurants and coffee shops, retail stores, and lofts. The Coca-Cola Company built the facility in 1928 and after, and used the buildings until 2000 when they needed a larger warehouse that could accommodate trucking needs. The complex was almost immediately purchased for development. The project included the creation of an outdoor courtyard to temper the industrial atmosphere.⁹³

⁹² The New York Times, “Low-Rise Lofts on the Jersey City Riverfront; Converting a Sugar Plant into the Sugar House,” NYT, <https://www.nytimes.com/1998/08/02/realestate/postings-low-rise-lofts-jersey-city-riverfront-converting-sugar-plant-sugar.html> (accessed January 23, 2019).

⁹³ Sarah Anne Perry, “Building Blocks: Bottleworks coming back from the dead with variety of community,” The Red & Black, https://www.redandblack.com/variety/building-blocks-bottleworks-coming-back-from-dead-with-variety-of/article_cee53bf6-9671-11e2-aff3-001a4bcf6878.html (accessed January 23, 2019).



Figure 80: The Athens Bottleworks before renovation (*Red & Black.*)

In Atlanta, Georgia the former Crown Candy facility was converted into lofts in 1999. The company began operations in 1917 and originally made candy in downtown Atlanta. In 1936, they moved to what is now the historic Grant Park area, near Oakland Cemetery. Their “new” building was an early twentieth century industrial structure and they operated in this facility until 1971, when the company moved their operations to Macon, Georgia (see Case Study No. 1). The nineteenth century Crown Candy building near Oakland Cemetery now features 21 luxury lofts.⁹⁴

⁹⁴ Crown Candy Lofts, “About,” <http://www.crowncandylofts.com/about/> (accessed January 23, 2019).



Figure 81: Crown Candy Lofts, Atlanta (Crown Candy Lofts.)

In Macon, Georgia the former American Bakeries Company facility at 455 Plum Street was renovated in 2011 as medical offices. It was originally built in 1921. It is currently operating as a medical facility as of 2019.



Figure 82: The former American Bakeries Company facility in Macon, Georgia (Author.)

General Preservation in Macon

At present, Macon has fifteen historic districts. Of these, only one district focuses on industrial buildings – the Railroad Industrial National Historic District located downtown. This district lists buildings constructed between the 1880's and 1930's. The Railroad Industrial District was created to highlight the significance of businesses to Macon's economic

development during this time period as well as the importance of the city's railroads in relation to those businesses. This establishes a precedence that Macon's local economic history is of importance to the city's overall story.⁹⁵

A number of historic structures in downtown Macon are in the midst of transformation and rehabilitation. Lofts are a popular option and the Historic Macon Foundation maintains a Downtown Loft Revolving Loan Fund to create a core of downtown homeowners and long-term stabilization for the area. Some of these rehabilitations are taking place in buildings located within the Railroad Industrial District, establishing a precedent for industrial building reuse in the city. While loft conversion is not a viable option for the Mead Road Industrial District due to zoning regulations (discussed in the Conclusions and Recommendations), there are other options for reusing mid-century industrial buildings.⁹⁶

⁹⁵ Historic Macon Foundation, "Macon's Historic Districts," HMF, <http://www.historicmacon.org/macons-historic-districts/> (accessed January 31, 2019).

⁹⁶ Historic Macon Foundation, "Current Projects," HMF, <http://www.historicmacon.org/current-properties/> (accessed January 31, 2019).

CHAPTER SEVEN

ANALYSIS OF CASE STUDIES

In analyzing the three case studies it is critical to look at character-defining features since the Secretary of the Interior's Standards require specific attention to character-defining details when rehabilitating industrial buildings. As previously mentioned, the character-defining features of the International style include ribbon or strip windows, glass curtain walls, use of rectangular forms, flat roofs, lack of ornamentation, cantilever projections, asymmetrical façades, and smooth wall surfaces. For a building to be listed on the National Register of Historic Places or as a contributing building to a National Register or Local Register Historic District, it must retain both integrity and significance. However, since postwar factories are by their very nature designed for function and purpose it must be taken into consideration that they have likely undergone some changes and modifications that may affect integrity.⁹⁷

Each of my case studies underwent some form of alteration during their history, which affects their integrity to some extent. The Colonial Bakery saw two major additions during the 1960's to increase operations, including the large flour tower. Both of these additions were completed before 1969, which is the 50-mark at the time of this thesis, so the additions could be considered historic in nature. The Crown Candy facility built an addition to the office area in the 1970's, which is clearly visible by a slightly different brick color. The addition will be considered "historic" by the Secretary's Standards with the next few years. The Tru-Ade Bottling

⁹⁷ A Digital Archive of American Architecture, "Chronology of Styles in American Architecture," accessed October 30, 2018, https://www.bc.edu/bc_org/avp/cas/fnart/fa267/amstyles.html.

building had the least amount of discernable additions. The obvious change was the replacement of the bay door with strip windows at an unknown date. It is unknown if the interior saw minor or major modification at any time.

Despite alterations, each building retains exterior character-defining features of the late 1940's and the mid-twentieth century. All three buildings emphasize the horizontal rectangular form that was popular in International Style. There is little adornment or ornamentation on any of the buildings. What ornamentation that does exist is minor, such as the stringcourse on the Crown Candy building and the stepped signboard on the Tru-Ade Bottling building. Crown Candy and Colonial Bread both have brick exteriors, while Tru-Ade Bottling was concrete block construction. All three have flat exterior walls, flat roofs, and slightly asymmetrical façades. Crown Candy and Colonial Bread both have a stringcourse at the roofline but do not have cantilever roofs. The Tru-Ade building has a stepped signboard front which gives the building some minor architectural detail. It also has a slight cantilever roof around the sides of the building, but this cantilever is not deep as most International style cantilevers are. All three buildings use strip or ribbon windows. Crown Candy and Tru-Ade Bottling also use glass block windows for a slightly different texture.

As for the interiors, it is impossible to compare all three case studies as I was unable to obtain interior photographs for the Tru-Ade Bottling plant. However, both Crown Candy and Colonial Bread feature large open interiors for production that have changed in only minor ways to accommodate newer techniques and machinery. Both have purely functional interiors. The Colonial Bread facility featured a steel truss system roof. Due to the dropped ceiling in the Crown Candy factory, I was unable to identify the roof system used. While Colonial Bread's interior has deteriorated due to water damage, Crown Candy retains many of its original

character-defining interior features such as the cream-colored tile, electrical panels, fire system, and ammonia cooling system. These systems are inoperable and do not affect current operations.

Retaining Character-Defining Features

Most of the exterior character-defining features, such as the horizontal emphasis and flat roofs, are easily retained provided that they are not heavily altered during reuse. Interior character-defining features are most noticeable in Crown Candy and in the truss system of Colonial Bread. Crown Candy's features have been left in place due to the higher cost of removing them. However, if the facility were to change hands, it is possible these features could be removed. While the Secretary of the Interior's Standards make it clear that character-defining features should remain intact through rehabilitation, none of the case study buildings are listed on the National Register of Historic Places or in any national or local historic districts, so there is currently no protection for these buildings.

In order to obtain tax credits for rehabilitation, one must prove the building is eligible for National Register listing individually or as part of a district. To be eligible, the building must retain integrity and significance. While these buildings' significance to Macon's mid-twentieth century manufacturing boom is evident, their remaining integrity is based on alterations made throughout time and how much of their original character they retain – a decision which would be made by the National Park Service if an owner submitted paperwork for rehabilitation tax credits. Arguments could be made for Colonial Bread and Tru-Ade Bottling that their historical integrity remains with few alterations. The alternations that were made were completed before 1969, making those alterations historic. Crown Candy's most recent alterations were completed just after the 50-year mark, but only by a few years. Due to the proximity of the changes to the

current 50-year mark, it is plausible that a case could be made that the alterations are currently historic (or will be historic within a few years). This would not affect the integrity of the building. Since factories must be prepared to make changes to remain functional, consideration of this fact should be taken when considering such buildings for National Register listing. As being eligible for listing on the National Register is a requirement for historic tax credits, it is important that industrial buildings be considered for listing since tax credits could help greatly with renovations and rehabilitations.⁹⁸

Potential Adaptive Reuse & Zoning Concerns

The question of how to use vacant buildings from this time period is necessary, as large industrial buildings present certain challenges for rehabilitation and are common throughout the United States. Mid-twentieth century industrial buildings were designed with function in mind and served a specific purpose, though many of these factories were also designed with uniformity in mind to make a transition easier if the factory changed production type. The first standard listed in the Secretary of the Interior's Standards for Rehabilitation is that a property should be used for its original purpose. If it cannot be used for its original purpose then there must be minimal change to the character defining features of the structure, site, and the surrounding environment. The second standard states that a property's historic character must be retained and preserved, and any removal of historic materials or alteration of spaces should be avoided. Based on the Standards, the best use for these types of buildings would be an industrial use as that was their original purpose. However, original purposes are not the only uses for industrial buildings and there are times when a building cannot be repurposed for its original

⁹⁸ Historic Macon Foundation, "Macon's Historic Districts," accessed January 31, 2019, <http://www.historicmacon.org/macons-historic-districts/>.

intended use. As society changes, some factories become obsolete and require new purposes. Zoning adds another dimension to the challenge of repurposing buildings and must be taken into consideration.⁹⁹

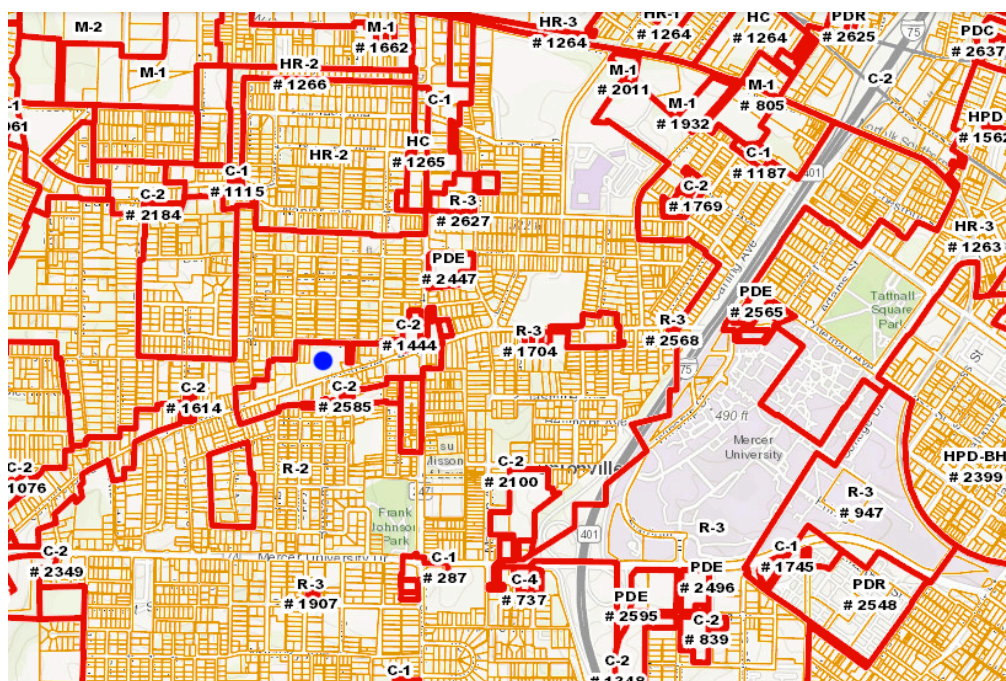
The case of Colonial Bread is a good example of how zoning can affect a building's future. Originally, the factory engaged in the light manufacturing of bread products. However, years of recent vacancy have created major problems such as water damage, which is costly to repair. According to the Secretary of the Interior's Standards, the best use for a building such as Colonial Bread would be factory use since that was its original design, but Colonial Bread creates a challenge because it is located in a commercial zone and directly borders low-income residential areas that suffer from crime and lack of new development. These factors likely contributed to the long period of vacancy from the late 1990's through the early 2010's, which also resulted in the building's lack of maintenance. One business, the Middle Georgia Community Food Bank, considered repurposing the building for new office and warehouse space but upon learning that the rehabilitation costs would exceed the cost of the building, coupled with the intercity crime issues, the nonprofit decided against purchasing the building in the early 2000's.¹⁰⁰

The Colonial Bread facility is currently located within a C-2 zoning designation. The C-2 designation is considered a Central Business District Zone. General commercial activity is acceptable. Strip commercial areas are not encouraged. Approved uses include: retail sales, storage, bottling for soft drinks, printing or bookbinding, electrical supplies, heating or plumbing

⁹⁹ Munce, *Industrial Architecture*, 10-11, 39-57; NPS, "Secretary's Standards for Rehabilitation," <https://www.nps.gov/tps/standards/rehabilitation.htm>.

¹⁰⁰ Private conversation with a former employee of the Middle Georgia Community Food Bank; Macon-Bibb County, Georgia, "The Comprehensive Land Development Resolution for the City of Macon and Bibb County, Georgia," https://library.municode.com/ga/macon-bibb_county/codes/comprehensive_land_development_resolution?nodeId=CH13-GCodi (accessed February 1, 2019)

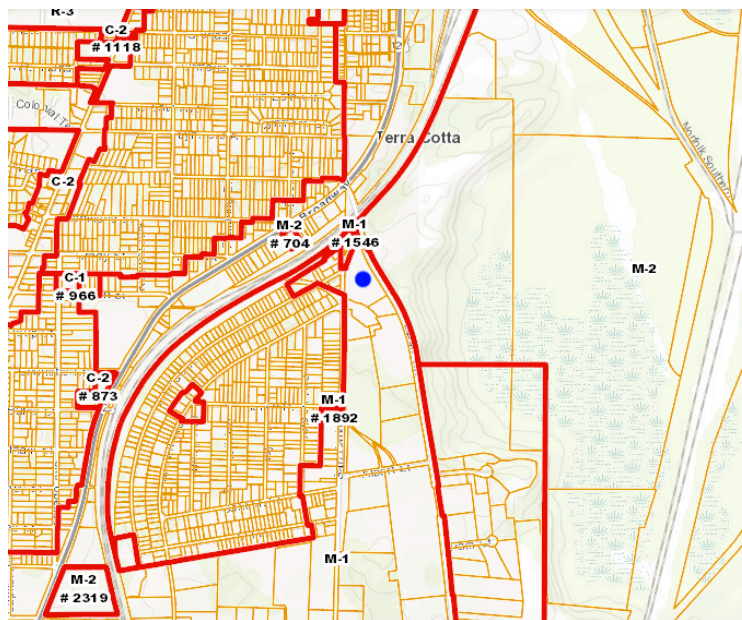
services, dairy products, bakeries, automotive accessories, sporting goods, farm and garden supplies, real estate offices, home building supplies, bars and restaurants, newspaper publishing, dry cleaning and laundry facilities, movie theatres, private clubs, bowling alleys, offices, radio or television broadcasting, telephone offices and communication centers, and accessory buildings. There are also additional conditional uses. The current owners are using the building for vehicular storage but have not maintained the structure, which is causing serious water damage on the interior. A new roof and new windows would be critical to stop the water damage issues. The building could be put to better reuse to prevent its deterioration. It is a matter of finding the right developer with vision for the building's future.¹⁰¹



Map 8: The Colonial Bread facility (indicated by the blue dot) as located within a C-2 district in the Unionville area (map from Macon-Bibb Zoning; blue dot placed by author.)

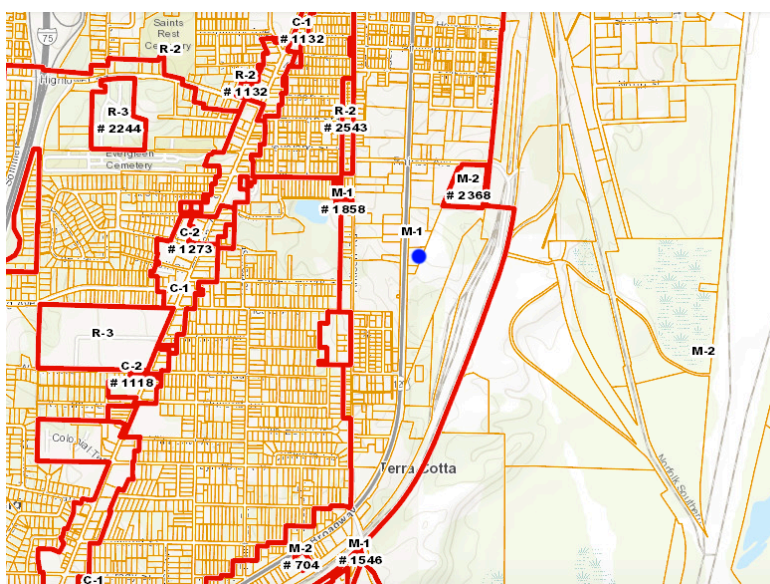
¹⁰¹ The building was for sale during the 2000's for several years without much interest before it was purchased by the funeral home directly across the street for use as vehicle storage; Macon-Bibb County, Georgia, "The Comprehensive Land Development Resolution for the City of Macon and Bibb County, Georgia," https://library.municode.com/ga/macon-bibb_county/codes/comprehensive_land_development_resolution?nodeId=CH13-GCodi (accessed February 1, 2019).

Crown Candy and Tru-Ade Bottling are located with M-1 (light industrial) zoning designations. In the case of Crown Candy, there are no residential areas that directly border its M-1 zone, as indicated by the map below. It is bounded by M-2 (medium industrial) designations and C-1/C-2 commercial designations. The building is currently operating as a light manufacturing facility, but should Crown Candy opt to leave the building or the company close, future uses would need to take the character of the location into consideration. While Crown Candy continues to use the building, ongoing maintenance is necessary for this structure to ensure it remains in optimal operating condition.



Map 9: Crown Candy (indicated by the blue dot) as located within an M-1 district (map from Macon-Bibb Zoning; blue dot placed by author.)

The Tru-Ade Bottling facility, also currently used for storage for an industrial equipment supplier, is in better condition than the Colonial Bread factory as it has been maintained and used for the majority of its life. Like Crown Candy, it is located within an M-1 designated zone. There are a variety of uses for this area and it would be easy to adapt the Tru-Ade Bottling facility to a light industrial use. Since the M-1 zoning designation does not allow for residential use, any rehabilitation to lofts or apartments would be prohibited. Likewise, mixed use is not the best option for this building. Other businesses in the vicinity include a sign production company, a machine and engine shop, a siding and gutter supply warehouse, a hardware shop, and several truck and auto repair facilities or garages.¹⁰²



Map 10: Tru-Ade facility (indicated by the blue dot) as located within an M-1 zoning district (map from Macon-Bibb Zoning; blue dot placed by author.)

¹⁰² Macon-Bibb County, Georgia, “The Comprehensive Land Development Resolution for the City of Macon and Bibb County, Georgia,” https://library.municode.com/ga/macon-bibb_county/codes/comprehensive_land_development_resolution?nodeId=CH13-GCodi (accessed February 1, 2019).

National Register of Historic Places and Historic Districts

The National Register of Historic Places is a useful tool in the protection of historic resources. The eligibility of a building, either individually or as part of a National Historic District, is one requirement to potentially receive historic tax credits for rehabilitation. Stand-alone designation is a possible option for many buildings, particularly those that are not within an industrial area. For example, the Colonial Bread facility could be a potential stand-alone designation due to its location.

Creating a local historic industrial district for post-World War II manufacturing buildings is also an option to protect these resources. While National Register listings and historic districts can be tools to receive tax credits, local districts help protect resources by establishing design guidelines for alterations and renovations. By establishing design guidelines, character-defining features can be preserved and future development in such areas can be more closely monitored. Local Planning & Zoning and Historic Preservation Commissions should take into account that factories do require some amount of change for adaptive reuse.¹⁰³

Crown Candy and Tru-Ade Bottling are located within the same M-1 zone, along with several other buildings from the same era – including the massive Keebler factory (now California Cereal), the former Albert's Wholesale Grocery building, and the Middle Georgia Bottling Plant (now Rosson Sign Company). Since this M-1 zone contains other light industrial buildings from the same era, creating a local historic district would help protect the character-defining features of these buildings as they continue to serve in their original capacity. Since industrial buildings must remain functional, change is an inevitable part of their life cycle and must be taken into consideration if a historic district were to be formed.

¹⁰³ Georgia Department of Natural Resources: Historic Preservation Division, "Difference between a National Register Historic District and Local Historic District?," GA HPD, <https://georgiashpo.org/sites/default/files/hpd/pdf/CLG/HistoricDistrictComparison.pdf> (accessed March 18, 2019).

Colonial Bread is too far removed from the Mead Road Industrial District and too close to residential development (as well as not being a residence) to be placed within a historic neighborhood district. It could be a potential building for a stand-alone National Register designation. Another option for the city is a thematic historic district specifically designed for post-World War II manufacturing facilities to ensure buildings throughout the city are included, rather than focusing solely on the Mead Road Area. The three case studies in this thesis are not the only post-war industrial buildings that remain in Macon and a number of buildings from this time period are still in use for commercial and light industry.

There are examples of industrial historic districts from this time period, though they are not as common as late-nineteenth and early-twentieth century industrial historic districts. The Central Manufacturing District (Original East Historic District) in Chicago was listed with the National Register of Historic Places in February 2016. This district is significant in the areas of architecture and industry, with a period of significance from 1902 through 1965, which clearly covers the postwar era. The 1965 date was chosen because at the time it was the cut-off date for the 50-year mark. Its listing notes that it was an industrial park that became popular in the postwar era as “the continuation and adaptation of an earlier institution developed at the beginning of the 20th century.”¹⁰⁴ This area also encompasses the concept of industrial parks, noting that Chicago was a forerunner for the creation of the industrial park and experimented in industrial land planning. The listing further notes that the district “continues to serve the community with many of the same services it provided historically.”¹⁰⁵

¹⁰⁴ National Park Service, “National Register of Historic Places Program: The Central Manufacturing District: Original East Historic District,” NPS, <https://www.nps.gov/nr/feature/places/16000399.htm> (accessed March 10, 2019).

¹⁰⁵ IBID

Another example is the North Lakeview Industrial District in Birmingham, Alabama. It is significant in the areas of commerce and architecture and was listed in June 2016. The district was a planned development to expand existing businesses and attract new businesses in an effort to “diversify and support Birmingham’s economic life.”¹⁰⁶ The buildings within this district were light industrial and commercial types. The period of significance is 1927 through 1951, which also encompasses the postwar era. These examples show that buildings from the postwar era are being listed on the National Register of Historic Places as part of a district, allowing the continued use of such buildings while retaining character-defining features and preserving their architecture and history.¹⁰⁷

¹⁰⁶ National Park Service, “National Register of Historic Places Program: North Lakeview Industrial District,” NPS, <https://www.nps.gov/nr/feature/places/16000399.htm> (accessed March 10, 2019).

¹⁰⁷ IBIB

CHAPTER EIGHT

CONCLUSIONS & RECOMMENDATIONS

These conclusions bring together the most important information from previous chapters. They provide guidelines for the potential futures of mid-twentieth century industrial buildings in Macon, Georgia (or anywhere) – specifically food-related industries – but are not absolute for any decision regarding such buildings. They can be used as starting points for further adaptive reuse research and they list some potential reuse options for this type of building.

To establish local significance in the areas of industry and commerce, it is important to note that Macon has a long history as an economic center. The city's original industrial area was the Railroad Industrial District adjacent to downtown. Business was crucial to the city's livelihood and was facilitated by the Ocmulgee River and a railroad network. Her history as an economic center dates to 1823 with the establishment of the town and continues through the mid-twentieth century. Though the city experienced a slump during the Great Depression, the economy rebounded during World War II. In the late 1940's, Macon leaders capitalized on the postwar boom by encouraging industries to locate to the city. As new industries relocated to Macon, a decentralized industrial area was formed south of the Railroad Industrial District and became informally known as the Mead Road Industrial District. Additional railroad lines connected the new district to the rail yard east of the Railroad Industrial District. The Mead Road Industrial Area was also connected to downtown via the East-Side Highway (also known as Broadway and Martin Luther King, Jr. Boulevard). By 1949, the local newspaper boasted 38 new

industries in the city. Food-related industry was resource-based from local agriculture.

Throughout the mid-twentieth century, there were numerous food-related industries operating in Macon, from small-scale businesses to large-scale manufacturing. Some food-related industry was localized, while others were national scale companies. All contributed to the economy.

The postwar industrial buildings typically adapted the International style of architecture, which was part of the Modern movement. The International style is characterized by horizontal forms, strip windows, flat roofs, and little ornamentation. These industrial buildings were designed to be functional and uniform. Many were only one story in height. Their purpose was horizontal production. Based on the three case studies, it is likely that many of Macon's mid-century industrial buildings underwent some sort of alteration during their lives to accommodate new techniques or changes in production. Crown Candy highlights how a functional layout enabled the factory to adapt to a new food production use in 1971. Colonial Bread highlights the damage that can occur when any building is not maintained due to long periods of vacancy, which creates problems and additional expenses for future rehabilitations. Tru-Ade Bottling highlights how a food-related plant can be repurposed, with options for light industry in the future based on its surrounding neighborhood. Each building represents different challenges and slightly different character-defining details of the period.

Preservation & Potential Adaptive Reuse Ideas

Adaptive reuse is a popular choice for industrial buildings. It not only saves the structure but also prevents new construction costs and energy use. Adaptive reuses can be varied and multi-faceted, from lofts in New York to office buildings in California. In Macon, historic downtown industrial buildings have been adapted to lofts, offices, and medical facilities. A

precedent has been set in the downtown core for loft conversion on upper floors with retail space on the ground level. However, not all buildings are suited to loft conversion. The character of a neighborhood and zoning ordinances must be taken into consideration. While a commercial zone could possibly consider a variance for a building to be converted into lofts or affordable housing, an industrial designation prohibits such uses. Macon's mid-century industrial facilities were built for function and many are located in current industrial or commercial areas. Furthermore, the Mead Road Industrial Area is decentralized and is not within walking distance of Macon's downtown core. Based on the Secretary of the Interior's Standards, the best use for such buildings is the continuation of their original use or similar light industrial uses.

Recommendations for Colonial Bread

As noted in the previous chapter, Colonial Bread's location in a commercial designation next to low-income residential areas presents specific challenges. Years of vacancy have resulted in water damage. While the current owners are using part of the building to store vehicles, the building's maintenance has been neglected. A new roof and new windows are critical to prevent further water damage; otherwise, the building will continue to deteriorate. The interior floors and roof trusses also need to be replaced or rehabilitated. Vegetation should be kept clear of the exterior to prevent rising damp or vines from causing mortar damage. Vandalism is also a potential issue, as noted by graffiti on the building's north elevation interior walls. While fences help protect the building from surrounding streets, the building is accessible from two sides. Since windows are already leaking, this allows easier entrance for vandals. The character of the neighborhood and crime rates have not attracted any serious light manufacturers since EarthGrains left the facility, so it seems unlikely at this time that the building would be

renovated for a new industrial use in the near future. However, there are other options for this building and the neighborhood.

One potential option for Colonial Bread is an affordable housing facility. Approximately a half-mile from the Colonial Bread building the former A. L. Miller High School was converted into 62 affordable apartments. The Gothic Revival all-girls' high school was originally built in 1929. It had been vacant for some time and was successfully repurposed in 2018. The developer, Mark Wright of Oracle Design, was familiar with historic renovations and made certain that the Gothic Revival structure retained its exterior character-defining features. The project utilized tax credits and the building is now completely energy-efficient. The project was a large undertaking but has received local praise.¹⁰⁸

Dividing the Colonial Bread facility could provide additional housing units for the same neighborhood and benefit the area. Tax credits would be essential to help offset rehabilitation costs. Another similar option for the Colonial Bread facility is the potential for a community center or recreation facility. This option would also benefit the local neighborhood by providing opportunities for community development. The C-2 zoning designation notes that strip malls are not encouraged, so a mixed-use commercial rehabilitation would likely need a variance or approval from the zoning commission.

¹⁰⁸ Nicole Butler, "A. L. Miller gets transformed into affordable living," *The Macon Telegraph*, <https://www.13wmaz.com/article/news/local/al-miller-gets-transformed-into-affordable-living/450754101> (accessed March 10, 2019); Apartments.com, "A. L. Miller Village," <https://www.apartments.com/al-miller-village-macon-ga/fbyw2rr/> (accessed March 10, 2019).

Recommendations for Crown Candy

The Crown Candy facility is fortunate that it is still operating as a food-manufacturing facility 71 years after it was built. The current owners have a vested interest in the factory as they have been producing candy there for almost 50 years and they currently maintain the buildings and structures at the site. This continued maintenance is the most important recommendation for Crown Candy as it allows the buildings to continue functioning, particularly the maintenance of the roof and windows but also the maintenance of the grounds to prevent vegetation from growing near or on the building and causing issues.

It is also necessary to consider the possibility of what would happen if Crown Candy left the facility or if the company dissolved. In that case, it would be ideal for the facility to continue its manufacturing function. Since the facility is located within an M-1 designation and does not border residential areas, but rather medium industrial and commercial zones, any potential reuse would require taking the character of the neighborhood into consideration. Reuse could include light industrial or warehouse storage given the size of the facility. Lofts, affordable housing, and retail would not be ideal or approved uses if the neighborhood continues to maintain its M-1 designation.

Recommendations for Tru-Ade Bottling

Since the Tru-Ade Bottling facility has been maintained and used for the majority of its life, it is in better condition than the Colonial Bread facility. However, as it is currently used for storage, its fate could be the same as Colonial Bread if not monitored. Continued maintenance is vital to ensure that the structure does not develop leaks and water damage. Attention should be paid to the roof, windows, doors, and the former bay door. Vegetation should be kept away from

the sides of the building to prevent rising damp. The fences and gates help protect the building from vandalism.

The building is located within an M-1 designation (wholesale and light industrial use). There are a variety of uses for this area and it would be easy to adapt the Tru-Ade Bottling facility to a light industrial use. Other businesses in the vicinity have set the tone of the area, with auto and truck repair being common, but there are other businesses such as hardware stores, sign shops, and wholesale home improvement businesses. Another option for the Tru-Ade building is the potential to become self-storage with climate controlled and non-climate-controlled areas. The building is located on a large paved area that offers the option of expansion to the north, east, and south. Since the M-1 zoning designation does not allow for residential use, any conversion lofts or apartments would be prohibited. Likewise, mixed use is probably not the best option for this building since the surrounding area is light industrial in nature.¹⁰⁹

National or Local Register Considerations

In order to receive historic tax credits for rehabilitation, it is necessary to prove that a building is eligible for listing on the National Register of Historic Places – either individually or as part of a district. There are several options for potential National Register Listings. The argument could be made for any of the case studies that they are eligible for listing; it is simply determining the best way to list them. First, the Railroad Industrial Historic District could be expanded to include postwar industrial buildings. At present, the Railroad Industrial Historic District comprises buildings built between the 1880's and 1930's and the parameter defines a

¹⁰⁹ Macon-Bibb County, Georgia, "The Comprehensive Land Development Resolution for the City of Macon and Bibb County, Georgia," https://library.municode.com/ga/macon-bibb_county/codes/comprehensive_land_development_resolution?nodeId=CH13-GCodi (accessed February 1, 2019).

small core adjacent to downtown. There are buildings within this district that have been rehabilitated from industrial to new uses. However, given the original dates of the Railroad Industrial Historic District and its location in relation to downtown, expanding the dates to include decentralized postwar facilities is not necessarily the best option. The second option is to create a new district for decentralized areas built after World War II, to include the Mead Road Industrial Area and the Broadway Industrial Area. Since these areas are adjacent, they could easily be combined to create one national or local historic district.

A third option is to create a thematic national or local historic district that does not have defined boundaries to a specific area, but includes industrial buildings built after World War II throughout the city. This option would allow buildings like Colonial Bread to be included, as well as the very few remaining postwar facilities built in the Vineville Avenue and Hardeman Avenue areas. Since the designation would be based on the theme of age (example: 1940-1970), buildings outside the Mead Road and Broadway areas would be eligible. Finally, the fourth option is to create stand-alone designations for individual buildings, proving local significance in the areas of commerce, industry, and architecture, and using the character-defining features to establish an individual building's integrity. Any of these four options would allow the buildings to be placed within a national or local district and thus enable them for tax credit eligibility.

The small-scale factory was a common building type after World War II. The postwar industrial buildings in Macon are typical of many small to mid-sized cities throughout the United States. In an era of industrial boom, these factories fueled local economies and provided jobs for small town citizens. Macon is merely one example of a town that benefited from the postwar economy and the small-scale factory. Many other towns experienced similar conditions after the war, rendering the discussion for the preservation of these buildings necessary, particularly those

that retain their significance and integrity. While some buildings have already been placed on the National Register of Historic Places as contributing buildings within a historic district, many remain outside National Register Historic Districts or Local Historic Districts. Those that are vacant eventually become at risk for demolition. At least 25 postwar industrial buildings (and likely others) in Macon had already been demolished at the time of my research in 2018 (see Appendix). Unless these buildings are considered for historic preservation and rehabilitation based on their historic context and significance, more will be lost in coming years.

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APPENDIX

FOOD RELATED INDUSTRIES IN MACON, 1960

(FROM THE 1960 MACON CITY DIRECTORY)

This list is not necessarily comprehensive but contains notable food-manufacturers that were operating in Macon in 1960. When I originally compiled my case studies, I searched multiple city directory years for food manufacturers operating in Macon during the mid-century. I further cross-referenced each manufacturer to determine if the manufacturer was established or if the manufacturer closed within a few years. My original list of potential case studies included 1955 city directory information, but some of the manufacturers from 1955 did not reappear in the 1960 city directory. Therefore, those manufacturers are not listed in this appendix.

If a building is still standing, I have included when the building was built. If not, I have noted if the building no longer exists. In some cases, I noted additional information for a location or building as I identified such from city directories or tax accessor information.

1. American Bakers Company, 455 Plum Street (built 1921)
2. Associated Food Stores, Inc., 460 Albert (built 1954)
3. Atlantic Ice Company, 1998 Waterville Road (built 1900, 1968)
4. Bateman Frozen Foods Company, 339-345 Poplar Street (building no longer exists)
 - a. Also went under the name Bateman Canning Company, Inc.
5. Bateman Pecan Company, Inc., 225 Lower Cherry Street (building no longer exists)

6. Bill's Food Products, 3084 Broadway (building no longer exists)
 - a. This was the potato chip manufacturer next to the Tru-Ade Bottling building
7. Birdsey Flour Mills, 211 Lower Poplar (built 1920, 1970, 1992)
8. Borden's Dixie Dairies/The Borden Company, 4570-4700 Pio Nono Avenue (building no longer exists)
9. Cagle Poultry & Egg Company, 985 Martin Luther King, Jr. Boulevard (built 1930)
 - a. Original address was 455 Hawthorne
10. City Wholesale Grocery Company, 254 5th Street (building no longer exists)
11. Dr. Pepper Bottling Company, 652 3rd Street (built 1930, 1955)
 - a. The 1930 building no longer exists
 - b. Only a small part of the 1955 building that housed Dr. Pepper still exists; the bulk of the current building was built after 1955 for Huckabee Buick
12. Durkee Famous Foods, 4145 Mead Road (built 1948)
 - a. Became J. H. Filbert in 1959; currently Crown Candy
13. Dutch Oven Bakers, 3625 Broadway (building no longer exists)
14. Earl's Candy Company/McAfee Candy Company, 430 Raines (built 1948)
 - a. Only one small building on this property remained in summer 2018
15. Georgia Baking Company, Inc., 151 Guy Paine Road (building no longer exists)
16. Hatcher Pecan Company, 1360 5th Street (built 1948)
17. Heath Ice Company, 1890-1892 Montpelier Avenue (building no longer exists)
18. HyCee Bottling Company, 3071 Broadway (built 1946)
19. Institutional Wholesalers, Inc., 320-346 Oglethorpe (building no longer exists)
20. King Cigarette & Candy Company, 3239 Vineville Avenue (building no longer exists)

21. Lee Baking Company/Colonial Baking Company, 2743 Montpelier Avenue (built 1948)
22. Macon Butter Company, 1365 Linden Avenue (building no longer exists)
 - a. This area was demolished in recent years to construct Mercer Village for Mercer University
23. Macon Coca-Cola Bottling Company, 440 Oak Street (building no longer exists)
24. Macon Coffee Company (wholesale), 445 Mulberry Street Lane (building no longer exists)
25. Macon Frozen Foods, Inc., 3051 Vineville Avenue (building no longer exists)
 - a. Distributors of Honor Brand Frozen Food, Minute Maid Juices, Meat Processing, and Locker Service
 - b. This area became a strip retail building in 1971
26. Macon Milling Company, 900 5th Street (building no longer exists)
27. Macon Sea Food Company (Fish & Oyster Dealers, Wholesale & Retail), 281 5th Street (building no longer exists)
28. Medding Brothers Wholesale Meat Packing, 451 5th Street (building no longer exists)
29. Middle Georgia Bottling Company (Bottlers of Nu-Grape and Sun Crest Orange), 3071 Broadway (built 1946)
30. Modern Grocery Company, 985 Broadway (building no longer exists)
31. National Biscuit Company (NABISCO), 555 5th Street (built 1900)
32. Pepsi-Cola Bottling Company of Macon, 352 Poplar Street (building no longer exists)
33. Pet Dairy Products Company, 2411 Pio Nono Avenue (building no longer exists)
 - a. The current building on this site was built ca. 1979

34. Ranch House Provision Company, Inc. (Meat Packing), 312 Elm Street (building no longer exists)
35. Rivers Candy Company, 435 8th Street (built 1960)
36. Royal Crown Bottling Company (Distributors of Royal Crown Cola: R.C. Cola and NeHi), 792 Broadway (built 1952)
37. Sealtest Foods Division of National Dairy Products Corp. (Southern Dairies), 1671 Hardeman Avenue (building no longer exists)
38. Seven Up Bottling Company of Macon, 652 3rd Street (same building as Dr. Pepper Bottling)
39. Southern Bakeries Company, 3680 Fairmont Avenue (built 1948)
40. Spears Do-Nut & Pie Shop, 674 Rutherford Avenue (built 1940)
41. State Wholesale Food Company, 507 5th Street (built 1900, 1985)
42. Stokes-Shaheen Inc. (Wholesale Fruits & Vegetables), 477 Hawthorne (built 1940)
43. Strietmann Biscuit Company, 4375 Mead Road (built 1953, 1976)
 - a. This building later became Keebler, which is how locals refer to the building
44. Sunshine Dairies, 1436 Forsyth (built 1929)
45. Sunbeam Bakers, 300 Lower Boundary Street (built 1962)
46. T&T Meat Packing Company, 1540 7th Street (building no longer exists)
47. Timberlake Grocery Company, 340 Plum Street (building no longer exists)