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20-Century Building Adaptive-Reuse: Office Buildings Converted to Apartments.

Abstract

Adaptive re-use is a solution to avoiding the obsolescence of buildings in urban development. It is beneficial for the city, for the culture, for the environment, and for the building itself. Recently in the United States, historical office buildings converted into apartments have demonstrated a way to extend the life of these buildings. This thesis aims to analyze 20-century office buildings in New York City converted to apartments in order to examine the possibility of this kind of adaptive-reuse solution for historic office buildings in China. It investigates the history, policy, and design of adaptive-reuse of 20th-Century New York City office building into residential apartments for 21st-century living. It analyzes three cases to understand the requirements for a successful building transformation and speculates about future potential for adaptive re-use of modern office buildings. In addition, it identifies reasons why modern Chinese cities lack similar conversion projects and speculates on whether Chinese cities are suitable for adaptive re-use strategies like those developed in the United States.

Keywords

adaptive re-use, office building, apartment, financial district, Wall Street historic district

Disciplines

Historic Preservation and Conservation

20-Century Building Adaptive-Reuse: Office Buildings Converted to Apartments.

Yujia Zhang

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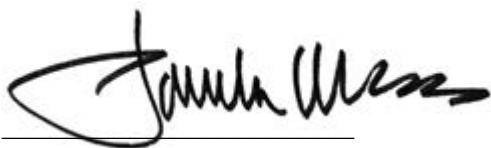
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MASTER OF SCIENCE IN HISTORIC PRESERVATION

2020



Advisor

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Professor Frank G. Matero

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Introduction

Buildings change with the development of the city. When heritage buildings can no longer fit the functions needed for urban development and change, they have a high probability of being destroyed. New York City recognized the value of adaptive re-use in the mid-20th century. In the early 1960s, the regrettable decision to dismantle the Pennsylvania Station caused people to rethink the meaning of destroying historical buildings—leading to the trend of adaptive re-use.¹

Architects have found reuse potential in almost any type of building, rejuvenating these heritage sites. Many New York City heritage buildings have been adapted to new uses, such as the Woolworth Building, where the top 30-stories have been transformed from offices into new luxury apartments. These converted buildings are popular not only with conservationists but also with New York City residents. Uniqueness seems to be a sought-after feature of Manhattan apartments, which has led to the welcome conversion of many old office buildings into apartments.

This trend of adaptive re-use is not limited to the United States, and even China is making exciting improvements to existing buildings. The attraction to this type of building may be due to its diversity—the transformation is both old and new, historical and forward-looking, both wealth-generating and sustainable. Adaptive re-use helps cities develop space more efficiently for their citizens and businesses, while preserving the built environment's

¹ Chan, Rebecca C. (2011). *Old Buildings, New Ideas: Historic Preservation and Creative Industry Development as Complementary Urban Revitalization Strategies*. (Masters Thesis). University of Pennsylvania, Philadelphia, PA.

historic character. If a project's purpose is not purely preservation, adaptive re-use will be able to blend old and new buildings attractively and profitably.

In recent years, adaptive re-use has become increasingly important in China, especially in first-tier cities. In the past decade, land prices have risen rapidly in Shanghai and Beijing because of limited supply, while prices have also soared in cities such as Guangzhou and Hong Kong. The government has issued a raft of policies across the country, ranging from restrictions on land purchases to tighter policies on mortgages. Strict selling conditions have led to a sharp reduction in the area available for sale, and the broader trend is that developers are no longer eager to buy new land. These policies are driving developers to begin finding adaptive re-use more attractive than new development to help them mitigate the risks for changing the environment.² The era of adaptive transformation seems to have come to China.

Major cities in China have benefited economically, culturally, and socially from the transformation of historic industrial sites into creative cultural parks such as the 798 Art District in Beijing, the Memory Theme Park in the eastern suburbs of Chengdu, and the Overseas Chinese Town Creative Cultural Park in Shenzhen. However, these are adaptive-reuse projects with relatively single uses. In China, there are more adaptive-reuse possibilities.

In my opinion, the development of adaptive-reuse projects must be closer to the community. It should break through the previous framework, not only transforming

² Xianli He, "Adaptive Reuse: Planning the Long-Term Future of Chinese Cities," September 24, 2019, <https://jjaju.sina.cn/news/s/20190924/6582167603698270342.shtml>.

factories into cultural parks but also developing buildings with different functions, such as transforming office buildings into apartments. As new office buildings replace old ones, and more young people move to big cities, demand for apartments in cities increases. These two factors, coupled with the trend toward adaptive re-use, make office buildings more likely to be converted into apartments.

This thesis will investigate different aspects—history, policy, economics, design, and the culture of new generations—of adaptive-reuse projects in which 20th-century office buildings are being converted to residential apartments in the 21st-century. Further, this thesis will analyze three different adaptive-reuse examples in New York City to understand modern building transformation and speculate about the future potential for the adaptive re-use of modern office buildings. Moreover, it investigates the reasons China’s modern cities lack similar conversion projects—and whether adaptive-reuse projects will develop in Chinese cities in the future.

1. Analysis of Aspects of the Financial District in New York, New York, United States of America

New York became an international and American financial center because of the early establishment of the Wall Street Financial District (FD) in lower Manhattan. For this reason, most of the buildings in downtown were used as offices. In the 20th century, many architects have left many magnificent buildings in the Wall Street district because of the booming financial industry there. However, in recent years, many of New York's financial

firms and banks have moved to Midtown Manhattan, and many of its downtown office buildings are vacant. The conversion of office buildings into apartments became a way to preserve and re-use these great works of architecture. In New York State and the United States, the historic preservation system and the tax credit program encourages real estate developers to develop the landmark buildings. It is essential to analyze these aspects and conditions to understand what makes these cases successful.

1.1 Location

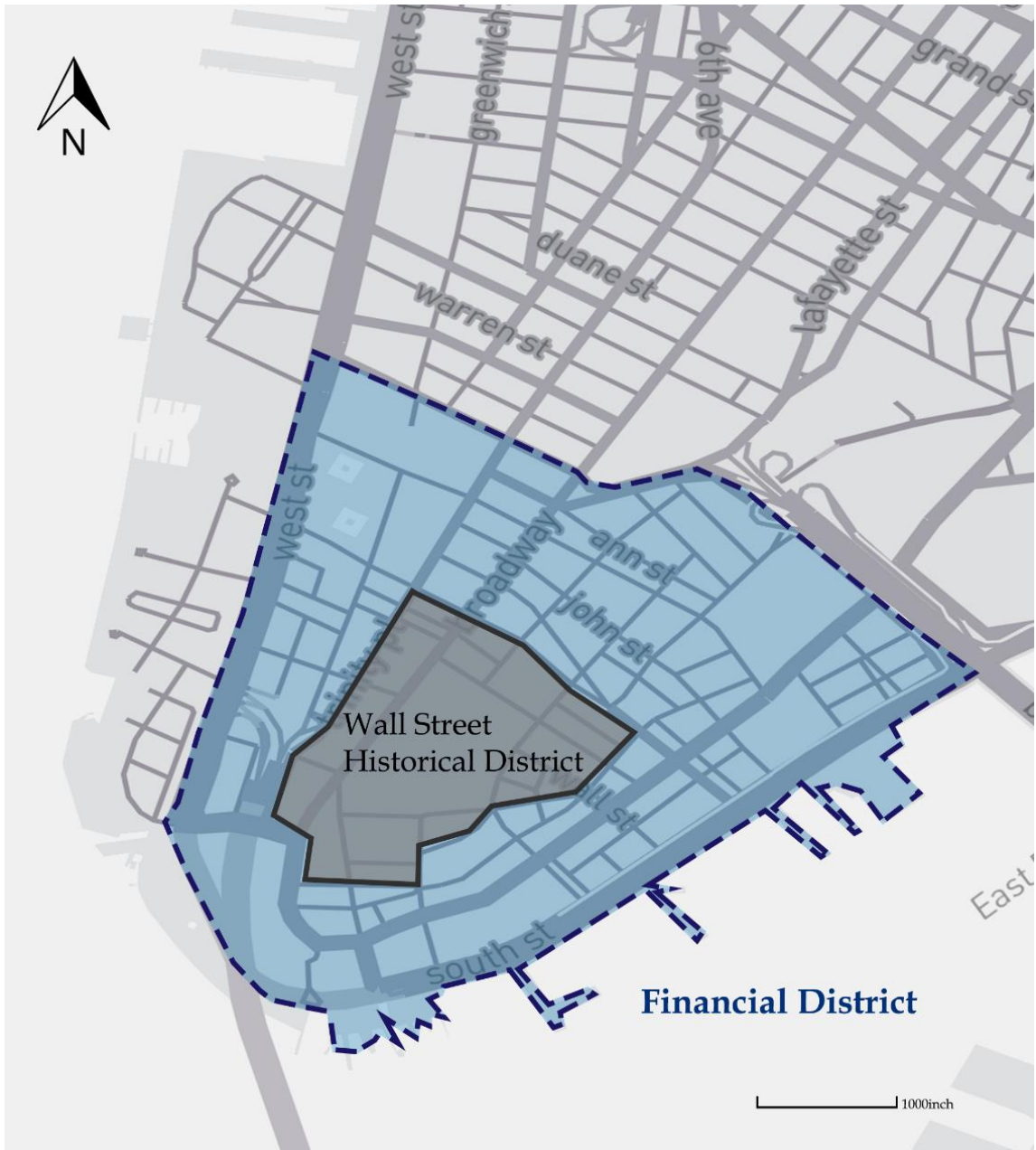


Figure 1. Relationship between the boundary of Wall Street Historic District and boundary of Financial District. (Plan created by the author based on the map data from mapbox.com)

The Financial District is part of Manhattan Community District 1. As shown in Figure 1, it is located in lower Manhattan. The center of the Financial District is often referred to as the corner of Wall Street and Broad Street, both fully contained within the Financial District.³ This area includes the offices and headquarters of many of the city's major financial institutions, including the New York Stock Exchange and the New York Federal Reserve Bank. The Wall Street Historic District (WSHD) is contained within the Financial District. It was nominated to the National Register of Historic Places because it is one of the significant areas in New York City and the United States historically and architecturally

The National Register of Historic Places nomination defines the Wall Street Historic District boundaries as "the inner core of the southernmost tip of Manhattan Island south of Maiden Lane.... The boundaries encompass the central core of the Financial District. They exclude existing historic districts (Fulton-Nassau, Stone Street, Fraunces Tavern Block, and South Street Seaport)."⁴ To the north of this boundary, the character of development changes dramatically, with late 20th century towers adjoining the World Trade Center site. The areas west of the boundary are predominantly made up of commercial buildings, different from those inside the district. The blocks south of it (south of Bridge Street) have been redeveloped with massive modern towers.⁵

³ White, Norval; Willensky, Elliot & Leadon, Fran (2010). *AIA Guide to New York City* (5th ed.). New York: Oxford University Press. p. 7.

⁴ Wall Street Historic District, National Register of Historic Places Registration Form, P3

⁵ *Ibid*

1.2 Brief History of the Wall Street Historic District

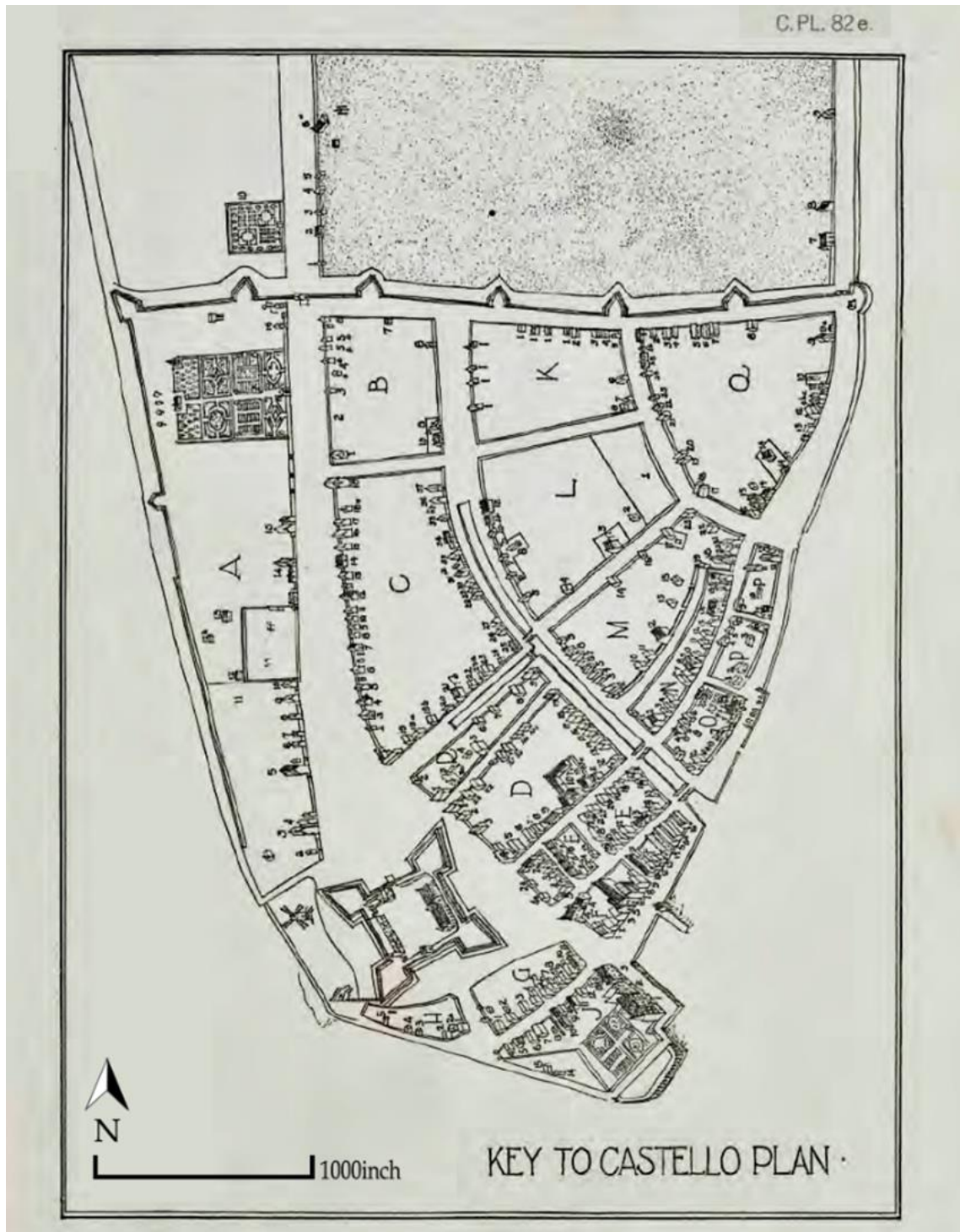


Figure 2. Copied by an unknown draughtsman from original drawing by Jacques Cortelyou, 1665. Source from fdocuments.in

The Wall Street Historic District (WSHD) is one of the most historically significant neighborhoods in New York City, New York State, and even the United States. Its significance includes the areas of architecture, business, community planning and development, economics, politics, and government.

The WSHD originated within the borders of the 17th-century Dutch colony of New Amsterdam, the heart of the settlement that eventually grew into New York City. Later, it became a British colony and continued to expand. After the War of independence, New York City replaced Philadelphia as the temporary capital and became the United States' financial center. As early the 18th century, Wall Street had become the center of New York's Financial District, and by the mid-1820s, it had grown into one of the major financial centers in the United States and the world and remained so throughout the 19th century. With the opening of the Erie Canal in October 26,1825, New York City became the country's most important port.

The Wall Street District is also significant for buildings designed by some of the best-known architectural firms in the United States, such as Cross & Cross, Delano & Aldrich, Cass Gilbert, and so on.⁶ Because the fire of 1835 leveled the area, little survives of the 17th and 18th centuries except for Bowling Green's fences and historic street patterns.⁷ Most of the buildings in this area were built between 1835 and 1932, and another building boom began in 1956.

⁶ Wall Street Historic District, National Register of Historic Places Registration Form P90~P92

⁷ Ibid

The 1890s to the early 20th century was a period of high financial growth for the U.S. economy and for Wall Street. Simultaneously, the urban population created tremendous growth and prosperity; only the First World War interrupted the area's growth. Buildings constructed during this period included banks, exchanges, trading/financial companies and insurance companies. The area's leading architectural feature is its cluster of skyscrapers representing almost every stage of the development of this uniquely American building type.

The skyscraper is America's most significant contribution to world architecture, and its birth and subsequent development can be traced back to lower Manhattan.⁸ In the early 20th century, advances in technology led to the creation of skyscrapers, including elevators, steel-cage-construction, and new concepts in management. Studies found that open office space can improve the productivity and efficiency of factories and offices. Departments are placed in ample space and organized according to the flow of people and tasks. This arrangement reminds employees to pay attention to themselves and complete the assigned tasks accurately and efficiently.⁹

One of the case studies is a representative of the early 20-century skyscraper. The Woolworth Building is a neo-Gothic style skyscraper located at 233 Broadway in lower Manhattan. Designed by architect Cass Gilbert, it was the tallest building in the world between 1913 and 1930. It is 792 feet height with a 60-story construction consisting of 30-story towers on a 30-story building. The ornate hall contains a variety of sculptures,

⁸ Ibid.

⁹ "THE OFFICE SERIES: HISTORY, THE LAST CENTURY," CWB Architects, <https://cwbarchitects.com/research/the-office-series-history-the-last-century/>.

mosaics, and architectural styles. Because of its ornate style similar to European gothic cathedrals, the structure was known as "The Cathedral of Commerce."¹⁰

In the 1930s, there was one of the most important events in modern history, the Great Depression. The stock market crash of 1929 and the subsequent Depression ended the post-WWI development of Wall Street. On October 24, 1929, "Black Thursday," stock prices plunged and the stock market continued to slide. Despite efforts to ease the Federal Reserve crisis in Washington and a panel of bankers meeting at J.P. Morgan's headquarters in New York, the impact was felt throughout the U.S. economy and around the world. From 1929 to 1931, national income fell by more than 30% and savings by 50%. Economic turmoil led to high unemployment, failed banks, volatile financial markets, currency crises and even deflation.¹¹ From the Great Depression until WWII, development in Wall Street district was stagnant. Neither skyscraper construction nor as the economy began to recover until after World War II. By then, however, much changed in the architecture of Wall Street .

The City Bank-Farmers Trust Building, called 20 Exchange Place today, the second case study, was constructed in the 1930s. It was built as the headquarters of the New York City Bank, one of the city's leading financial institutions and known as Citibank today. The 59-story City Bank-Farmers Trust Building is one of the tallest skyscrapers in New York City. Designed by Cross & Cross architects, it is known as a "modern classic" for its introverted modern style. It has a dramatic, silhouette, but conservative decor. Art Deco forms decorate the exterior and interior, leaving a strong impression. The Wall Street

¹⁰ WSHD, P 103

¹¹ "Chapter 1." Essays on the Great Depression, by Ben Bernanke, Princeton University Press, 2004, p. 6.

Historic District Designation Report describes it this way: “Its slender square towers, with their chamfered corners and sloping slightly up to their irregularly shaped plinth, occupy an entire city block, albeit a small one, but still dominate the downtown skyline.”¹²

After the War ended, Wall Street recovered again. Even though the secondary center of skyscrapers has gradually moved toward Midtown, the financial center's status still attracts many companies to locate and build there. After WWII, American companies began to accept the International Style, the most apparent characteristic being the steel and glass curtain wall structure. Other principles differentiate the International Style from previous architectural styles. The first one is the emphasis is on volume and the space enclosed by a glass surface. The second focuses on symmetry and relative regularity. Finally, it relies on the material, improved techniques, and the excellent proportion, rather than the emphasis on the exterior decoration.¹³

After World War II, the International Style gradually matured. The style developed in the Wall Street District in the late 20th century, such as Chase Manhattan Plaza. 10 Hanover Square, the third case study, is an International Style building, with typical features: completely simplified, with no decoration and glass, steel, and concrete as preferred materials.

After the terrorist attacks of September 11, 2001, the Financial District's development came to a standstill for a long time. Because of the unease about terrorist attacks, many companies and residents left New York. As of 2002, 70 percent of former renters in the

¹² WSHD. P 110

¹³ "The International Style." The International Style, by Henry-Russell Hitchcock and Philip Johnson, W.W. Norton, 1997, p. 29.

area moved to Midtown and 9 percent to New Jersey City and Brooklyn.¹⁴ To restore the Financial District to its former prosperity, the government enacted several tax breaks (such as the Lower Manhattan Energy Program and Lower Manhattan Relocation Assistance Program) to stimulate reconstruction and encourage businesses to relocate there. After the new World Trade Center was built, confidence was felt again, and the Financial District revived.

In summary, the history and architecture of the Wall Street Historic District have made it one of the most important historic districts in the United States. Its historical significance and architectural value deserve to be preserved. Heritage preservation regulations protect the integrity of landmark buildings in the Wall Street Historic District, while adaptive reuse gives new life to old buildings in the WSHD.

1.3 Zoning code

The Financial District's zoning code is also an important factor. With changes to New York City's zoning code in 1961, the Wall Street District was confirmed as Commercial. New York City updated its original 1916 zoning resolution in 1961 because many of the planning principles of the earlier document no longer applied. The City worked with residents and researchers to develop new regulations that solved the most pressing urban planning problem of the time: overcrowding. The 1961 zoning resolution harmonized the former use and bulk codes, incorporated parking requirements, and emphasized the

¹⁴ O'Donnell, Madeline M., "The impact of terrorism on commercial office real estate in Manhattan" (2017). Honors Program Theses. 289.

creation of open spaces. It included an incentive zoning plan to encourage developers to build open public spaces to eliminate congestion on sidewalks. It also divided the city into three distinct use areas: commercial, manufacturing, and residential.¹⁵

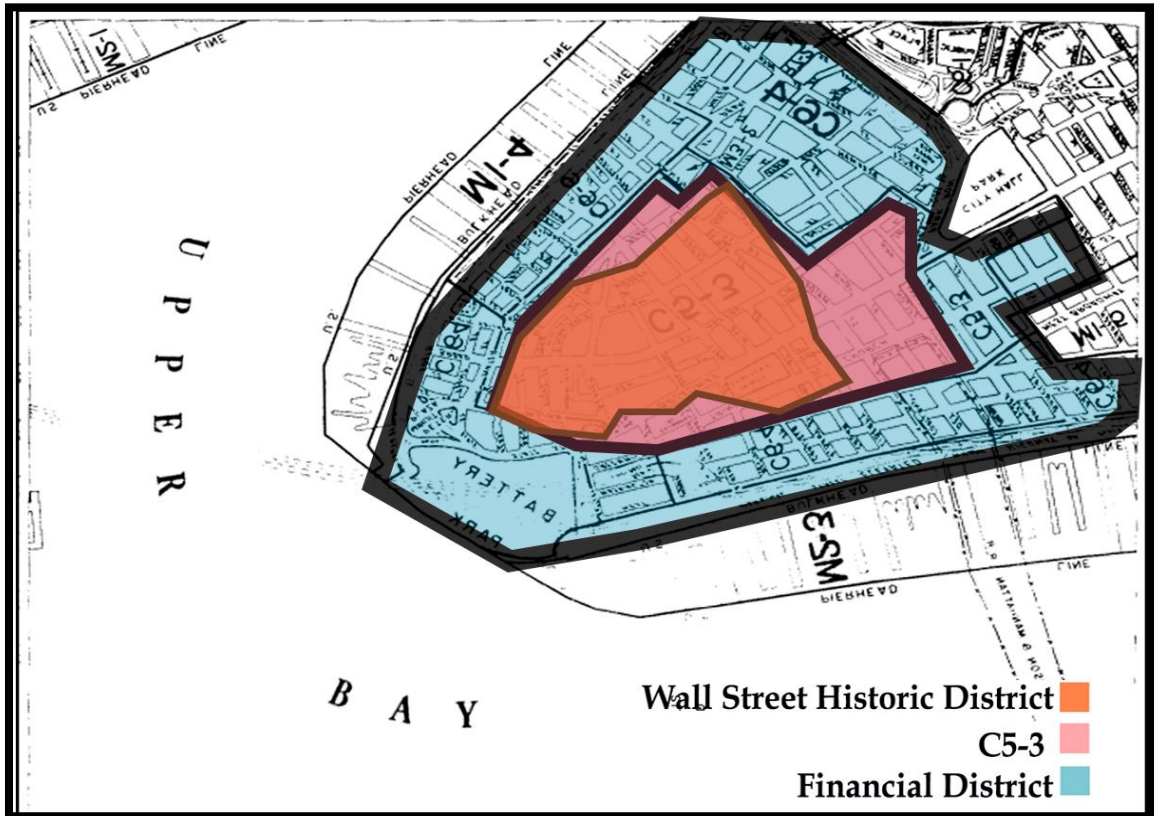


Figure 3. 1961 Zoning map, New York City. (source: P314.1961 Zoning Map and Zoning Resolution)

In 1961, Lower Manhattan was identified as a Commercial District C5-3 (Figure 3). The 1961 Zoning Map and Zoning Code define C5 as Restricts Central Commercial Districts.

¹⁵ New York City - 1961 Zoning Map and Zoning Resolution, chapter 2, page 101

“These areas are designed to provide office buildings and a variety of large retail stores and related activities, occupying the central business district's main retail front ways and serving the entire metropolitan area. Regional regulations also allow some high-value custom manufacturers. Often associated with the dominant retail activity, it depends on personal contact with people living across the region. The district code is also designed to provide continuous retail frontage. Residential and community facility uses “may also be permitted .”¹⁶

The current zoning (Figure 4) in Lower Manhattan has not changed, but now provide the conditions for conversion of commercial or office buildings to apartment. Similarly, Wall Street's rich architectural history is also a prerequisite for the success of adaptive reuse.

¹⁶ 1961, P 101



Figure 4. 2019 Wall Street Historic District Zoning code : C5-5

1.4 Local, State and National Heritage Regulation and Development Incentives

The United States has three different systems to protect heritage and historic sites: local, state, and federal. These regulations can have a significant impact on adaptive re-use. Allowing successful change while preserving the character defined features.

In New York City, when potential individual landmarks and historic districts are nominated as a city landmarks, the nominee must complete an application form that details the landmark's history and appearance. The historical significance of the building is described to demonstrate that it accords with the specified criteria. After the nomination

form is submitted, a public hearing usually follows before confirmation by the Landmarks Preservation Commission (LPC).¹⁷ Once the building or sites have been nominated as historical landmarks or as part of a historic district, the LPC must give prior approval for any alteration, reconstruction, demolition, or new construction that may affect the building.¹⁸

Landmark designation will not prevent alterations, demolition, and new construction. Still, the LPC must determine whether they are appropriate to ensure that the integrity of the character-defining features of the designated building are not compromised or destroyed.

Many New York City landmarks, and historic districts are also listed on the National Register of Historic Places. “The National Historic Preservation Act of 1966 created a national program to coordinate and support efforts by public and private agencies to identify, evaluate, and protect historical and archaeological resources in the United States.”¹⁹ Nomination of the properties to The National Register of Historic Places has a similar process as designation of New York City landmarks. It usually starts with the State Historic Preservation Office (SHPO). The property must conform to the National Register Criteria for Evaluation, which involves checking the age, importance, and integrity of the property.²⁰

National Register listing and local landmark designation are two completely independent processes. Historic buildings can be nominated to both programs or only

¹⁷ LPC Permit Guidebook: How to Get Staff-Level Approvals

¹⁸ Rules of the NYC Landmarks Preservation Commission_01.22.2019

¹⁹ The official explanation from NPS.GOV

²⁰ 'How to Apply the National Register Criteria for Evaluation', National Park Service NRB-15_web508.pdf.

designated in one program. The two forms of recognition of heritage have very different meanings. In the United States, only the local level has rights to enforce protection laws, while National Register listing is more like an honor. As long as there is no state or federal funding involved, the National Register listing has no power to impose restrictions on preventing private owners from making any changes or even demolishing their building.

²¹ The power of local commission boards depends on the municipality's preservation ordinance. Some city's commissions have the authority to approve renovation plans, and some can offer only advisory comments.

Regulations are used to protect heritage buildings and limit excessive change o historic buildings, losing the character-defined features. However, the government's policy is generally to encourage developers to make adaptive use of heritage buildings.

1.5 Federal and State Tax Credits

To encourage historic property owners to protect heritage, both the United States and New York State governments have Tax Credit Programs. The National Park Service administers the Federal Historic Preservation Tax Incentive Program with the Internal Revenue Service in partnership with State Historic Preservation Offices. The Aim of the program is, "Tax incentives help protect historical sites that give cities, towns, and rural areas a special character, and also create jobs, improve real estate values, and increase revenue for state and local governments through the increasing property, business, and

²¹ "RESOURCES," Landmark Society, accessed June 23, 2020, <https://www.landmarksociety.org/resources>.

income taxes. This program gives historical buildings that are abandoned or underused across the country a chance to be re-used.”²² According to the report on Historic Preservation Tax Incentives from the National Park Service, “The current tax incentives for preservation include: 1.a 20% tax credit for the certified rehabilitation of certified historic structures. 2.a 10% tax credit for the rehabilitation of nonhistorical, non-residential buildings built before 1936.”²³

The 20% restoration tax credit applies to restoration of a certified historical building designated by the Secretary of the Interior, which means the building has been listed in the National Register of Historic Places or located in a registered historic district. This credit can be used for commercial, industrial, agricultural, or rental residential purposes, but is not available for private residences .²⁴

New York State has two tax credit programs. One is the New York State Tax Credit Program for Income Producing Properties, which must work with the Federal Historic Preservation Tax Incentives program and is mainly used for commercial, industry, and rental property. The other is the New York State Historic Homeownership Rehabilitation Credit, which benefits private residential buildings. Homeowners in landmark historic districts can receive “a 20% renovation tax credit and qualified rehabilitation expenses up to a credit value of \$50,000 per year. The credit applies to eligible single-family homes and co-ops and condos”²⁵. Projects must meet the following conditions: owners must live with

²² “tax-incentives-2012”.pdf, Historic Preservation Tax Incentives-National Park Service

²³ Tax Reform Act of 1986 (PL 99-514; Internal Revenue Code Section 47

²⁴ “Tax Credit Programs ,” NYS Parks, Recreation & Historic Preservation, <https://parks.ny.gov/shpo/tax-credit-programs/>.

²⁵ Ibid

the house; the house must be a landmark or located in local historic district; the City Landmark Commission must approve at least 5% of all the cost or work for external restoration and all plans before the renovation.²⁶

1.6 Population Migration in the Financial District

According to the population data published by the New York City government on the website Open Data (Figs. 5 and 6), the number of residents living downtown is growing. As shown in Figure 7, the rate of population growth in Lower Manhattan was better than in other areas between 2000 and 2010. The migration of people has also shifted the focus of real estate development to the lower part of Manhattan. (Figure 8) According to a 2017 analysis of data from the Downtown Alliance²⁷, 41 percent of residents in Lower Manhattan are Millennials, 18 to 34 years old, and 19 percent are 35 to 44 years old. The Financial District has transformed from empty office space into a haven for young, affluent families.²⁸

The adaptive re-use of historic buildings has been dependent on several factors. First, the government promoted various policies to attract developers. After experiencing the Great Depression and 9/11, city zoning favored development in the Financial District. Second, the National Register and City Landmarks Commission protect historical landmarks but protecting landmarks does not mean that their use cannot be changed.

²⁶ Ibid.

²⁷ Alliance for Downtown New York 2017 Annual Report

²⁸ Tringle, S., & Pereira, I. (2017, September 10). Financial District's post-9/11 growth comes with challenges, locals, experts say. /

Preservation of character-defining features with new uses is a way to revive heritage buildings. The third is demand, and demographic shifts have made it possible for empty buildings in the Financial District to be re-used.

The adaptive re-use of office buildings into apartments requires determining whether the building itself has an opportunity for renovation. Chapter Two will focus on the analysis of three successful case studies in the Financial District.

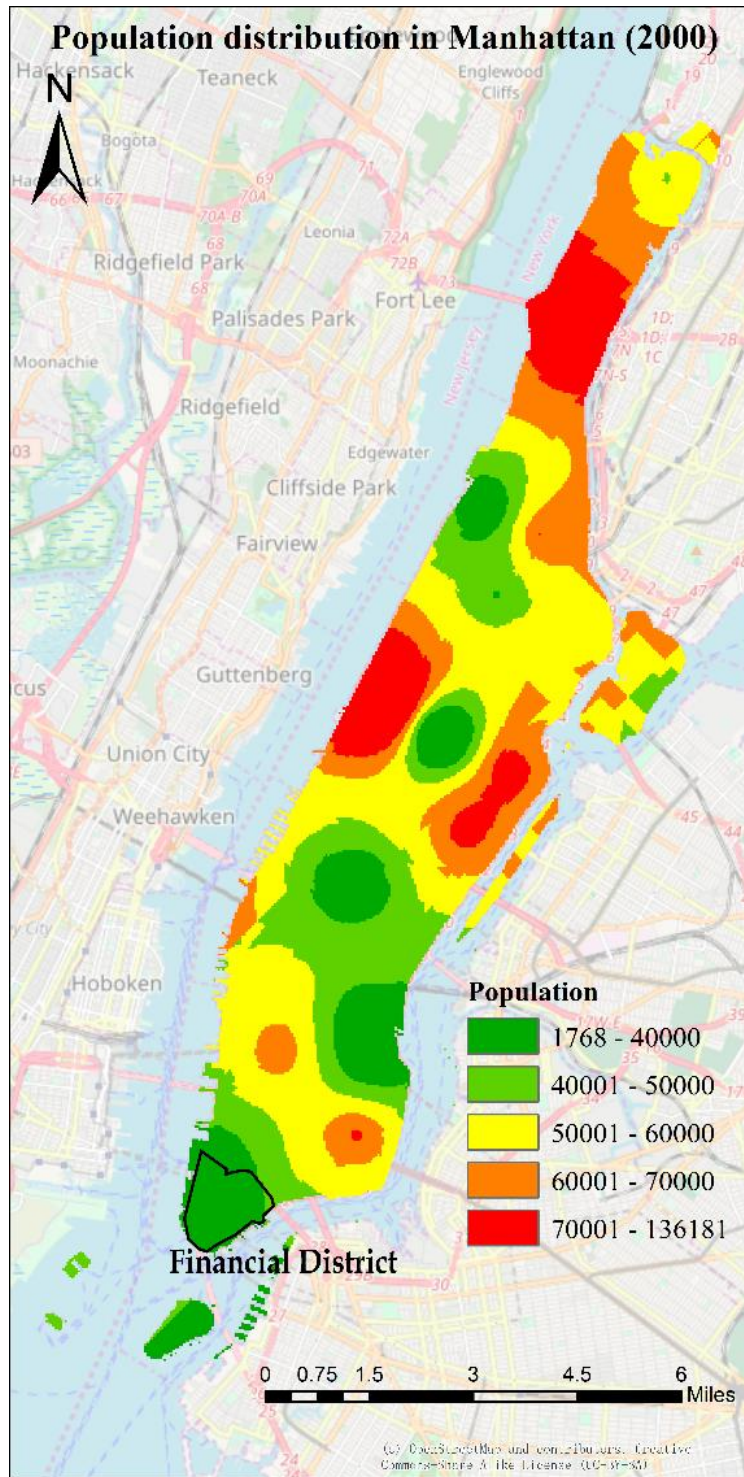


Figure 5. Distribution Map of Manhattan's population in 2000. Picture made by the Author based on open data city of New York

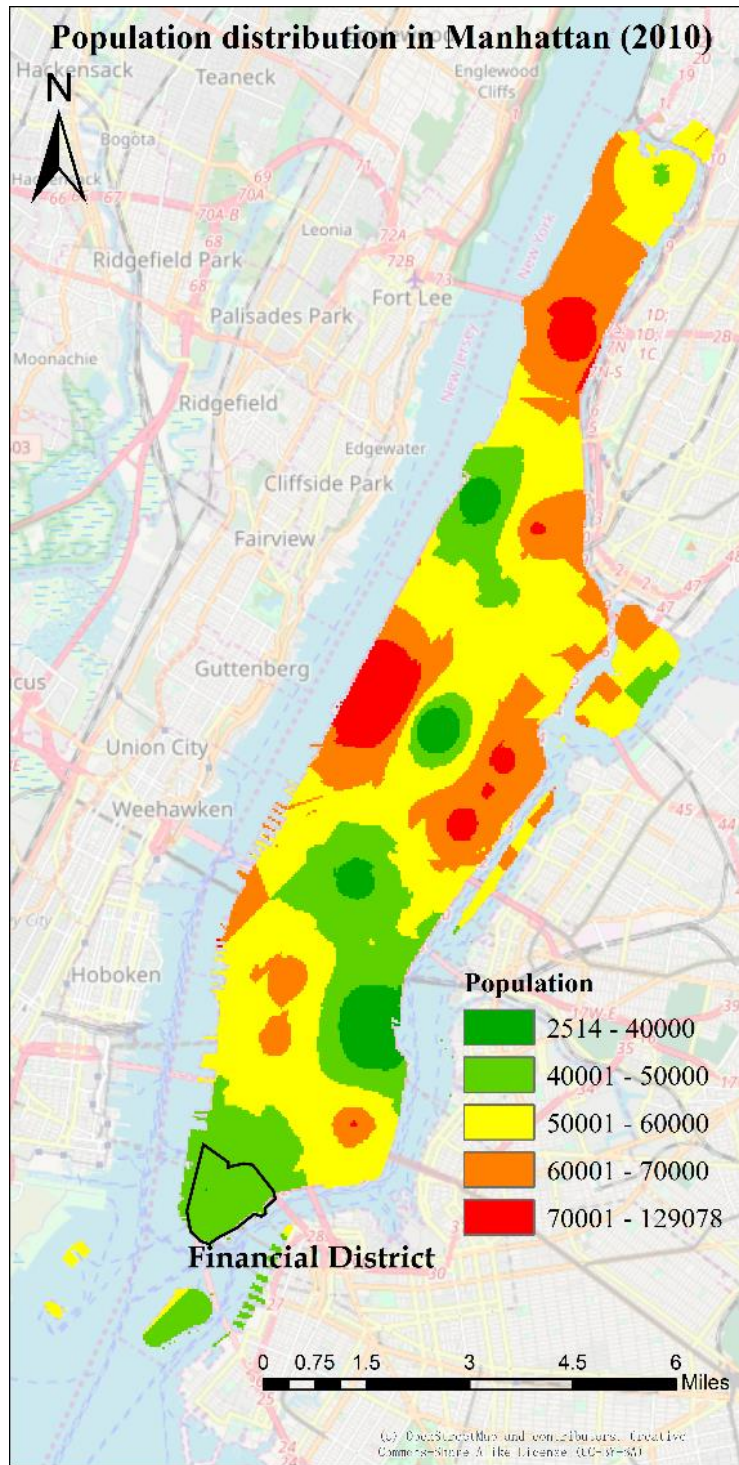


Figure 6. Distribution map of Manhattan's population in 2010. Picture made by the Author based on open data city of New York

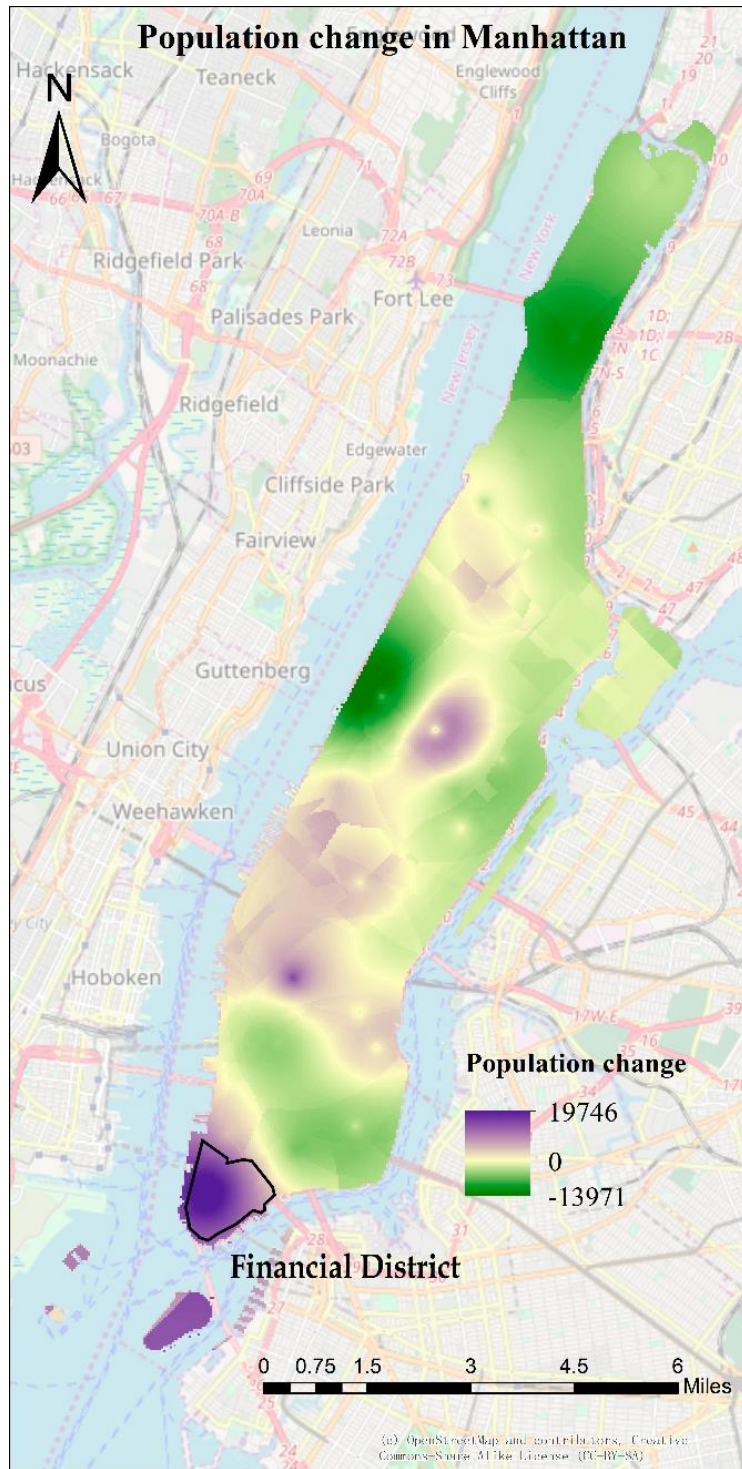


Figure 7. Distribution map of population changes in Manhattan from 2000 to 2010. Picture made by the Author based on open data city of New York

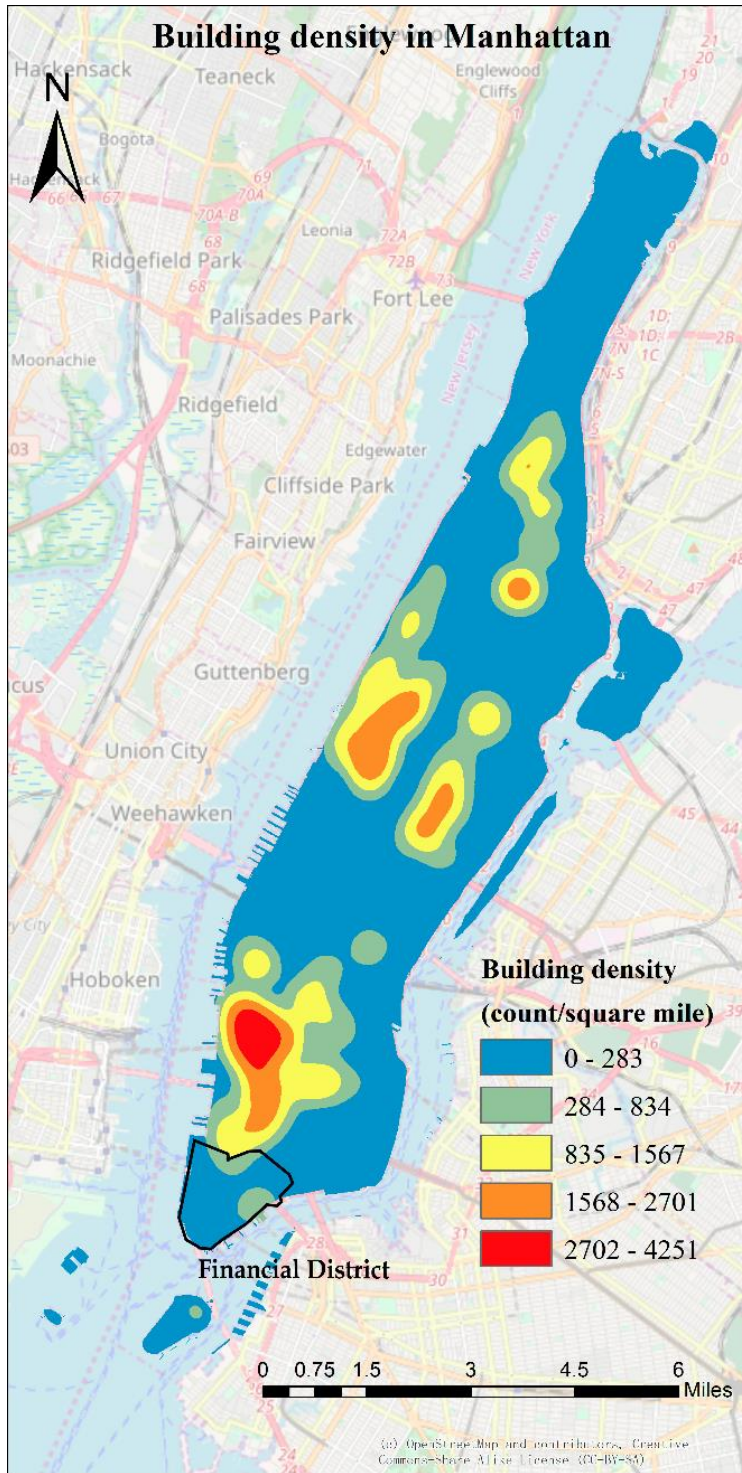


Figure 8. Building density in 2010 Picture made by the Author based on open data city of New York

2. Case Studies

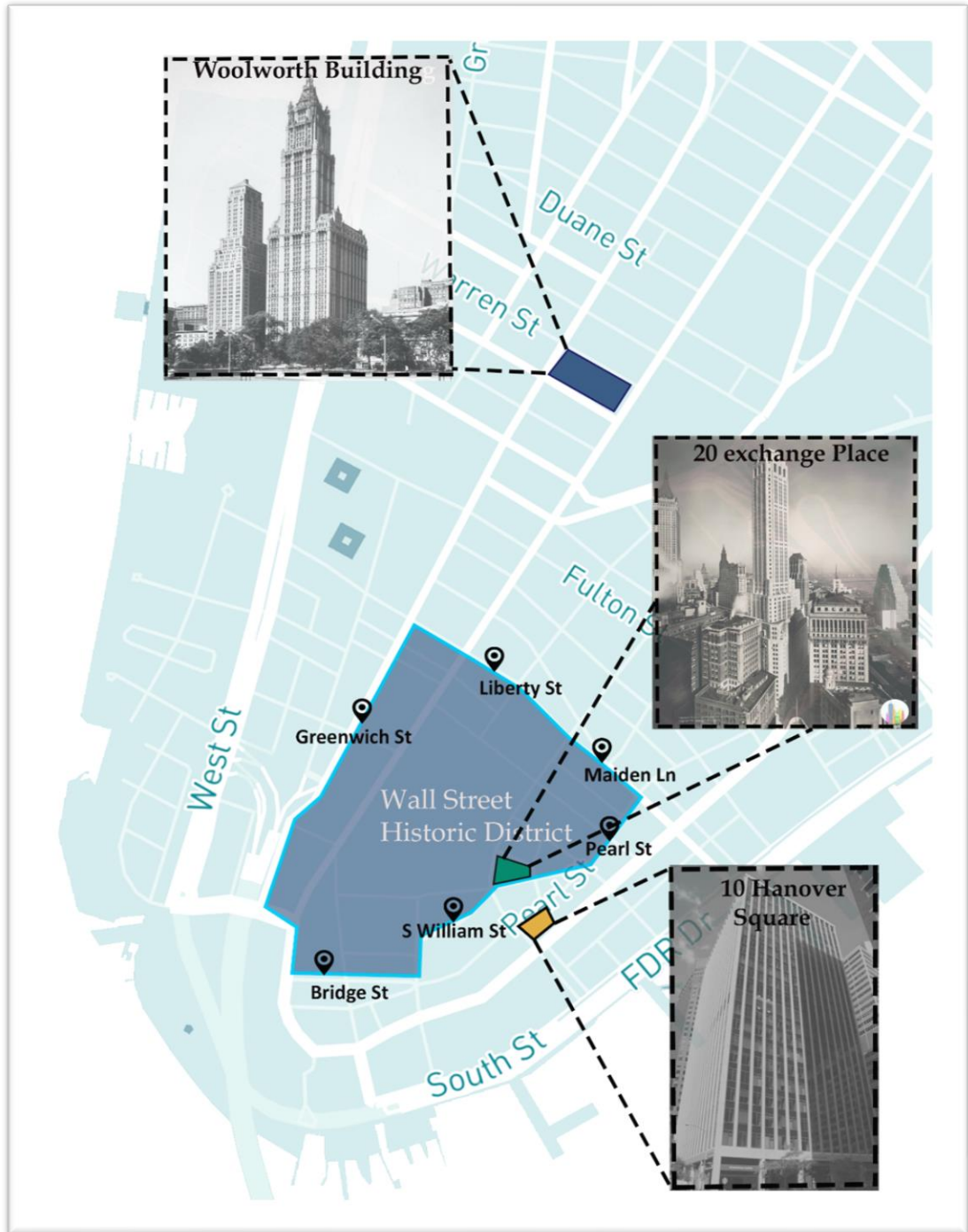


Figure 9. Three Case study locations. Picture made by the Author based on open data from mapbox.com

2.1 Introduction and Summary of Findings

The three case studies demonstrating conversion of office buildings to apartments are located in New York's Financial District and the WSHD: the Woolworth Building, 20 Exchange Place and 10 Hanover Square (Fig 10). They represent different architectural styles and architectural development in the Financial District: 1910, 1930 and 1970. The Woolworth Building and 20 Exchange Place are designated as National Historic Landmarks and City landmarks; 10 Handover Square was designed by the famous architect Cass Gilbert.

The key facts about the three buildings and the renovation projects are summarized in Table One. In the following sections, several aspects of the case studies are discussed: the history of the building, current use as apartments, and why these buildings are suitable for adaptive re-use.

<i>Case Studies</i>	<i>Woolworth Building</i>	<i>20 Exchange</i>	<i>10 Hanover Square</i>																																										
<i>Address</i>	2 Park Place, New York, New York	20 Exchange Place	110 Pearl Street and 76 Water Street.																																										
<i>Year Built</i>	1913	1931	1971																																										
<i>Original Owner</i>	F.W. Woolworth	City Bank-Farmers Trust	Ten Handover LLC																																										
<i>Original designer</i>	Cass Gilbert	Cross & Cross	Emery Roth & Sons																																										
<i>Original use</i>	Headquarters of F.W. Woolworth	Bank	Office building of the Goldman Sachs Group, L.P																																										
<i>Style</i>	Neo-gothic skyscraper	Modern Classic/ Art Deco building	Modernism																																										
<i>Number of Floors</i>	55 floors in total	71-story	22-story																																										
<i>Height</i>	792 ft	741 ft	278 ft																																										
<i>Area</i>	159,000 sq. ft.	730,234 sq ft	487,404 sq ft																																										
<i>Year Converted</i>	2012	1997 (Witkoff renovation) 2004 (DTH Capital conversion)	1995																																										
<i>Renovation Designer</i>	SLCE Architect	Avinash K Malhotra Architects	BG Studio International SLCE Architects																																										
<i>Renovation Cost</i>	\$68 million	\$25 million dollar/ \$240 million	260.8 million																																										
<i>Present owner</i>	Alchemy Properties	DTH capital	UDR																																										
<i>Present use</i>	Residential Condominium	Residential apartments	Residential apartments																																										
<i>Historic Preservation Consultant</i>	Higgins Quasebarth & Partners	Higgins Quasebarth & Partners	None known																																										
<i>Residential Units</i>	32 Units	767 units	493 Units																																										
<i>Area per unit</i>	<table border="1"> <thead> <tr> <th><i>Bed</i></th> <th><i>Bath</i></th> <th><i>Area</i></th> </tr> </thead> <tbody> <tr> <td>5</td> <td>4.5</td> <td>6,711</td> </tr> <tr> <td>4</td> <td>4.5</td> <td>5,991</td> </tr> <tr> <td>3</td> <td>3.5</td> <td>3,282</td> </tr> <tr> <td>2</td> <td>2.5</td> <td>2,548</td> </tr> <tr> <td>1</td> <td>1.5</td> <td>1,294</td> </tr> </tbody> </table>	<i>Bed</i>	<i>Bath</i>	<i>Area</i>	5	4.5	6,711	4	4.5	5,991	3	3.5	3,282	2	2.5	2,548	1	1.5	1,294	<table border="1"> <thead> <tr> <th><i>Bed</i></th> <th><i>Bath</i></th> <th><i>Area</i></th> </tr> </thead> <tbody> <tr> <td><i>Studio</i></td> <td>1</td> <td>650</td> </tr> <tr> <td><i>1B</i></td> <td>1</td> <td>730</td> </tr> <tr> <td><i>2B</i></td> <td>1</td> <td>900</td> </tr> </tbody> </table>	<i>Bed</i>	<i>Bath</i>	<i>Area</i>	<i>Studio</i>	1	650	<i>1B</i>	1	730	<i>2B</i>	1	900	<table border="1"> <thead> <tr> <th><i>Bed</i></th> <th><i>Bath</i></th> <th><i>Area</i></th> </tr> </thead> <tbody> <tr> <td><i>Studio</i></td> <td>1</td> <td>556</td> </tr> <tr> <td><i>1B</i></td> <td>1</td> <td>738</td> </tr> <tr> <td><i>2B</i></td> <td>2</td> <td>1161</td> </tr> </tbody> </table>	<i>Bed</i>	<i>Bath</i>	<i>Area</i>	<i>Studio</i>	1	556	<i>1B</i>	1	738	<i>2B</i>	2	1161
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<i>Amenities</i>	New high-speed elevators Residential Lobby	Gym Lounge with wet bar Gaming tables	“10 Hanover Kids” club room Bike storage																																										

	The Woolworth Pool Fitness Center Gilbert Lounge Wine Storage Wine-Tasting Room On-site Parking Bike Room	Valet and concierge services 24-hour doorman service Bike room Storage available	Business center Catering kitchen Conference rooms Fitness center Off-site parking On-site retail On-site storage Resident lounge
	NY City landmark 1983 National Historic Landmark 1966	City Landmark 1996	A part of the Historic District

Table. 1. Summary of data related to case studies

2.2 Woolworth Building



Figure 10..Woolworth Building, historic and current views. Source.britannica.com © Wayne Andrews/Esto.

2.2.1 Building History

At the beginning of the 20th century, skyscrapers sprang up in cities all over the United States. One of these was the legendary Woolworth Building, which was also called the "Cathedral of Commerce" for its perfect combination of aesthetics and height. When it was opened in 1913, it was the tallest building in the world and a romantic landmark in New York City. It was not only a symbol of Woolworth's success, but also marked a new era of commerce in the 20th century.

The Woolworth Building was financed by Frank W. Woolworth, the founder of the "five-and-ten" grocery store, who commissioned renowned architect Cass Gilbert to build his headquarters. Later, the Irving National Exchange Bank invested in the building and got a 25-years lease to manage the space above the 18th floor. The Woolworth Tower has undergone several changes throughout its history after the Irving National Exchange Bank moved its headquarters to 1 Wall St. in 1931 and the Woolworth company sold the building to the Witkoff Group in 1998. The top 30 floors were sold to New York developer Alchemy Properties in 2012 and converted into apartments. Office and commercial tenants still use the rest of the building. The case study will focus on the converted apartments in the Woolworth Building.

2.2.2 Landmark Designation and Description

The Woolworth Building was designated a National Historic Landmark on November 13, 1966 and became a New York Landmark on April 12, 1983. The first-floor interior was also designated as a New York City Landmark at the same time. The designation report tells why the building became a historic landmark. First, it is a Fantasy

building with significant meaning. The Woolworth Building was constructed before World War I, after which architects adopted a modernist style. The New York skyscrapers of the 1920s abandoned the Gothic Revival. Gothic principles apparent in the Woolworth Building are the slender tower, with its vertical emphasis on design and romantic symbolism. The building is the epitome of Cass Gilbert's romantic skyscraper style.²⁹

Second, its appearance makes it a classic. The designation report mentions that almost all the decorations are gold gothic windows set against a blue background. The window frames are light yellow, slightly different from the cream color of the entire facade. Some of the windows are decorated with lions, shields, and unicorns of the royal coat of arms, which are also gold against the blue background.³⁰

The Woolworth Building is the one of the most famous skyscrapers in the United States and a landmark in New York. It was the Woolworth company's headquarters and a monument of the gilded age of New York commerce. As one of the tallest buildings of the past, the romantic skyscraper dominates the New York skyline and the Woolworth Building is the model of the world architectural style with its large scale and rich decoration and unique concept.³¹

The building is located in Manhattan's Tribeca neighborhood, with Broadway and City Hall Park to the east, Park Plaza to the north and Barclay Street to the south. It is a 60-floor building consisting of a 30-story base topped by a 30-story tower with a total height of 720 feet. The building structure is steel and most of the exterior wall decoration is terra cotta

²⁹ Landmarks Preservation Commission, April 12, 1983; Designation List 164.LP-1273. Page 1

³⁰ Ibid. P. 16

³¹ Ibid. P9-P10.

with a creamy plating, and limestone at the bottom. The LPC designation report for Woolworth Building uses the following words to describe the structure of the building:

“The base presents three unbroken elevations, on Barclay Street, Broadway, and Park Place, and divides into two wings on its western face. The tower meets the lot line on Broadway but is narrower than and does not extend as far west as the base beneath it. The tower has two setbacks, creating three sections of progressively smaller dimensions and culminates in a pyramidal roof and four tourelles.”³²

The Woolworth Building remains an iconic landmark in New York City. Its artistic qualities attract not only tourists but also residents who want to own apartments on the top 30 floors.

2.2.3 Woolworth Tower The Residences condominiums Development

On July 31, 2012, New York developer Alchemy Properties decided to buy the upper-30 floors of the skyscraper from the Witkoff Group and Cammeby's International, in order to convert them into luxury condominiums, called The Woolworth Tower Residences. It has 34 condominiums, each occupying half to the entire floor, starting on the 29th floor. Each apartment has extremely large space, even the smallest size apartment has 1,290 square feet for a one-bedroom, and the largest is a 9,403-square-foot, seven-story penthouse at the top of the tower.

As a new luxury condominium, living in a famous landmark of New York City is an attractive purchase. Each apartment has refined decoration with a delicate style, also

³² Paragraph 3, Page 13 Landmarks Preservation Commission April 12, 1983; Designation List 164 LP-1273

offers residents luxurious facilities, such fitness center, lounge, wine room, and a restored swimming room designed by Cass Gilbert. Moreover, the living environment and transportation is another reason to buy. The apartments have an excellent location in Tribeca and near the World Trade Center and City Hall. It is surrounded by boutique shops, restaurants, and small parks and connected to the transportation hub with subway lines, bus lines, PATH Station, ferries and so on.

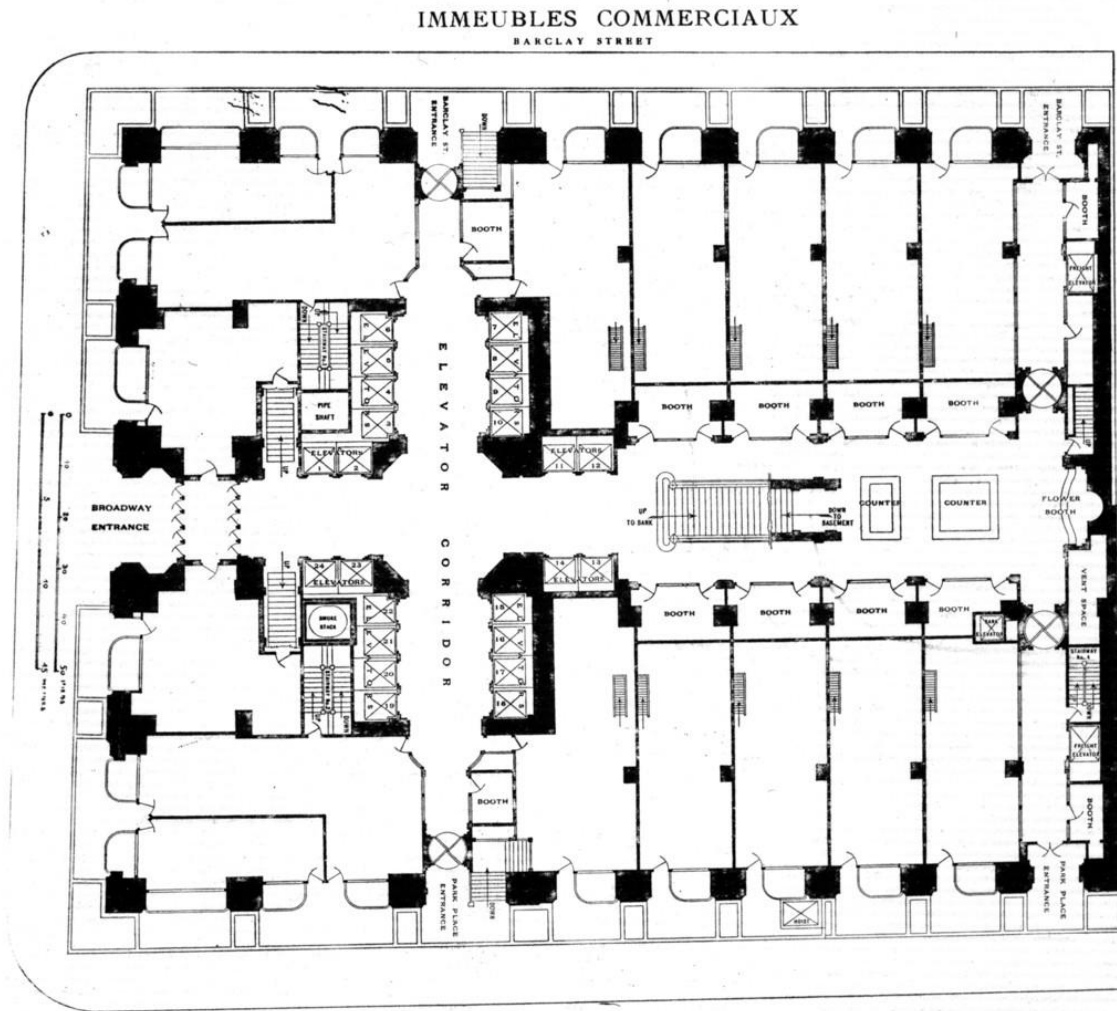
Before Alchemy Properties brought the top 30 floors of the Woolworth building, exterior renovation work was carried out by Ehrenkrantz & Associates in the 1970s. Most of the exterior's ornate cladding was replaced by faux stone panels and some decorative details were also simplified. The renovation extended the building's life and reduced the amount of work needed to restore the apartments.

"Our philosophy was to make the most of what was in the building", Kenneth S. Horn of Alchemy Properties said³³. At this stage, the renovation of the apartments was undertaken by renowned designer Thierry W. Despont. Much renovation information was collected from the Notices of Compliance (NOC) from the New York City Landmark commission; since the building is designated, all renovation and restoration work required approval. The housing-related renovation plan includes the removal of the 1913 elevator, the restoration of the ceramic components of the building's surface, the reworking of the decorative handrails, and the installation of new windows to maximize daylight and views. Furthermore, the LPC approved an addition above the indentation of

³³ Michelle Higgins, "Luxury Condos in the Woolworth Building," The New York Times (The New York Times, September 26, 2014), <https://www.nytimes.com/2014/09/28/realestate/luxury-condos-in-the-woolworth-building.html>.

the north and south sides of the 29th floor to add more indoor rooms and oversized terraces.

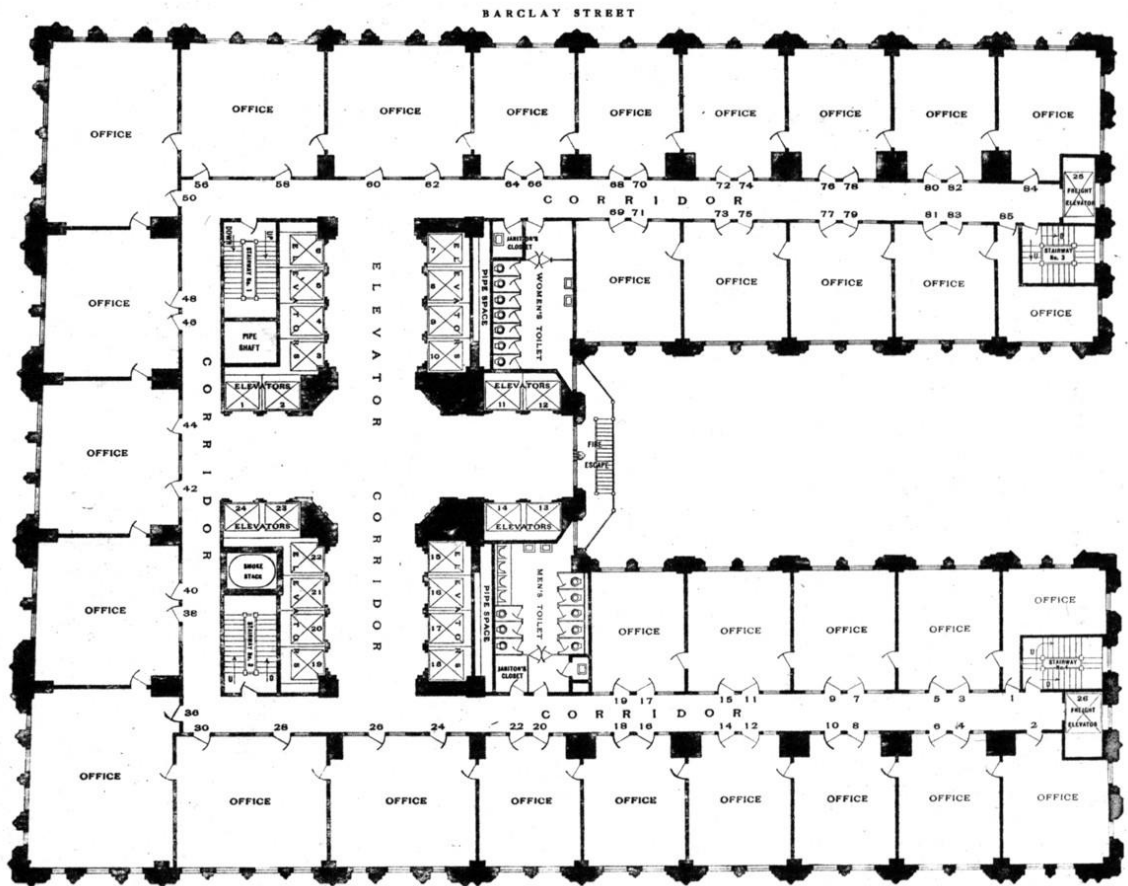
2.2.4 The Original Plan



Cass Gilbert, architecte.

13. Woolworth Building, New-York. — Plan du rez-de-chaussée.

Figure 11. Woolworth Building, original lobby level plan. Source from archdaily.com



Cass Gilbert, architecte.

14. Woolworth Building, New-York. — Plan type d'étage.

Figure 12. Woolworth Building, original upper-level plan. Source from archdaily.com

2.2.5 Typical Apartment Plan

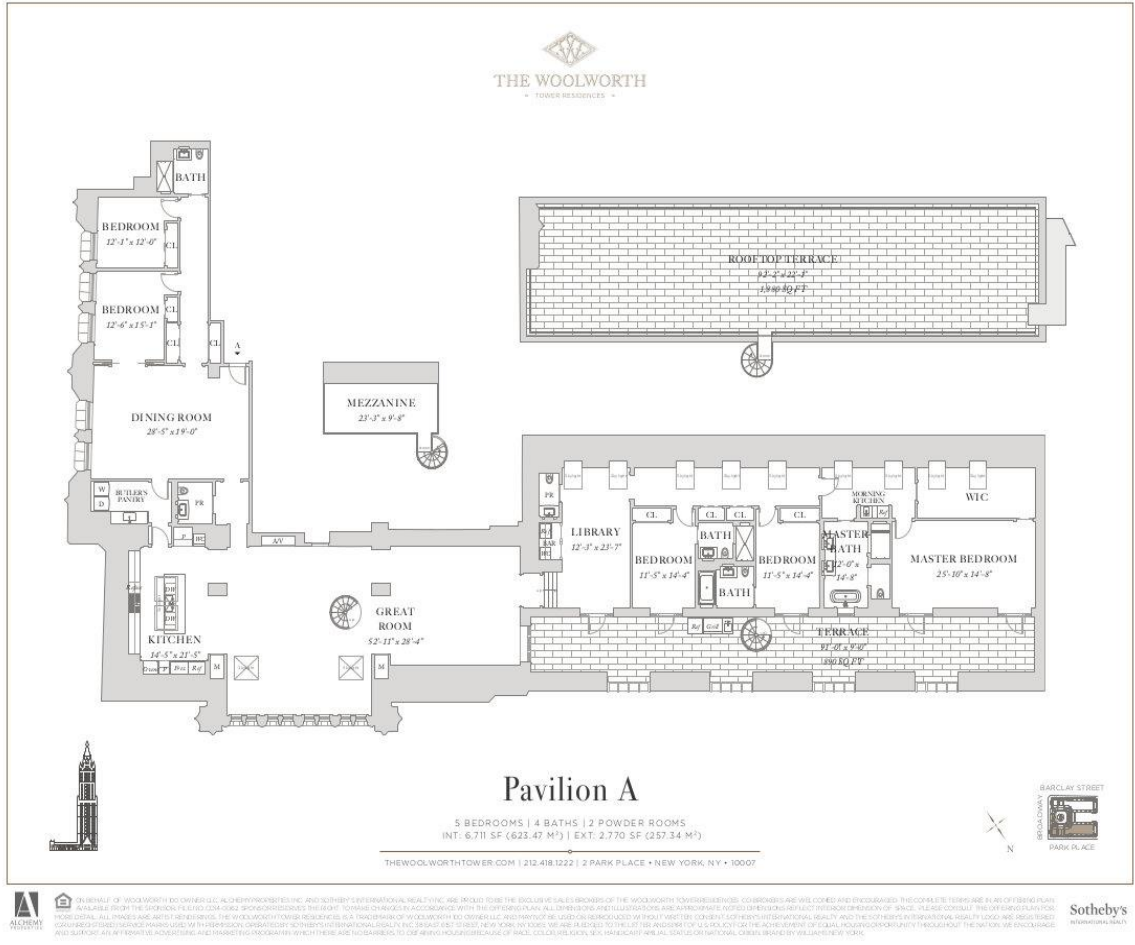
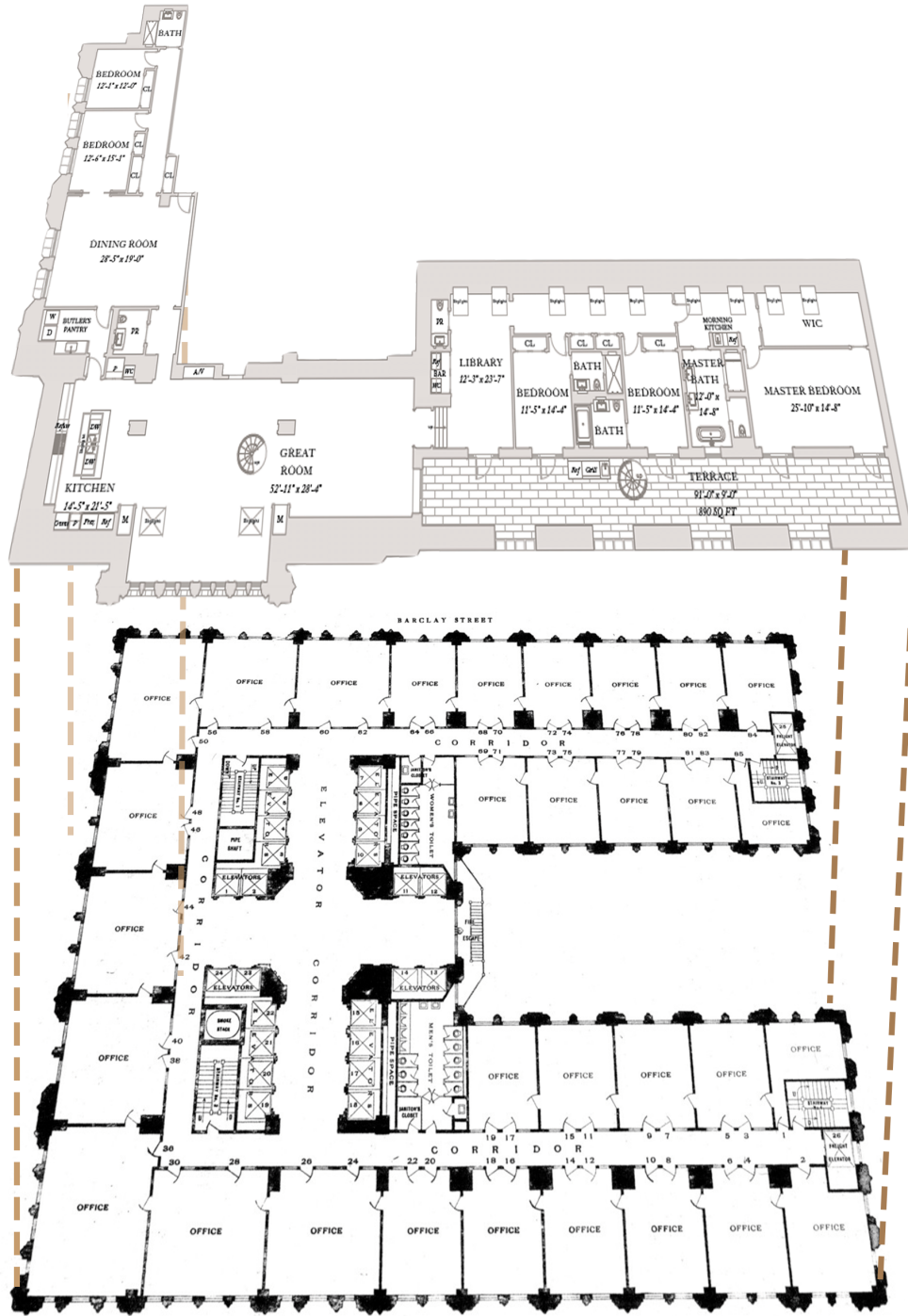


Figure 13. Woolworth Building, Pavilion-A Floor Plan. Source from <https://thewoolworthtower.com/availability>



Cass Gilbert, architecte.

14. Woolworth Building, New-York. — Plan type d'étage.

Figure 15. Woolworth Building. A comparison between the original design drawing and the new apartment plane drawing. Picture made by the Author based on upper level plan from Penn State Libras Picture Collection & floor plan form the woolworthtower.com

By comparing the original floor plan and the existing floor plan of the apartment, we can find that the designer demolished the original office space and replanned the apartment pattern, but the basic structure of the building did not change. (Fig 15) Each apartment has ample space. In the figure below, we can find that this floor includes two apartments.

In addition to being used for sightseeing and office work. The Woolworth Building residence gives the building more usefulness and the extensibility of its service life.

2.3 20 Exchange Place



Figure 16. 20 Exchange Place, historic and current views. Picture made by the Author based on NYC Urbanism (Left: Original rendering from Cross & Cross. Middle: Twenty Exchange as built, 1931) & cityrealty.com (Right)

2.3.1 Building History

In the late 1920s, a number of new office buildings were built with the goal of capturing the title of "world's tallest building" from the Woolworth Building. The plan to

build the City Bank-Farmers Trust building grew out of it. It became the fourth tallest building in New York at that time, a commercial building with 60-floors. In 1929, two of the country's oldest and largest Banks, the National City Bank of New York and the Farmers Loan and Trust Company, merged to form the City Bank-Farmers Trust Company. The new group chose the famous architects Cross & Cross to design a new skyscraper “to cement the bank's location on Wall Street.”³⁴ Designed in the style of "modern classics", it was built between 1930 and 1931.

The Bank changed its name to First National City Bank of New York in 1955 and moved its headquarters from 20 Exchange Place to midtown a year later, but still retained ownership of the skyscraper. In 1976, First National City Bank of New York officially changed its name to Citibank. Citibank sold the building in 1979, the same year the Canadian Commercial Bank finally closed its branches and offices in the building. The vacant skyscraper continued to be used as a commercial office building, until it was designated a historic landmark in 1996 and bought by Witkoff group the following year. Witkoff began a \$25 million renovation project in 1997 with the goal to attract new commercial tenants while preserving the historic building. By the mid-1990s, 20 Exchange Place was one of many vacant commercial office buildings in the Financial District, and the Financial District prompted planners and developers to look for a solution. The residential alteration was one of the proposals. In 2014, the new owner, DTH Capital, took out a \$240 million loan to convert the lower floors into luxury apartments³⁵.

³⁴ Adam Thalenfeld, "TWENTY EXCHANGE PLACE," NYC URBANISM, January 11, 2018], accessed June 22, 2020, <https://www.nycurbanism.com/icons/20x>)

³⁵ Ibid

2.3.2 Building History, Description and Landmark Designation

20 Exchange Place is a 59-story building and occupies the entire block bounded by Exchange Place, William Street, Beaver Street, and Hanover Street. It was one of the tallest skyscrapers in New York City. The steel-framed construction is clad in granite and limestone. The base is located on a trapezoidal block whose shape follows the irregular shape of the block, resulting in a slender square tower. Its tower and base contours reflect the unusual shape of the site and the requirements of New York City's zoning laws and the procedural needs of the building's bank customers.

The huge base is surrounded by narrow walkway with vast stone pillars. These pillars are carved with stylized Assyrian heads to symbolize the "financial giant".³⁶ The City Bank-Framers Trust Company Building, , 20 Exchange Place Designation Report describes, "The long and thin chamfering square tower, tilted slightly to the irregular base, is still one of the most striking buildings in lower Manhattan. The building is decorated with procedural sculptures and reliefs to symbolize the banking company it was built for."³⁷ Its steel frame structure, clad with limestone and granite, also had other achievements. On the engineering side, the new tower was completed in less than a year, and the building's unusual shape required a massive steel structure. The building also incorporated the most extensive pneumatic pipe communication system designed for banks at the time. These important qualities make the city bank-farmer trust-building one of the most prominent

³⁶ Landmarks Preservation Commission June 25, 1996, Designation List 273 LP-1941

³⁷ List 273 LP-1941

features of the lower Manhattan skyline.³⁸”

2.3.3 Apartment Conversion

Under the Mayor Rudy Giuliani administration, new economic and regulatory incentives encouraged reinvestment in older buildings. As noted in Chapter 1, zoning changes and federal historic preservation tax credits encouraged investment in these vacant office buildings, as well as a 14-year property tax credit for the conversion of office buildings into apartments. It was during this time that the first residential alterations to the Financial District began³⁹.

In addition to the opportunity offered by its vacancy, buildings like 20 Exchange Pl are also prime candidates for residential conversion because of the ample light, wide views and small floors they provide. The residential conversion at 20 Exchange Pl has 767 units, most of the which are studios or one-bedrooms. The entire apartment is aimed at young people working in downtown New York. Living in 20 Exchange Place is very convenient because there are many restaurants and supermarkets around it. Even in the lobby of 20 Exchange Place, people can enjoy delicious food and haircut without going out. Taking the subway is also a few minutes' walk from the station⁴⁰.

³⁸ Ibid. P4.

³⁹ Adam Thalenfeld

⁴⁰ “Living in the Financial District - Luxury Apartments: Twenty Exchange,” Twenty Exchange, accessed June 29, 2020, <https://twenty.exchange/living-in-financial-district/>.

2.3.5 Floor Plans

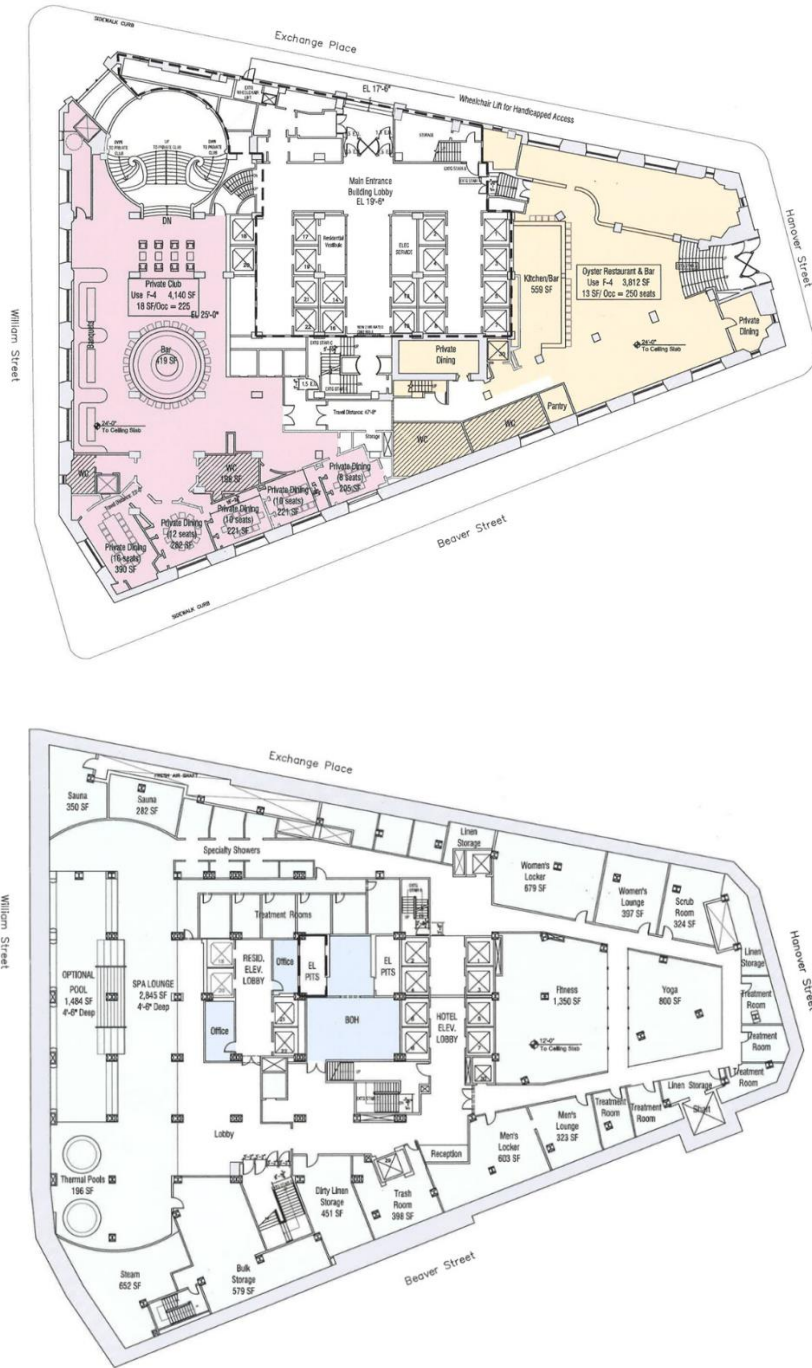


Figure 17. 20 Exchange Place, Plans of different floors source from Tchelistcheff architectural firm in a historical context



Figure 18. Exchange Place, floor Plans of different apartments. Picture made by the Author based on Fool plan form the Leasebreak.com

2.4 10 Hanover Square



Figure 19. 10 Hanover Square in 2009 Source from cityrealty.com

2.4.1 Brief History

In 1730, the location was named Hanover Square in honor of Hanover House. The most memorable building in Hanover Square is the landmark India House building (formerly the Bank of Hanover), the only surviving example from the fire of 1835 among the many Italianate Banks erected in the Financial District. 10 Hanover Square is located across from the India House, situated between Water St and Peral St. The building doesn't have a square on the side facing Pearl Street but has a small arcade for public space. Built in 1969, the 22-story building at 10 Hanover Square was designed by Emery Roth&Sons as an office building. In 2005, it was acquired by The Witkoff Group and converted into 493 rental apartments by BG Studio International and Schuman Lichtenstein Claman & Efron. It was acquired by UDR, Inc. in 2011 for \$260.8 million and is still used for apartment rentals. ⁴¹

2.4.2 Apartment Conversion

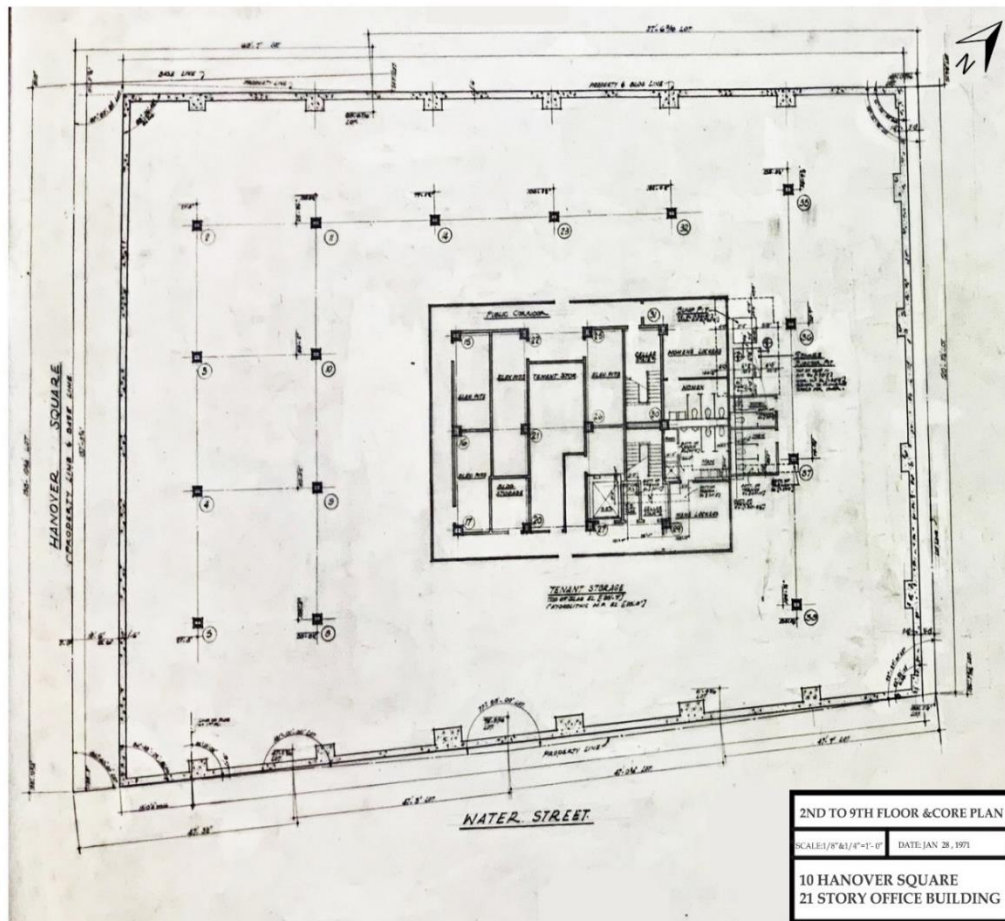
The building at 10 Handover Square has 493 apartments, including Studio, 1 and 2 bedrooms, with average rents about \$2800 a month. It has all the modern apartment service such as 24/7 round-the-clock guards, concierge and valet service, 2500 square foot room (including free WIFI), fireplace, pool table, table football, plasma TV, meeting room, patio furniture, roof platform, sunbathing, bicycle storage and laundry facilities.

Unlike the first two case studies, 10 Hanover Square is not yet designated as a

⁴¹ Horsley, C. B. (n.d.). 10 Hanover Square, Building Review. Retrieved from <https://www.cityrealty.com/nyc/financial-district/10-hanover-square/review/34261>

landmark. Its design is more modern and more suitable for people's ideas about apartments, such as large floor-to-ceiling windows.

2.4.2 Original Floor Plans⁴²



⁴² Emery Roth & Sons (2006), 10 Hanover Square Box 1, Columbia University Avery Architectural and fire Art Library drawing and archives.

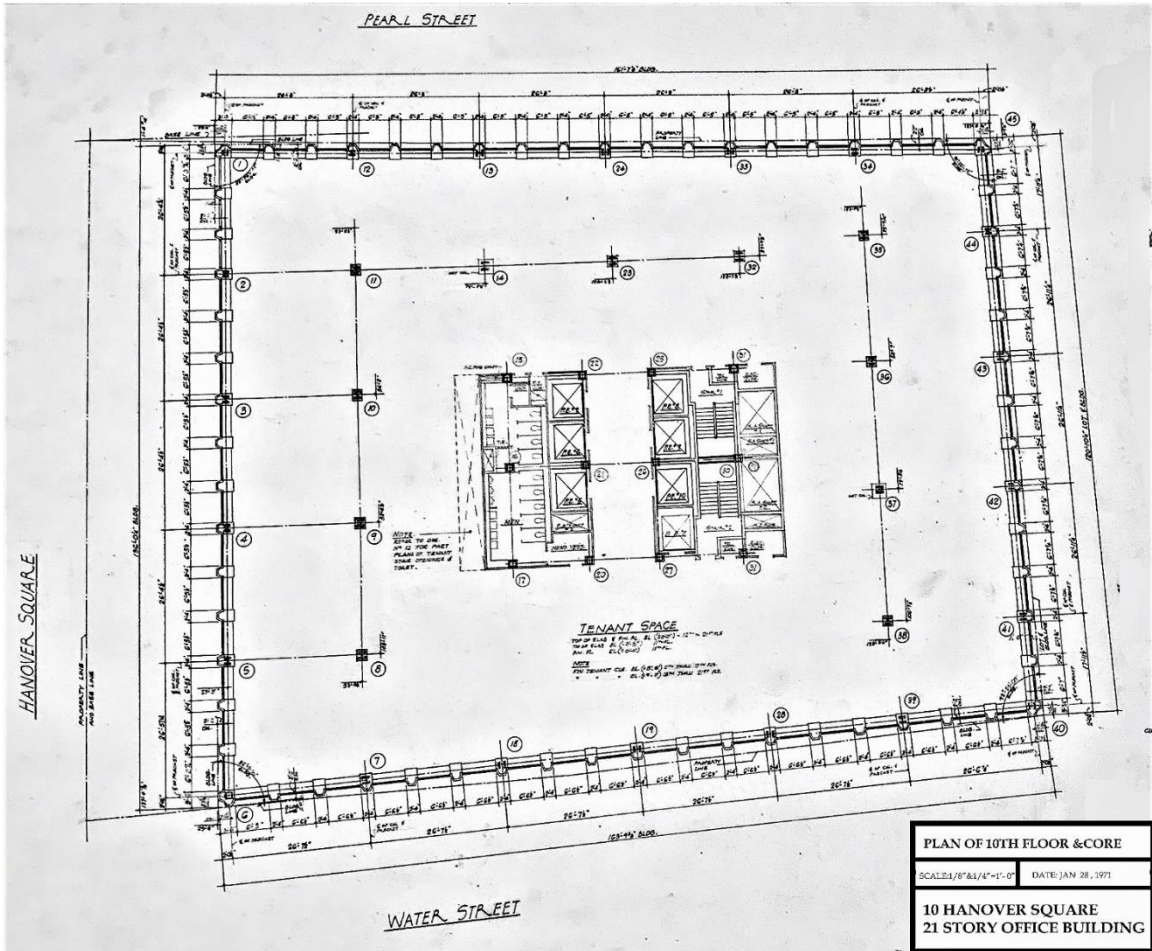


Figure 21. 10 Hanover Square , original 10th floor plan, Source from Columbia University Avery Architectural and fire Art Library drawing and archives.

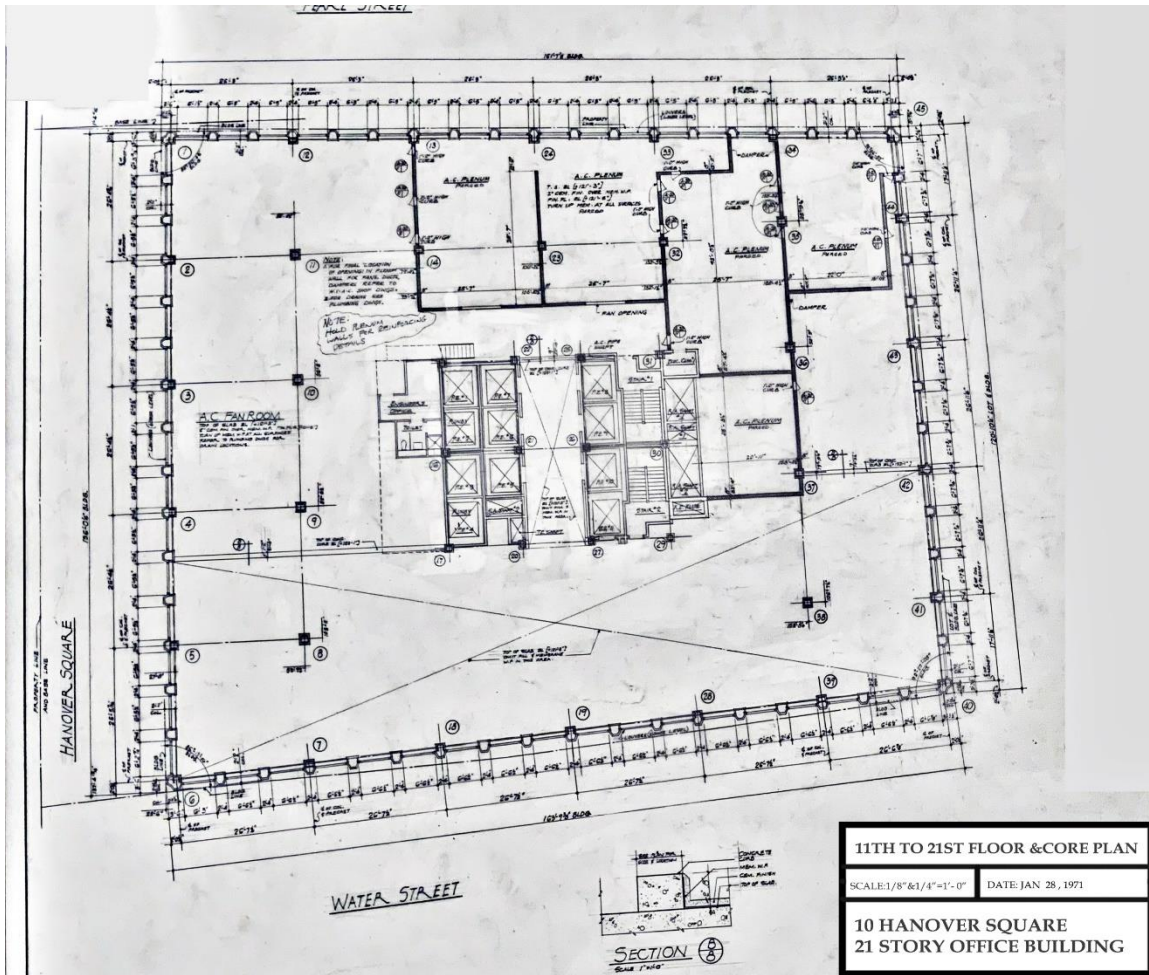


Figure 22. 10 Hanover Square, original 11th to 21st floor plan. plan from 10 hanover square. Source from Columbia University Avery Architectural and fire Art Library drawing and archives.

Figures 20, 21 and 22 show that 10 Hanover Square is very suitable for adaptive-reuse. The structure is made of load-bearing columns with a center reinforced concrete elevator and stair core. This allowed modification without changing the structure.

2.4.4 Apartment Plans

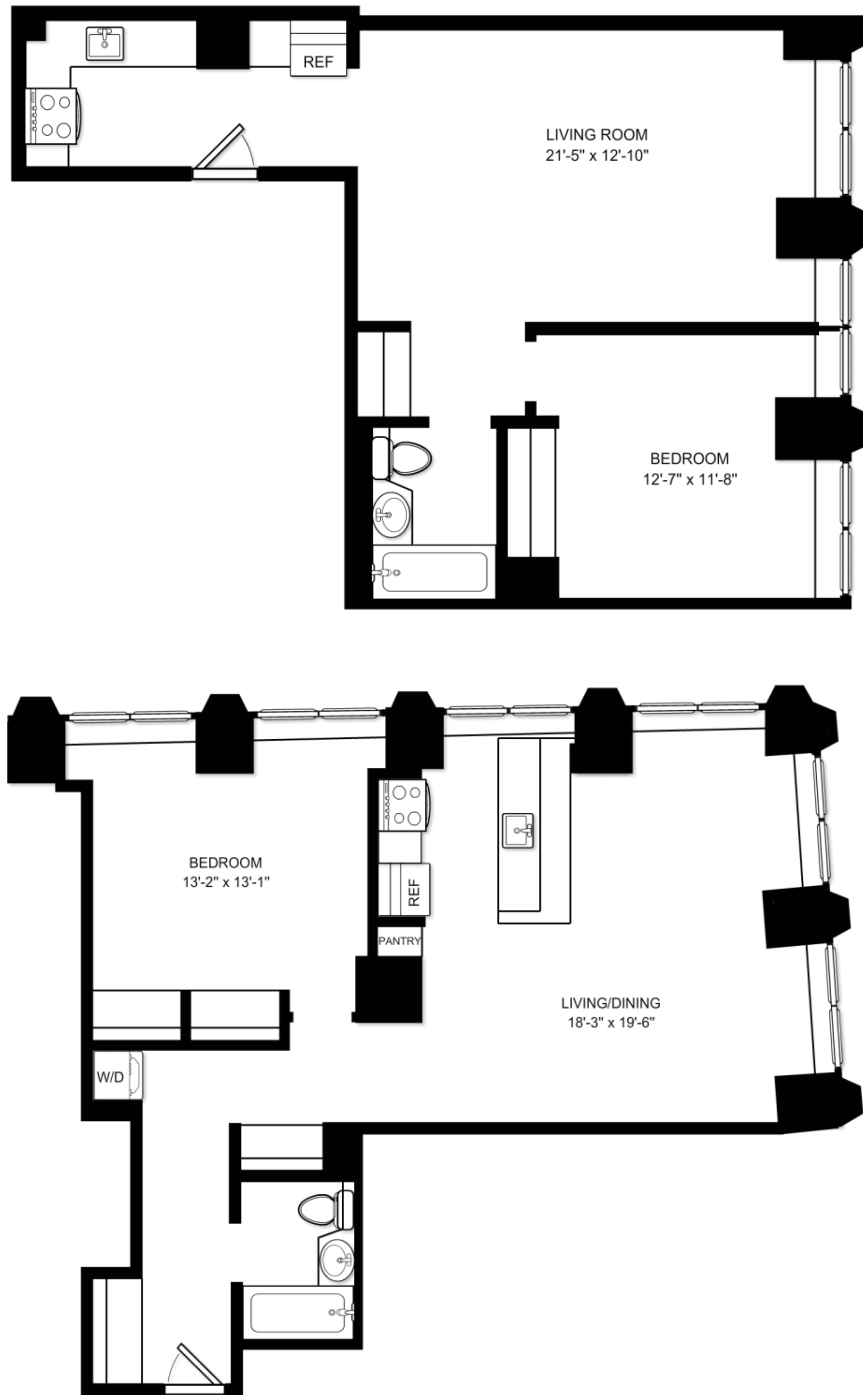


Figure 23. apartment plan from 10 Hanover square leasing office website, Source from udr.com

2.5 Conclusion

These three case studies prove that, although early, middle and late 20th century architectural styles were different, they all had similar characteristics that made them suitable for conversion into apartments:

1. The floor space is ample, and the open-plan layout can be easily converted. At the beginning of the 20th century, modern, open-office space patterns began to form, combining several departments in a single space. Instead of being distributed in separate offices, as before, employees of the company were all gathered in a spacious hall, and only the managers of the company have separate offices. Each department had low partitions rather than walls dividing the space, making it easy to contact each other and supervise each other. Modular furniture emphasized the openness of offices. Centralized management improved the efficiency of the office, but also changed the pattern of the office building.

2. The structural system is flexible. Beginning in the 1880s, steel frame structure became an essential aspect of modern architecture and skyscrapers of the 20th-century. Before that, almost all the buildings relied on the wall's size to support the weight. However, with the development of the steel structure, the building was supported by an internal framework and walls are only used for blocking the outside weather. The steel frame is quite flexible, and steel beam and girders can span large distances to create open internal space.⁴³

⁴³ “2. The Development of Architecture in the Twentieth ...” Accessed June 22, 2020. https://www.gov.mb.ca/chc/hrb/internal_reports/pdfs/modern_architecture_development.pdf.

3. Although the three buildings have different styles, they also represent the architectural characteristics of the time they were built.

4. The living environment of the Financial District is more in line with the lifestyle of modern people. The surrounding environment is also an important factor. For those who prefer to live within walking distance of work, for those who care about transportation, or if there are good restaurants nearby, the Financial District fits their needs. Transforming office buildings into apartments is not only a trend in the Financial District but also could be a salvation for the world's great cities, which have many old office buildings that will be left vacant or abandoned. It not only solves the problem of abandoned buildings, but also plays a role in environmental protection and protects many historic office buildings.

3. Analysis of Adaptive Re-use in Hong Kong, China

After learn the process of converting office buildings to apartment in New York City, the thesis considered the possibility of a similar adaptive re-use solution in China. Finding a city similar to New York to analyze the possibility was an important next step. Hong Kong is a representative city that I choose, for several reasons.

First, as we all know, Hong Kong is one of the two individual administrative regions of the People's Republic of China. It is also an important international financial, industrial, service, and shipping center in the world. Because of the history (once colonized by the British) and the special free trade system and the important port location, the development of commercial and office buildings in Hong Kong preceded that of the mainland. The first known skyscraper was the former HSBC headquarters, built-in 1935. As a result, Hong Kong is facing the problem of office building renovation earlier than mainland. The second reason is, according to the survey, many mainland cities (such as Guangzhou) are learning from Hong Kong's model to preserve or renovate historic buildings. Therefore, Hong Kong can be seen as a small microcosm of China's adaptive re-use and a model for the mainland to learn from and apply to mainland cities.

3.1 Adaptive-reuse Policy

Unlike in the United States, Hong Kong's transformation plans are tied to the government. In Hong Kong, there is a government program for the preservation and renovation of old buildings, called "Conserve and revitalize Hong Kong Heritage." The policy's primary purpose is to conserve Hong Kong's historic and heritage buildings

appropriately and sustainably and conserve and utilize them effectively. The policy introduced a series of measures:

- “Conducting heritage impact assessments for new capital works projects.”
- “To implement the revitalization of historic buildings partnership scheme in government-owned landmark buildings.”
- “Provides an economic incentive to preserve private historic buildings”
- “Assist in the maintenance of privately owned graded historic buildings”
- “To establish an office of the commissioner for heritage conservation.”
- “Promote heritage conservation and revitalization projects”
- “Set up a conservation fund for historic buildings”⁴⁴

One of the policy measures is the revitalization of historic buildings through the partnership scheme in government-owned landmark buildings. The concepts of the plan are, enhance the importance of heritage conservation and balance conservation and development. The project aims to strike a balance between sustainable development and heritage conservation, to strengthen the protection of cultural relics and the revitalization and re-use of historic government buildings to breathe new life into them for the enjoyment of the public.

The partnership scheme in government-owned historic buildings operates as follows:

- First, Identify historic government buildings suitable for adaptive re-use for inclusion in the project.

⁴⁴ “Heritage Conservation Policy” Conservation and revitalize HongKong Heritage, www.Heritage.gov.hk

- Second, non-profit-organizations were invited to submit proposals on how to use the building as a social enterprise to provide services or operate the business. Several important issues must be addressed in detail in the proposal. 1. How to preserve the historic buildings concerned and give full play to their historical value.2. How a social enterprise can operate in terms of financial viability 3. How it can benefit the community.
- Third, upon submission of the proposal, The Advisory Committee on Built Heritage Conservation (ACBHC), composed of government and non-government experts, is responsible for considering the project and providing advice on relevant matters.
- Fourth, the commissioner for heritage office will provide successful applicants with one-stop advisory services on the implementation of their proposed projects, covering the protection of heritage, land use, and planning, building construction, and compliance with the requirements of the buildings ordinance⁴⁵.
- When the conditions are met, funding will be provided under the scheme, including:
 - The government funds part or all of the cost of major renovation works of buildings (depending on the construction condition);
 - Charging low rents for buildings;
 - After the enterprise is expected to be self-financing at the beginning of its operation, it shall allocate up to a maximum of \$5 million to cover the enterprise's start-up costs and the deficit incurred during the first two years of operation.

This scheme has greatly helped the preservation of historic buildings in Hong

⁴⁵ Ibid ,chapter 123

Kong. The Hong Kong development bureau launched the first phase of the revitalization of the historic buildings' partnership scheme in February 2008. By 2020, 29 different types of historic buildings had been protected and renovated in six phases.

3.2 Measures to rehabilitate office buildings

Compared with New York, the development of office buildings in Hong Kong is later. Since the Second World War, there has been a growing demand for architects in Hong Kong. At that time, it was influenced by the modernist style and focused on the practical functions of architecture. In terms of style, it is not as varied as the office buildings in New York. Moreover, the building's use time is far less than that of New York buildings, which leads to the fact that many buildings in Hong Kong still maintain the original function of the building and do not change.

However, due to the economic transformation of Hong Kong in recent years, many industrial and office buildings have not been utilized, even they were not vacant. Over the years, the City Planning Board has been continuously reviewing and considering the permitted uses of buildings and rezoned buildings for new applications.

In April 2010, the government implemented a series of revitalization measures to encourage owners to refit their buildings or carry out redevelopment projects. The new plan includes the following measures:

- The entire converted building is located in the "commercial", "office" and "industrial" zones and has a building age of 15 years or above
- To facilitate the provision of transitional housing in a converted building with no industrial use: to facilitate the conversion of the entire building for transition housing

within the "commercial", "comprehensive development area", "business" and "residential" zones

- Other measures to permit the use of existing buildings for non-industrial purposes (arts and cultural, creative industries and innovation and technology circles)⁴⁶

The protection of heritage buildings in the United States and the encouragement of the renovation of ancient buildings in Hong Kong are two separate systems. The National Historic Landmarks Program and the LPC in the United States are independent preservation systems for historic buildings. The federal and state commercial rehabilitation tax credit program and the NYS Historic Homeowner tax credit program encourage businesses to invest in and protect or renovate Historic buildings. However, Hong Kong is different. The government decides the renovation of ancient buildings, and then the government elects a suitable proposal and allows the investors to carry out the restoration.

In comparison, The United States pays more attention to the appearance and artistry of architecture. Unless the protected parts are damaged, the LPC or the National Park Service will not stop the functional changes. But in Hong Kong, there is a greater emphasis on preservation and redevelopment. It is precisely because the Hong Kong government pays much attention to the significance of buildings' renovation and more public oriented. There are no cases of office buildings being transformed into residential buildings on the land of Hong Kong. The only case that is close to it is the former government office building, the Murray, which was transformed into a luxury hotel in Hong Kong. The same

⁴⁶ "Revitalising Historic Buildings through Partnership Scheme," Plan content, <https://www.heritage.gov.hk/tc/rhbtp/about.htm>.

is true in mainland China, where the importance of reconstructing old buildings makes it difficult to make use of them for personal purposes, such as converting them into apartments.

4. Conclusion

The central concept of this thesis is learning the methods by which the United States deals with the adaptive re-use of 20th-century office buildings to apartments and try to use this approach for historic office buildings in China.

As a country with a long history, China has many historical buildings and sites. For now, most Chinese historic sites and buildings are facing extreme situations and treatment. When historic buildings are under the government's protection, they will have excellent treatment and are often used as tourist attractions. On the other hand, the cost of breaking the law is too low. According to the law on the protection of cultural relics, the maximum fine for unauthorized removal and removal of immovable cultural relics is 500,000 yuan. Compared with the enormous economic benefits of the government selling land and developers selling houses, the demolition of cultural relics and reconstruction of new buildings can bring more benefits.

These adaptive re-use cases are good examples of how buildings can survive if they play new roles. In New York, without destroying the heritage buildings' character-defining features, developers have more autonomy to determine the function of buildings and maximize the use of the building. As a result, conversion of office building into private residences is very common now. Hong Kong and the mainland China's attitude are different. Ancient buildings tend to be public and transformed into cultural centers and museums, so that ancient buildings have educational significance. However, if heritage buildings do not have historical significance, they may be removed.

Although Hong Kong is under the policy of "one country, two systems," its attitude

and measures towards heritage buildings are the same as in China and have been learned in mainland cities. There are some methods of the United States towards ancient buildings that can be applied in China. First of all, the evaluation and protection system of old buildings is worth trying in China. Although the history of office buildings in China is much more recent than that in the United States, there are still buildings with historical and cultural value that deserve to be preserved. In China, many of the 20th-century office buildings still used as offices. However, after upgrading, many of these old office buildings will face being demolished. Conversion into apartments is another way to keep these historic buildings.

China can also learn new preservation attitudes from the United States, keeping character-defining features, but allowing other elements to be modified. The same goes for government policy, such as tax credit program and incentives for businesses to protect and renovate these office buildings and attract development instead of demolition.

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Appendix 1. Woolworth Building Designation report

Landmarks Preservation Commission
April 12, 1983; Designation List 164
LP-1273

WOOLWORTH BUILDING, 233 Broadway, Borough of Manhattan. Built 1911-1913;
architect, Cass Gilbert

Landmark Site: Borough of Manhattan, Tax Map Block 123, Lot 22.

On February 9, 1982, the Landmarks Preservation Commission held a public hearing on the proposed designation as a Landmark of the Woolworth Building and the proposed designation of the related Landmark Site (Item No. 4). The hearing was continued to April 13, 1982 (Item No. 3), and again to June 8, 1982 (Item No. 1). All three hearings had been duly advertised in accordance with the provisions of law. Six witnesses spoke in favor of designation. There were two speakers in opposition to designation. Letters have been received in favor of designation.

DESCRIPTION AND ANALYSIS

The Woolworth Building, one of New York's best known tall buildings, is among the most famous skyscrapers in the United States. The tallest building in the world on its completion in 1913, Cass Gilbert's graceful, Gothic-style, terra-cotta clad, sixty-story tower became the prototype for the tall romantic skyscraper that permanently transformed the skyline of New York and became the most potent image of twentieth-century urban America.

Built as the headquarters of F.W. Woolworth's "five-and-ten" empire, the Woolworth Building became a symbol not just of Woolworth's personal success, but also of the new twentieth-century phenomenon of mass commerce. At its grand opening, during which President Wilson in Washington pushed a button to signal the lighting of the structure in New York, the Rev. S. Parkes Cadman christened the Woolworth Building the "Cathedral of Commerce."

The Woolworth Building stands as a watershed in the history of the American skyscraper. It is both the culmination of the early development of the tall office building that began before 1880, and the model -- in terms of height, profile, corporate symbolism, and romantic presence -- for the skyscrapers of the great building boom of the post-World War I era that culminated in the Chrysler and Empire State Buildings. Although long since stripped of its "world's tallest" title, the Woolworth Building remains one of the great symbols of twentieth-century America, and one of New York's and the country's outstanding landmarks.

F.W. Woolworth & Company: The "5 and 10" And The World's Highest Building

By most accounts, the life of Frank Winfield Woolworth was a prototypical turn-of-the-century American success story. A poor farm boy with a clever idea, Woolworth rose to become the proprietor of a multi-million dollar international chain of stores. Woolworth's "5 and 10" became an American institution, and Woolworth eventually built himself a skyscraper headquarters that was a monument to himself and his stores, one of New York City's most important skyscrapers, and the tallest building in the world.¹

Frank Woolworth grew up in his family's farm near Great Bend in Jefferson County, New York; the Woolworths had been farmers since the 17th century. Frank Woolworth did not like farm life, and in 1873, encouraged by his mother, found a job with Augsbury & Moore, a leading drygoods store in nearby Watertown, N.Y., where he worked sporadically over the next five years. In 1878, a visitor to the store told Woolworth and Moore a story about a five-cent counter which seems to have been the

direct inspiration for the "5 and 10": a salesman named Bennet had bought a discount lot of handkerchiefs from an overstocked New York supplier, and convinced Michigan storekeepers that they could be sold for a nickel -- the goods moved quickly and in volume. The success of that venture led to several stores setting up five-cent counters. Moore himself was skeptical, but later that year bought \$100 worth of nickel goods from the same New York supplier, Spelman Brothers, and sold them all in one day. The five-cent counter soon caught on in upstate New York.

Woolworth, impressed with the possibilities of the counter, left Moore to start a business dealing only in nickel goods. His first venture, "The Great Five Cent Store" in Utica, New York, met with little success; he therefore moved to Lancaster, Pennsylvania, which seemed to him a livelier town, increased the scope of his goods by including items for ten cents, and on June 6th, 1879, opened the first "Woolworth's 5 and 10 Cent Store."² Woolworth's basic operation was to find articles which could be sold for either a nickel or a dime, display them on counters, and let customers choose their own merchandise, eliminating the cost of paying salespeople. Attributing his success in Lancaster in part to the "thriftiness of the Pennsylvania Dutch," Woolworth began to open similar stores elsewhere in the state. Stores in Harrisburg and York did not succeed, but one in Scranton, opened in 1880, did; Woolworth brought in his brother Charles to run it, and the business became "Woolworth Bros. 5 and 10 Cent Store."

By 1886 Woolworth had seven stores in Pennsylvania. As the business grew, he was able to convince manufacturers to sell him goods at prices low enough for resale at five or ten cents, because they could make up in volume what they lost in price. In some instances he actually was able to show manufacturers how to cut their production costs. In this way Woolworth gradually increased the range of goods that could be sold for a nickel or dime, and to the pots and pans of the first 5 cent counters he added candy (5 cents per quarter-pound), tinsel ornament, white china cups and plates, dolls, and other items which had never before been sold at so low a price.

Woolworth did all the buying himself at first, and since most of his suppliers were in New York he moved to the city in 1886, setting up a Manhattan office and taking a house in Brooklyn. In 1888 he moved his office into the Sun Building, at Chambers Street and Broadway, and remained there for the next twenty years.³ In pursuit of cheaper goods he began to look to Europe, where labor and material costs were often lower, and made his first buying trip there in 1890. It was in the course of these trips that he was first exposed to European architecture; on his first visit to London he wrote home that he was tremendously impressed by the Houses of Parliament, the buildings which twenty years later he hoped to emulate in his Woolworth Building.⁴

The first big-city Woolworth's opened in 1895 in Washington, D.C., quickly followed by stores in Brooklyn, Boston, Philadelphia, New York, and Pittsburgh. The first Manhattan "5 and 10" was at 259 Sixth Avenue near 17th Street, in the heart of the then fashionable "Ladies' Mile" shopping district. The chain grew to 59 stores by the end of 1900.

Over the next ten years Woolworth undertook three major operations which completed the spectacular growth of the company under his direction: in 1904 he took his stores to the Midwest; in 1909 he expanded to England; and in 1910 he merged his company with those of four competitors to create the F.W. Woolworth Company, a corporation controlling 611 stores. With no effective competition left, Wool-

worth's potential for expansion was virtually unlimited; the 1000th store (now demolished) was erected in 1918 on the corner of Fifth Avenue and 40th Street. The press criticised such an "invasion" of the luxury avenue by the dime store, but in fact Woolworth's location there was not much different from the location of his first Manhattan store on Sixth Avenue in the "Ladies' Mile" the late-nineteenth century equivalent of Fifth Avenue.

Woolworth began planning his new headquarters in 1910, the year of the major consolidation with his competitors. From the start, the building was also intended to be a headquarters for the Irving National Bank, today the Irving Trust Company. Lewis Pierson, president of the bank and a friend of Woolworth, was attempting in 1910 to engineer a merger between the Irving National Bank and the New York Exchange Bank, but meeting resistance on the part of several bankers. Woolworth saw an opportunity to acquire a partner and proposed to take out "the additional stock necessary to make the consolidation of the two banks a success if the bank would move up to Broadway and take headquarters" in the proposed Woolworth Building.⁵ The banks agreed, Woolworth acquired a lot on the corner of Broadway and Park Place, and Cass Gilbert was hired as architect.

Woolworth originally intended to build a standard twelve- to sixteen-story office building on a corner site at Broadway and Park Place, which comprised only a portion of the eventual site. The idea of surpassing neighboring tall buildings, however, pushed his project to increasingly greater heights. At first the building was increased to twenty stories in order to be taller than the Pulitzer Building on the other side of City Hall Park.⁶ By September of 1910, the proposed design called for a twenty-five story base supporting a forty-story tower on its east front, rising about 550 feet from a site which extended 105 feet along Broadway and 197 feet 9 inches along Park Place. The exact height was left flexible at Gilbert's request.

Soon thereafter, Woolworth resolved to go still higher. The Singer Building, completed by architect Ernest Flag in 1907, rose 612 feet on a site just a few blocks south of Woolworth's project. According to Gilbert's notes of November 1910:

I called Mr. Woolworth's attention to the height of the (Woolworth) tower as being somewhat higher than previously sketched. He inquired as to its comparative height with the Singer tower and instructed me to increase the height so as to make its 620 ft. above the sidewalk.⁷

Reminiscing in a 1913 interview, Woolworth explained his thinking:

While in Europe a few years ago, wherever I went the men with whom I came in contact asked me about the Singer Building and its famous tower. That gave me an idea. I decided to erect a building that would advertise the Woolworth five and ten cent stores all over the world. I kept thinking about it, and finally, when the opportunity seemed to be right, I went ahead with my plans.⁸

The building was announced publicly in November 1910 as a forty-five story tower rising 625 feet, on the corner site.⁹

There still remained, however, the Metropolitan Life Insurance tower on Madison Square, which, when completed by architects Napoleon LeBrun & Sons in 1909, had become the successor to the title of world's tallest building. Woolworth began to think he had not gone high enough. In early December, according to Gilbert's notes

Woolworth remarked...that there was no use in making the tower ft. unless it went up high enough to be the highest tower in the world and he spoke of 710 ft. or 712 ft. as being the alternative.¹⁰

It was not an easy decision for Woolworth. According to Gilbert, he vacillated for some time, uncertain whether to risk the delays and extra costs:

He continued to advocate the higher tower on the ground that it would be the greatest tower in the world and yet he was not finally determined upon doing it. He seemed unable to make up his mind.¹¹

In late December, Woolworth had a civil engineer measure the Metropolitan's height which was found to be 700 feet and 2 inches.¹² Finally,

...to have the advertising value that would come with the highest structure in Manhattan..Mr. Woolworth instructed his architect to prepare plans for a tower that would overtop the Metropolitan.¹³

According to Woolworth's interviewer:

"How high do you want the tower now?" asked Mr. Gilbert.
"How high can you make it?" Mr. Woolworth asked in reply.
"It is for you to make the limit," said Mr. Gilbert.
"Then make it fifty feet higher than the Metropolitan Tower."¹⁴

Woolworth acquired the necessary remainder of the blockfront on Broadway between Park Place and Barclay Street, and the Woolworth Building as completed took the title of world's tallest building.

The "5 and 10" offices hardly required such an enormous office building; nor could the Woolworth Building be considered a symbol of the frugality which Woolworth hoped for his customers. Its creation has to be seen, rather, in light of Woolworth's changing conceptions of himself and his company. As F.W. Woolworth & Company emerged as a commercial empire, Woolworth made certain changes. In 1900, he ordered that all of his 59 stores should be given identical facades, creating the familiar look of "carmine red" fronts and store windows. The same year he opened his first "Woolworth Building" in Lancaster, Pennsylvania, home of the first "5 and 10."¹⁵ No longer were his stores just individual ventures in the 5 cent principle; each was now a constituent part of a publicly visible institution. Likewise, Woolworth was no longer just a merchant; he was becoming a recognized member of New York's wealthy elite. He had already left his middle-class Brooklyn neighborhood to live in the Hotel Savoy on Fifth Avenue at Grand Army Plaza, but in 1901 he built a mansion at 990 Fifth Avenue, on Manhattan's gold coast.¹⁶ Later he built an entire compound of town houses for his family along East 80th Street, and bought a Glen Cove estate which he renamed "Winfield Hall." These changes in Woolworth's personal image and the company's image found their most dramatic statement in the building of the world's tallest skyscraper as Woolworth's corporate symbol.

The Skyscraper in New York

The skyscraper is universally acknowledged to be the pre-eminent American contribution to world architecture. Within the United States, the tall office building was developed first in Chicago and New York City, and those two cities derive much of their physical identity from their skyscrapers.

The skyscraper type has developed gradually over the past hundred years, starting from the first office buildings exceeding six stories in height in the 1870s and proceeding through a series of progressively taller structures to a group claiming in succession to be the "tallest in the world." The exact nature of the development, and the exact definition of what constitutes a skyscraper, have been the subject of debate, and there is no consensus as to which was the first, or whether the skyscraper was both in Chicago or New York. The stylistic development of the skyscraper in both cities has, however, been well documented, and it is generally agreed that the skyscraper was the product of the development of steel-cage construction, the perfection of the elevator, and increasing land costs.¹⁷

The earliest New York buildings displaying some of the characteristics of the skyscraper date from before 1870. At least one cast-iron building, the A.T. Stewart department store at Broadway and West 9th Street (John Kellum, 1865; demolished), was constructed as an iron cage, anticipating the steel-cage construction which made tall buildings possible. The first known elevator was in the five-story high Haughwout Store at Broadway and Broome Street (John Gaynor, 1859; extant). As building heights began to respond to the potential of technological advances in the 1870s and 1880s, architects started to grapple with the implications for style and design. A varied group of stylistic responses to tall buildings during these decades was characterized by Montgomery Schuyler in 1909 as "wild work."¹⁸

By the late 1880s, designers of tall buildings had turned to a tripartite scheme that was flexible enough to remain useful and popular for several decades. The concept of the scheme was an analogy between a building's elevation and a classical column, in which the bottom stories corresponded to the column's base, the tall central section to its shaft, and the upper floors to its capital. Schuyler, who first identified the type, considered the Union Trust Building (George B. Post, 1889-1890; demolished) an early example; others were Post's Havemeyer Building (1891-1892; demolished), and Bruce Price's American Surety Building (1894-1895; demolished). The tripartite type soon spread to other major American urban centers. Most were from ten to twenty stories high. Schuyler considered the finest example to be Cass Gilbert's Broadway-Chambers Building (1899-1900; extant).

Even as the base-shaft-capital tripartite type continued to dominate office-building design, a new type emphasizing the tower aspect of tall buildings began to develop, as a response to the design requirements of still taller structures. After a number of unbuilt proposals of the early 1890s, a series of romantically designed tower buildings were created in lower Manhattan, culminating in a group of three, each successively claiming the title of tallest building in the world: the Singer Building (Ernest Flagg, 1906-08; demolished), a Beaux-Arts style office building with a tower addition; the Metropolitan Life Insurance Company tower (Napoleon LeBrun & Sons, 1909; extant), modeled on an Italian campanile; and the Gothic-style Woolworth Building.

The Woolworth Building was the last major skyscraper undertaken in New York City before World War I. Skyscraper construction did not begin again until the mid-1920s, when a major series of office buildings transformed the skylines of both lower and midtown Manhattan. Modernistic towers like the Chrysler Building (William Van Alen, 1928-29) and the Empire State Building (Shreve, Lamb & Harmon, 1921-31) stripped the Woolworth Building of its status as world's tallest building, but also essentially confirmed the tower model exemplified by the Woolworth Building as the new skyscraper image of New York. The type was not substantially altered until the wave of International Style slab buildings that reshaped New York's image in the 1950s and 1960s, such as Lever House (a designated New York

City Landmark). In many ways, Cass Gilbert's Woolworth Building was the epitome of the New York romantic skyscraper from which the twentieth-century city derives so much of its visual identity.

Cass Gilbert (1859-1934)¹⁹

Cass Gilbert, although not a native of the city or the designer of more than a dozen of its buildings, was one of the most important architects to work in New York. Among his commissions are several of the city's major landmarks; the two most important of these, the U.S. Customs House and the Woolworth Building, are of national significance.²⁰

Gilbert was a Midwesterner who trained and later practiced in the East. His career falls roughly into two parts: a local practice in St. Paul, Minnesota in the 1880s and 1890s, and a national practice, based in New York, from 1900 until his death in 1934. His work has been described as a synthesis of architectural trends in the two regions,²¹ and both his buildings and the language in which he discussed them seem to combine a Midwestern belief in structural expression with an Eastern respect for tradition.

Gilbert was born the son of an engineer in Zanesville, Ohio, a town in part laid out by his grandfather. While still a child, he and his family moved to St. Paul, where he completed his secondary education. In 1876 he entered the office of A.M. Radcliffe, a local architect. Two years later he went east to study at the architecture school of the Massachusetts Institute of Technology, then headed by William R. Ware; his teacher was a Frenchman, Eugene Letang.²² After two years of study, Gilbert went to Europe; he had hoped to work for an English architect -- G.E. Street, Alfred Waterhouse, Norman Shaw, or William Burges -- but was unable to find employment. After traveling briefly through France and Italy, chiefly to see Gothic cathedrals, he was obliged to return to the United States later the same year. In New York he joined the firm of McKim, Mead & White, which had been formed barely a year earlier in September 1879.

Gilbert was one of the few major architects of his era who did not study at the Ecole des Beaux-Arts in Paris. His architectural education, however, reflected the American interpretation of Beaux-Arts ideas as promulgated through academic institutions and architectural apprenticeships. Eugene Letang had been an Ecole student; William R. Ware was one of the five architects who had studied in the New York atelier of Richard Morris Hunt, the first American to attend the Ecole. McKim, who was an Ecole student, and White who was not, had both worked in the office of the second American to attend the Ecole, H.H. Richardson.

During Gilbert's two-year stay with McKim, Mead & White in 1880-1882, the firm's work consisted largely of Shingle Style houses.²³ Among the other buildings designed or constructed during that period were the Newport Casino, the Charles Whittier residence in Boston, the Tiffany residence in New York, and the Ross Winans residence in Baltimore, for which project Gilbert was made superintendent.²⁴ The Villard Houses in New York, first of the firm's commissions to reflect the influence of the Italian Renaissance, was designed in 1882, at the end of Gilbert's term.

Returning to St. Paul in 1882, Gilbert set up his own practice. Mead had suggested he open a St. Paul branch of McKim, Mead & White,²⁵ but instead Gilbert formed a partnership with fellow M.I.T. graduate James Knox Taylor, which lasted eight years. During the last two decades of the century he built a solid reputation in St. Paul designing residences, churches, and office buildings; most of

his designs were in the Shingle Style or the Richardsonian Romanesque.²⁶ When John Welborn Root died in 1891, Mead wrote to Gilbert from New York urging him to go to Chicago to become Daniel Bunnham's new partner; Gilbert, however, chose to remain in St. Paul. He became president of the Minnesota chapter of the A.I.A., and was invited to sit on various juries -- he was the only Westerner on the jury for the New York Public Library competition.

In 1895, Gilbert won the competition for the new Minnesota state capitol, a commission that established a national reputation for him.²⁷ Clearly reflecting the impact of the 1893 Chicago Columbian Exposition, Gilbert's design was an elegant Beaux-Arts building, which, in its monumental composition, classical style, and elaborate decoration, laid the groundwork for his 1899 winning entry in the New York Customs House competition.²⁸ In 1900, Gilbert moved permanently to New York.

Once established in New York, Gilbert went on to produce similar Beaux-Arts governmental buildings, including the Federal Courthouse in New York (1934) the Detroit Public Library (1914), the West Virginia state capitol in Charleston (1928-32), and the Supreme Court Building in Washington, D.C. (1933-35) among many others. These public monuments comprised a major portion of his national work, and a major part of their design was the lavishly decorated interior spaces.

Gilbert believed that public buildings belonged to the public, and deserved whatever expenditure necessary to make them beautiful.²⁹ He also recognized that the decorative arts were beginning to flourish in America, especially mural painting and also sculpture, and believed that they should be encouraged; in accordance with these beliefs, his own public buildings were lavishly decorated. In a 1934 address honoring artist Edwin H. Blashfield, Gilbert traced the history of the arts in America, and credited much of their growth to architects. The Minnesota Capitol decorations included much programmatic work, murals representing History, a statue by Daniel Chester French of Jurisprudence, and so on. The U.S. Customs House was intended from the start to have a similarly elaborate program of decoration, although it was not carried out until the 1930s.³⁰ Ultimately, Gilbert brought this same kind of programmatic interior design to the publicly accessible interiors of the Woolworth Building.

Cass Gilbert's other major contribution to architecture was in the field of skyscraper design. As a Midwestern architect working during the last two decades of the 19th century, he was familiar with the technological developments in skyscraper construction in Chicago. His training in Eastern schools, on the other hand, enabled him to develop a style along the conservative lines current in New York when he moved to the city at the turn of the century. The unique combination of Midwestern technology, Eastern training, and Gilbert's personal design talents and beliefs helped him move away from the tripartite "base-shaft-capital" formula of early office buildings to the full-blown romantic skyscraper conception of the Woolworth Building.³¹

Gilbert designed three office buildings in the Northeast before receiving the Woolworth commission: the Brazer Building (1896) in Boston, the Broadway-Chambers Building (1899-1900) in New York, and the West Street Building (1906-1907), also in New York.

The Brazer Building was a simply-designed office building of the "base-shaft-capital" type. The Broadway-Chambers Building, a project in which Gilbert himself also acted as developer,³² was similarly a tripartite design which was widely admired at the time of its completion as one of the finest examples of the "base-shaft-capital" type yet produced. Montgomery Schuyler, the most prominent architectural critic

of the day, wrote later that it "was the summation of that type of the design of a tall building, the 'last word' in the prosecution of the analogy of the classical column. It was promptly so recognized, not only at home but equally abroad..."³³ Schuyler observed that Gilbert's building was a notable advance upon Bruce Price's American Surety Building, till then the prime example of the type, and that the building's major "architectural novelty and distinction" was "the distinction of the parts by color, since they could not be effectively distinguished by form." The three-story base was "warm granite," the ten-story shaft "rough red brick," and above, the three-story capital was treated "with a decorative inlay of tiling in the pilasters of the arches," and surmounted by green copper cresting.³⁴ Gilbert's use of color in his adaptation of the tripartite scheme foreshadowed his more extensive polychromatic schemes in the Woolworth Building.

The West Street Building was also to some extent organized along a tripartite scheme, but represented a major advance in office building design. Although arranged as a base-shaft-capital, the building's design downplayed the "base," emphasized the verticality of the "shaft" with tall uninterrupted piers, and made the "capital" an elaborate Gothic fantasy with a mansard roof. To Montgomery Schuyler, the shaft treatment of piers expressed the structural frame within, "for the first time."³⁵ Its vertical expression and Gothic skin were the direct predecessors of the Woolworth Building.

Gilbert's skyscraper designs reflected his clear belief in the value of studying the architecture of the past, not to copy it, but certainly to adapt it. Speaking on the occasion of the presentation to him of the Gold Medal of Architecture by the Society of Arts and Sciences in honor of the Woolworth Building design, he said:

...as in language new words are coined to express new meanings and old words become obsolete, as old uses are abandoned so new forms to meet new needs are developed (I almost said invented) as the necessity requires. This does not mean that one should ignore the culture, the knowledge and experience of the past to wilfully and pridefully discard all that has gone before and start all over at the beginning. It is not progress to go backward....Why not then pick up the threads where we find them and weave into the pattern of our own civilization the beauty that is our inheritance? My plea therefore is for beauty and sincerity, for the solution of our own problems in the spirit of our own age illuminated by the light of the past; to carry on, to shape new thoughts, new hopes, and new desires in new forms of beauty as we may and can; but to disregard nothing of the past that may guide us in doing so....It is in this spirit that the building you have chosen was designed.³⁶

Gilbert also believed, however, that his approach to skyscraper design was based on structural expression and the aesthetic treatment of materials. He argued that since commercial buildings required thin surfaces, these therefore had to be treated decoratively, and that a thin, decoratively treated surface expressed the structural fact that the skyscraper was a steel-cage structure, clearly not supported by its terra-cotta or stone cladding. One of the prime devices he used in this decorative treatment was color.

He explained this theory in a 1912 discussion of the Woolworth Building:

...we have endeavored to "express" the plan and to so design it that it will be frankly a masonry and terra-cotta covering of a

steel frame instead of pretending to be a masonry building. There are three elements which are commonly counted upon for architectural expression -- length, breadth and thickness. In a business building we may have length and breadth, but our wall surfaces cannot have thickness. In short, we cannot waste space for arches or colonnades or other architectural features, without sacrificing the rentable area, and we cannot project beyond the property line, therefore we have to deal with a perfectly flat surface without "relief" which would give light and shade. We have also to provide windows at frequent and regular intervals both horizontal and vertical. It is these conditions that make the skyscraper problem so difficult of solution. I have endeavored to meet them by the use of detail in the treatment of wall surface and by the careful adjustment of polychromatic decoration.³⁷

In the case of both public buildings and skyscrapers, Gilbert believed the overriding quality which governed either the programmatic decorative interiors or the carefully detailed and polychromatically "adjusted" exteriors was proportion. In discussing public buildings, he wrote in 1929 that:

It goes without saying that sound construction, good planning, adaptability to needs and proper economy are all essentials of a properly organized and well managed building -- but, speaking purely from the standpoint of design, the greatest element of monumental architecture is good proportion.³⁸

In 1910, when Frank Woolworth commissioned Cass Gilbert to be the architect of his building, he expected an excellent skyscraper design. The Broadway-Chambers Building must have been familiar to him as it was across the street from his office in the Sun Building, and the West Street Building was only a few blocks to the south. Woolworth's commission gave Gilbert the opportunity to develop his principles and ideas on a monumental scale. The resulting Woolworth Building was soon recognized as the most important New York skyscraper of its era as well as the tallest building in the world.

Gilbert's conception for the Woolworth Building

Cass Gilbert's Beaux-Arts schooling, his experience in designing grand and highly ornamental public buildings, his exposure to Midwestern architectural developments, and his experience designing the Broadway-Chambers and West Street office buildings in New York City, made him the ideal architect for New York's premier skyscraper commission.

Gilbert was faced with specific practical problems. He had to design the world's tallest building and make it suitable to business use. From an economic standpoint it was necessary to fill up as much of the building lot as possible:

It is very difficult to make a business building picturesque... the architect has to utilize all of the space on the lot, therefore there can be no projections giving light and shade and no important recesses giving that effect of depth and mass so impressive in any of the old buildings in Europe.

Woolworth also insisted on having

many windows so divided that all of the offices should be well

lighted and so that partitions might be placed at almost any location, sub-dividing the spaces into larger or smaller offices as tenants might require. Such a requirement naturally prevented any broad wall space...⁴⁰

Within such technical limitations, however, both Gilbert and Woolworth were committed to creating a beautiful building. Gilbert always credited Woolworth's insistence on the subject:

Mr. Woolworth loved beautiful architecture and earnestly desired that his building should be noted for its beauty as well as for its practical convenience and substantial construction. He realized that beauty is an asset and has a business value, and was himself the strongest advocate thereof.⁴¹

He was passionately fond of beauty in architecture and it was his great desire that the building which bears his name should add to the beauty of New York.⁴²

Beyond general notions of "beauty," Gilbert believed it necessary also

to express in exterior form the function of the building and the fact that it was a steel structure, not a masonry building.⁴³

Gilbert's problem, then, as he perceived it, was to design the world's tallest office tower, to make this tower responsive to practical and economic considerations, to make visual sense of its immense elevations, to express its steel-cage construction through the design, and, implicitly, to create a design that would satisfy Woolworth's ambitions. His solution was a massive but, as far as practicable, slender tower rising above a wider and deeper base, carefully modulated according to his sense of proper proportion, with its steel-cage structure wrapped in a polychromatic terra-cotta skin with Gothic-style detail. Each element of the solution satisfied a particular part of the building's requirements.

Gilbert considered proportion to be of primary importance in creating a successful design of any kind. He had earlier written of public buildings that "the greatest element of monumental architecture is good proportion,"⁴⁴ and he clearly felt the same need, perhaps more urgently, with a skyscraper. When Woolworth discussed the building's potential height with Gilbert, he gave his architect only general figures; when Woolworth asked him what the exact height should be, Gilbert replied he would "make it what seemed to be a good proportion."⁴⁵ Gilbert's daughter later recalled that her father

did once say the study he gave to the Woolworth Building destroyed his sense of scale for several years, because of the unprecedented attuning of detail to, for those days, such an excessive height.⁴⁶

The silhouette of the tower set center forward on the base, and the relationship of height, breadth, and depth of the component parts, make the building recognizable from distances which obscure its surface detail. Gilbert wrote later:

I have been asked if the building does not embody to some extent some of the requirements of the present Building Zone Resolution and was a sort of forerunner of "set-back" buildings, and my answer to this question is no, that I had no thought of the "set-back" building type but that the tower was simply a response to

Mr. Woolworth's desire for a high structure of commanding proportions.⁴⁷

Gilbert's choice of Gothic detail has been misunderstood almost since the building's completion. He chose Gothic as an expression of the verticality of the tower form, with no thought of imitating ecclesiastic models. References to the Woolworth Building as a "Cathedral of Commerce" (originating from the Rev. S. Parkes Cadman's dedication of the building on its opening) invariably irritated him. The use of Gothic elements for a tall building did not originate with the Woolworth Building; Gilbert himself had used it earlier in his West Street Building, for similar purposes, and Henry Ives Cobb had adopted it in 1909 for his Liberty Tower.⁴⁸ Gilbert's writings explain his intentions, and how they matched those of his client:

From the very start [Woolworth] wanted to erect a building that should have a great tower, an inspiring upward movement, and... he asked me if it would be possible to design such a building in the "Gothic" style. I was obliged to tell him that we might use Gothic details but that under the conditions it would be impracticable to make a building that was really Gothic in its structural characteristics.⁴⁹

The building's elevations were to be largely composed of windows, thus preventing

any broad wall space and the obvious solution of the problem was to accept as its main factor the idea that as it was to be a building of piers and windows and without broad wall surfaces, that it was to be a high building and that its height should be recognized, insisted upon and expressed by vertical lines. [This] would create a practically new type of office building and an architecture which might have Gothic detail but which had no real precedent.⁵⁰

The version of Gothic he chose was

the flamboyant Gothic tracery and ornament of the latter part of the 15th and 16th centuries, light, graceful, delicate and flame-like, as its name implies, and capable of infinite subdivision...⁵¹

Its purpose was to express verticality:

The height was emphasized not only by the dominance of the vertical lines but by repeated insistence upon them by minor verticals and resolving these again into minor subdivisions of a decorative sort as was done in the architecture of the 15th century...⁵²

It had no bearing on ecclesiastical architecture; its sources, if any, were civic:

The building has sometimes been called "The Cathedral of Commerce." I take this opportunity to say that there was no intention of making it anything like a cathedral and in fact it bears no resemblance to a cathedral in the plan or exterior design or in any other respect. There are many medieval civic buildings to which it might be likened such as the Halls at Middleburg and Alkmaar in Holland, the City Hall in Brussels the Hotel de Ville in Compiègne, the Cloth Hall at Ypres (destroyed in the great war) and many others all of which have towers

of proportionately great height although of course very much smaller than the Woolworth tower. All of them were studied, none were copied, and in fact Mr. Woolworth's first suggestion, by the way, referred to the Victoria Tower on the Parliament Buildings in London... It was my thought...that I must express the idea of a civic or commercial building rather than of an ecclesiastical one...At any rate, in the final development of the design the Woolworth tower stands on its merits; for I know of no prototype.⁵³

The material of Gilbert's Gothic-style exterior was not masonry but architectural terra cotta. Terra cotta used in facades appeared in the New York area at least as early as 1878, when George B. Post incorporated the material in his design for the Long Island Historical Society headquarters on Pierrepont Street in Brooklyn. By the early decades of the twentieth century architectural terra cotta had become a major building material, used both for ornamental detail and also for the cladding of entire buildings. Cobb's Gothic-style Liberty Tower was clad on three elevations in terra cotta. The Woolworth Building, however, became by far the largest and most dramatic example of its use.

Woolworth's first inclination was towards granite as the exterior material. Gilbert suggested limestone as a cheaper alternative. Eventually, however, terra cotta was chosen for all but the first four stories of the building which were clad in limestone. Architectural terra cotta had gained popularity for being relatively inexpensive, fire-resistant, and, as a prefabricated material, a source of easily obtained ornamental effects. All these qualities were no doubt attractive to Woolworth and Gilbert, but Gilbert's interest went beyond just the technical advantages. He was interested in terra cotta because it was a thin, pliable material, with polychromatic possibilities, which, to his mind, could never be mistaken for a structural element. By wrapping the steel-cage structure in an ornamental, polychromatic, thin terra-cotta skin, Gilbert felt he was clarifying the building's structural nature. Dealing particularly with the polychromatic effects he wrote:

The use of color to enhance the shadows and to accent the main lines of the structure is an important element in the design of the Woolworth Building and very little notice has been taken of it, but if color were not there the design would be far less effective. ...It was at least an honest endeavor to express in exterior form the function of the building and the fact that it was a steel structure, not a masonry structure.⁵⁴

Again:

...color may be invoked to aid in the desperate need of thickness by an architect if he be an artist, and knows that it is not used for itself in this emergency, but for the effect it may produce in emphasizing form.⁵⁵

Gilbert was quite specific in which colors he chose and how they were used. According to a 1912 description:

The color is light cream, smooth in texture, warm and varying slightly in tone. Wherever modeled design occurs the ornament is accentuated by a background in soft faience, blue, golden yellow, or green.⁵⁶

The polychromatic scheme included the roof treatment:

The color of the roofs and especially of the apex of the tower with its delicate gilding was studied for many months before it was finally determined. To find the color that would apparently increase the height of the tower and would relate it to the color of the sky whether blue or grey was an exceedingly interesting subject.⁵⁷

Gilbert's writings make clear his notions about Gothic elements, proportion, color, and expression of structure, but they do not entirely describe all the effects used. The verticality of the tower is expressed not only through Gothic-style vertical elements, but also by the grouping of windows in unbroken rows of window-spandrel-window set off one from the other by projecting piers. Another important aspect, made clear by contemporary photographs and drawings but not mentioned by Gilbert, is the dramatic effect obtained by the building's siting at the edge of City Hall Park. Although out of the hands of the architect, the siting makes the building's entire bulk, not just its upper portions, visible across a distance adequate to its being appreciated in its entirety. A final gesture to ensure a dramatic effect was special lighting. Suggestions included lighting the building itself by means of "four expensive search light units placed on neighboring buildings," and placing at the tower's top "a very powerful search-light devised to revolve and to be operated continuously from dark to midnight every night."⁵⁸ It was assumed such lighting would be "at least equal to the ornamental lighting of the Singer Tower,"⁵⁹ and that "the light would...be visible for a long distance at sea." As finally completed, the building was lit "from the thirty-first to the sixtieth story... The Tower is illuminated by a gigantic flood of light directed upon it from specially designed nitrogen lamps of great candle-power set in mirrored glass reflectors to give maximum reflective value... The light, soft and mellow at its base, gradually increases in intensity as it reaches upward and, at the very top, the pinnacle, an immense ball of fire appears giving the effect of a gorgeous jewel resplendent in its setting of rich gold."⁶¹ The lighting has since been changed.

Description

The Woolworth Building is a 60-story skyscraper, rising 792 feet above street level. It occupies the entire blockfront along the western side of Broadway between Park Place and Barclay Street. The 30-story tower rises above a 30-story base. The base presents three unbroken elevations, on Barclay Street, Broadway, and Park Place, and divides into two wings on its western face. The tower meets the lot line on Broadway, but is narrower than and does not extend as far west as the base beneath it. The tower has two setbacks, creating three sections of progressively smaller dimensions, and culminates in a pyramidal roof and four tourelles.

The elevations of the base and tower are divided into continuous vertical bays of windows and spandrels. In the tower and the portion of the base directly beneath it, there are three bays comprising respectively two, three and two tiers of windows. The bays in the base, north and south of the tower, on Broadway comprise three tiers of windows; the base elevations on Barclay Street and Park Place west of the tower are divided into six two-window-wide bays, the bay furthest to the west being slightly narrower than the rest. This is the basic organizational pattern for the entire exterior.

The first four stories are set apart from the rest of the building base in design and material. Unlike the upper stories, they are faced in Redford limestone above a seven-foot water-table in polished Rockport (Me.) granite.⁶² The three facades of the base are divided into three-story entrance and window bays, with a

one-story attic level above. The width of these bays matches that of the window and spandrel bays in the base and tower above. Only the fourth story of the base of the western elevation is visible; it is plain.

The first four stories of the Broadway elevation focus on the three-story Tudor-arched entrance portal which is flanked on either side by two bays, one narrower and one wider and each divided into a storefront and two bands of windows. The entrance arch and flanking narrow bays are grouped into a triumphal arch designed by the elaborately carved stone balcony and related ornament projecting out over them. The motifs of the carving are Gothic in inspiration. The balcony includes narrow panels with shields separating wide panels of Gothic tracery over the entrance and wide panels with stylized flowers over the flanking bays; the center panel supports a large eagle holding a shield. From either side of the entrance arch descends an elaborately carved niche with Gothic tracery and at its base a carved coiled serpent. Similar deep relief Gothic tracery with fanciful grotesques link the balcony with the arches of the entrance and flanking bays.

The entrance is through a Tudor-arched portal set within a shallow depressed arch. The depressed arch is outlined by a course of trefoil tracery; within each of the two spandrels between the depressed and the Tudor arch is a carved reclining figure in high relief. The portal arch is a complex form, with a wide intrados flanked on either side, at a 45° angle, by archivolt. The intrados is adorned with Gothic tracery. The archivolt facing the street is comprised of a series of small connected niches; the bottom niche at either side frames a carved tree-trunk, the niche at the apex frames an owl with spread wings, and each of the twenty remaining niches frames a grotesque allegorical figure. The inner archivolt is similarly comprised of niches, with tree-trunks at the base and an owl at the apex, but with abstract foliage in the intervening niches. An identical archivolt frames the facing lobby entrance. The entrance itself consists of a large Tudor-arched window above a revolving door with flanking side doors. The revolving door is new, but retains its original configuration. Between the window and the archivolt is a flat band of strapwork and ornamental marble squares. The window frame, and the wide bandcourse separating the window from the doorway below, consists of highly ornamental Gothic tracery cast in bronze. The glass of the window is divided into three large vertical bays, each subdivided into nine panels of twenty-one panes each; this is its original configuration.

Both the narrow and the wide bays flanking the entrance on Broadway consist of a depressed-arch masonry opening with two stories of window bands above a storefront. The window bands on each story of the inner, narrow, bays contain three single-pane windows, while those in the outer bays contain five single-pane windows. Each depressed-arch masonry opening is adorned with an elaborate carved wreath surround, whose forms include swags and bunches of grapes. The upper and lower window bands are separated by a wide bronze band of Gothic tracery; the mullions separating each single-pane window from its neighbor has superimposed over it a slender bronze rod. This is their original configuration. The horizontal bronze bands at either end of the Broadway elevation are now obscured by a modern sign. The storefronts in each bay are separated from the windows above by a broad bronze panel adorned with trefoil tracery. All the storefronts have been replaced.

Six angled piers are carried down into the base; two end in the carved niches flanking the entrance, while four others end in corbels carved as allegorical human faces. The faces apparently represent, from south to north, the four continents of Africa, America, Europe, and Asia (similar to the four allegorical statues of the continents adorning Gilbert's earlier Custom House at Bowling Green).

The fourth floor "attic" level of the base comprises the first group of office windows; each is set within an ogee arch topped by Gothic tracery, and separated from its neighbor by a carved niche. The intrados of each arch is also adorned with Gothic tracery. A string course at the top of this story delineates the four-story base from the portions above.

The Park Place four-story base essentially duplicates the detail of the Broadway facade, but with a different bay arrangement. The three eastern most bays, corresponding to the tower above, are divided narrow-wide-narrow; the second wide, bay is a storefront display window, as is the first, narrow, bay. The third narrow, bay includes both a recessed, secondary lobby entrance and, to its west, an entrance to the Park Place subway station of the I.R.T. The lobby entrance is through a revolving door, surrounded by bronze panels with Gothic tracery; the top center panel is designed as a large letter "W" ("Woolworth"). As the lobby entrance is not recessed as deeply as the subway entrance, it has an additional north-south wall on the west, which is given a similar decorative treatment. Facing the subway staircase are original windows for the Irving Trust Company's offices. The ceiling created by the recessed entrance is treated with bronze coffers; several of these have been removed and replaced with downlights. The walls of the subway staircase and the recessed entranceway are faced with the same limestone as the rest of the four-story base.

The six bays west of the entrance are identical to the narrow bays of the Broadway elevation. The first is an entrance to the Irving Trust Company's offices, the second, third and fourth are windows for the company's space, and the fifth is a storefront. The last bay is a recessed service entrance with a utilitarian doorway topped by a decorative bronze panel with Gothic tracery and a large ornamental "W", and limestone-faced walls. All the storefronts on Park Place are new: the windows above are in their original configuration.

The Barclay Street elevation of the four-story base is identical to that of Park Place, with the exception of storefront treatment. The first through third of the western six bays are entrances and windows for a restaurant, and the fourth as well as the fifth has a storefront. Additionally, instead of a subway entrance adjoining the secondary building entrance, there is a staircase leading to the building's lower levels. The storefronts are new; the windows above are in their original configuration.

All the limestone of the four-story case has been painted gray; the bronze tracery in the windows has also been painted.

Above the four-story base, the building is faced in polychromatic terra cotta. The major base rises to the 30th story; the fifth to 24th stories are divided into groups of five stories each by four string courses. The windows at the top story of each five-story group are capped by ogee arches. Each window is separated from the one above by a terra-cotta spandrel adorned with Gothic tracery. The decorative design of the spandrel is different under each of the five windows; the pattern repeats in each set of five stories. Within paired window bays, each set of five spandrels has the same five ornamental patterns, but set in a different order to provide contrast. Horizontally, the columns of windows are divided into bays by continuous angled vertical piers and separated from each other by smaller, similar piers. On the Broadway elevation, the grouping from south to north is 4-2-3-2-4; the outer four-window bays though actually include two half-size windows at either end, and in width these four-window bays are equal to three-window bays. On the Barclay Street elevation, from east to west, the grouping of windows in bays is 3-3-3-2-2-2-2-2, and on Park Place it is 3-4-3-2-2-2; the

first and third bay from the east on each elevation actually includes two half-size windows at either end, making for a narrower bay.

Above the fourth string course below the 25th floor are two additional stories of windows and spandrels; the uppermost windows are capped by projecting terracotta ogee arches which function as a canopy and occupy the 27th floor; the ogee arches have rib vaults in their intrados. A 28th story above the canopy level is topped by elaborate Gothic tracery and a two-story sloping copper-clad roof with dormers; rising above it, an additional, higher group of windows caps the second bay of the Park Place and Barclay Street elevations. The western end of the 30-story base divides into two wings, corresponding in depth to the six narrow bays of the Barclay Street and Park Place elevations. The western end of each consists of five bays; each wing ends in a small three-bay tower. The ornamental detail on the wings is identical to that of the street elevations.

Above the 30th story rises the tower, 84' X 86' at its base; setbacks on all sides at the 45th floor reduce its dimensions to 69' X 71', and again at the 50th floor to 69' X 61'. The windows of the 30th to the 45th stories are arranged as bays of 2-3-2 on all four sides of the tower; above they are arranged 1-3-1. Two string courses divide the lower portion of the tower into two five-story sections above the 31st story. The three stories above terminate in ogee arches and a string course. Two stories above that end in a continuous canopy of projecting terracotta ogee arches, marking the first narrowing of the tower; the second narrowing is similarly marked. Above, at each of the four corners of the tower, is a tourelle, several stories high. These have been substantially altered from their original condition. Above the 53rd story, the tower is "surmounted by a pyramid 105 ft. high with an observation gallery above the 55th floor at a height of 730 ft. above the curb." This pyramid is pierced by large and small dormers. Above it is a smaller octagonal pyramid with round-arched windows beneath tall pointed arches, topped by a still smaller pyramid which ends in a spire; both pyramids are adorned with lacy tracery. These pyramids add 62 feet to the tower, and were considered the equivalent of five stories, bringing the building's total number of stories to 60.

The polychromatic treatment of the terra cotta is subdued, intended to aid in the effect of shadows. The hues become stronger higher up on the tower. The overall color of the terra cotta is cream; highlights are in buff, blue and gold.

Almost all the spandrels on the building have their Gothic tracery in a golden hue, set off against a blue background. All string courses are in a buff color, setting them off slightly from the cream color of the facade as a whole. The groin vaults in the intrados of the large projecting ogee arch canopies on the upper floors are set off against blue fields; the hue is strong enough to be visible from the street even above the 30th story. The spandrels of the 25th, 39th, and 40th story windows are adorned with the lion, shield and unicorn of the British royal coat of arms; these figures are golden, set off against a blue background. The tracery above the 26th floor is also gold against a blue background, as is the ornament above the 27th story windows. The tracery over the uppermost of the five windows set off by the string courses is set off against a golden background. There is golden ornament against a blue background at the 42nd story, and strong blue hues in the ornament of the uppermost two stories of the windows in the tower. The tourelles, originally all lacy Gothic tracery, have been replaced with plainer versions; they are adorned sparingly with blue tiles. The tower pyramid was originally gilded.

The entire exterior has recently undergone extensive restoration work. Much terra cotta was cleaned and repaired; some was removed and replaced with other materials. The most visible changes took place on the tourelles, as described above. All windows above the third floor were replaced with aluminum double-hung one-over-one sash, reflecting the original configuration.

Conclusion

On April 24, 1913, Frank W. Woolworth held a grand opening celebration for the Woolworth Building in honor of Cass Gilbert. As reported in the New York Times the following day, the building was officially opened by the President of the United States:

President Wilson, from the White House in Washington, gave the signal for the formal opening of the new Woolworth Building last night, the tallest structure in the world, with the one exception of the Eiffel Tower in Paris. At 7:29, when 900 guests, who had been invited by the owner, Frank W. Woolworth, to a dinner in honor of the architect, Cass Gilbert, were seated at the tables...a telegrapher...notified the operator in the White House that all was ready for the President to press the button. One minute later President Wilson touched the instrument closing the circuit...and for the first time lights flashed from every floor of the fifty-five stories, from the sub-basement, 37 feet below the street, to the top of the tower, 792 feet above the street.⁶³

From that moment, Woolworth's skyscraper became one of the country's most famous buildings.

The building opened to great critical acclaim. Montgomery Schuyler, the most eminent architectural critic of the day, wrote the text for a 56-page brochure on the building printed privately by Woolworth:

How satisfactory that the latest and tallest of the skyscrapers should, "by consent of all," be so worthy of its conspicuousness and its preeminence, that it should be shapely and proportionate as well as over-topping... From up or down Broadway, at any point which enables the observer to get the silhouette or the demi-silhouette in its due outline and detachment, how satisfactory and eye-filling it is...a gracious and commanding shape, an overtopping peak in the jagged sierra which calls itself the skyline of lower Manhattan.../It is/ an ornament of our city /and/ a vindication of our artistic sensibility, of our use of the opportunities thrust upon us by the exigencies of our commercial building, and of the meeting of them by our strange new mechanical devices....⁶⁴

Besides a great deal of national acclaim,⁶⁵ the Woolworth Building also won international recognition. In England, Julian Huxley wrote "It is a fairy-story come gigantically and triumphantly to life, and can never be forgotten."⁶⁶ In France, art historian Andre Michel wrote: "Monument decisif, conquete impetueuse de l'espace. C'est une oeuvre qui a fait epoque, un des classiques du genre..." ("a decisive monument, an impetuous conquest of space. It is an epoch-making work, one of the classics of its kind...").⁶⁷ A 1913 New York Times article quoted Matusnosuke Moriyama, a Japanese architect, as suggesting that with more skyscrapers like the Woolworth Building, "the world's opinion of the American architecture will be entirely different from now."⁶⁸

The completion of the building marked the end, temporarily, of the skyscraper competition. In 1912, while the building was still under construction, a writer in the Real Estate Magazine noted:

In my opinion, at least so far as New York is concerned, it is doubtful if the palm for height is ever wrested from the Woolworth Building. It marks, to my mind, the end of the rivalry in skyscrapers which has received fresh impetus with the erection of the City Investigating, Singer, Metropolitan Life, and Bankers' Trust buildings in turn.⁶⁹

Not until the mid-1920s was the challenge of skyscraper building responded to again, and not until 1929 did the Chrysler Building take away the Woolworth's title of "world's highest building" -- only to lose it eighteen months later to the Empire State Building. For almost two decades, the Woolworth Building's observatory was the highest point in the city from which to contemplate the metropolis.

The architects of the post-World War I generation of skyscrapers eventually abandoned the historically derived forms used by Gilbert and his contemporaries, turning instead to modernistic styles. The dozen or so major New York skyscrapers of the 1920s superficially appear to bear little relation to the older Gothic fantasy at City Hall Park. Yet all the new skyscrapers in fact confirmed the basic principles set by the Woolworth Building: tall slender tower, vertically-emphasized design, romantic symbolic ornament. Although the vocabulary changed, the type of the romantic skyscraper tower had been solidly established by Gilbert. As late as 1931, almost two decades after its completion, the Woolworth Building was awarded a gold medal at the Panama-Pacific Exposition, while in the same year Cass Gilbert received a gold medal from the Society of Arts and Sciences for the building's design.⁷⁰ Stylistically the Woolworth Building is a key monument in the creation of New York as a twentieth-century skyscraper city.

Following World War II, and with the arrival of International Style office buildings in New York, many historians and critics inspired by functionalist or structuralist theories condemned the design of the Woolworth Building for its historically inspired style. The theoretical bias of the criticism is interesting in light of the evidence that Gilbert thought along functionalist and structuralist lines himself. In recent years, as such criticism in general has abated, the Woolworth Building, always a favorite of the public, has once again been recognized in the architectural press as a major architectural monument.

In the tradition of public service and display established by Frank Woolworth seven decades ago, the Woolworth Company has recently completed a major renovation of the Woolworth Building that is generally acknowledged to be one of the largest restoration projects in New York in recent times. In a project spanning several years, the building's terra-cotta cladding was repaired and cleaned, or where necessary replaced. The tower has been returned to its original glistening cream-colored appearance, and the effect is truly stunning.

Today, as it nears its 70th anniversary, the Woolworth Building remains one of New York's and the country's best-known skyscrapers. It still serves as national headquarters and symbol of the Woolworth Company which built it, and a monument not only to Woolworth but also to the gilded age of New York commerce, and the emergence of New York as a major world city. One of the first tall, towered romantic skyscrapers to dominate the New York skyline, the Woolworth stands as a model and exemplar of the building type for which New York is world renowned. Unprecedented in size, richness, and conception, it has rarely been equalled since, and

the Woolworth building, though no longer the "world's highest building," remains one of the handsomest skyscrapers in New York, and a major national monument.

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FOOTNOTES

1. The following account of the life and career of Frank W. Woolworth is based on John K. Winkler, Five and Ten: the Fabulous Life of F.W. Woolworth (New York: R.M. McBride & Co., 1940), except where otherwise noted.
2. Winkler, p. 51.
3. The Sun Building was built in 1846 to house the Stewart store, the country's first department store; forty years later, after Stewart's had moved uptown and the building had been turned into the offices of the Sun newspaper, Woolworth's offices continued the department store tradition of the building.
4. Winkler, p. 84.
5. Leo L. Redding, "Mr. F.W. Woolworth's story," interview with Woolworth published in World's Work (April 1913, pp. 659-665); clipping in Cass Gilbert papers, New-York Historical Society; p. 664.
6. Robert Allan Jones, Cass Gilbert, Midwestern Architect in New York (Ph.D. dissertation, Case Western Reserve University, 1976), p. 111.
7. Cass Gilbert Papers, at the New-York Historical Society: "Reports 1910: November 2, 1910."
8. Redding.
9. Jones, p. 111, n. 22.
10. Gilbert Papers, "Reports 1910: December 13, 1910."
11. Ibid.
12. Letter from John G. Van Horne, Civil Engineer, to Cass Gilbert, December 20, 1910; Gilbert Papers.

13. Redding.
14. Ibid.
15. Winkler, p. 129.
16. Ibid., p. 132.
17. Much of the following relies on Winston Weisman's analysis of New York skyscraper design in "A New View of Skyscraper History," The Rise of an American Architecture, ed. by Edgar Kaufmann, Jr. (New York: Praeger Publishers, 1970).
18. Cited by Weisman, p. 115; Montgomery Schuyler, "The Evolution of the Skyscraper," Scribner's Magazine, 46 (September 1909), 257-271.
19. The following account of Cass Gilbert's career is based on Jones, except where otherwise noted.
20. Both buildings are National Historic Landmarks.
21. This is Jones's main thesis, outlined p. viii.
22. Jones, pp. 10-11.
23. These works are described in A Monograph of the Works of McKim, Mead & White 1879-1915 (New York: Arno Press, 1977, reprint).
24. Jones, pp. 50-55.
25. Jones, p. 62.
26. Jones, p. 63 ff.
27. "The New Minnesota State Capitol at St. Paul," The Western Architect, 4 (Oct 1905), 3-32.
28. See United States Custom House Interior designation report (LP-1022 prepared by Ruth Selden Sturgill for the New York City Landmarks Preservation Commission, New York: City of New York, 1979). The Custom House commission was hotly contested by local architects, who considered Gilbert an outsider with no claims to it and charged collusion between Gilbert and his former partner Taylor who sat on the jury.
29. This theory is explained in Cass Gilbert, "The Greatest Element of Monumental Architecture," American Architect, 136 (August 5, 1929), 141-144.
30. "Cass Gilbert's New York Customhouse Design," The Inland Architect and News Record, 35 (February 1900), 7.
31. This is the major thesis of the Jones dissertation.
32. For a fuller treatment see the relevant chapter in Jones.
33. Montgomery Schuyler, "The Woolworth Building," in American Architecture and Other Writings, edited by William H. Jordy and Ralph Coe (Cambridge, Mass: The Belknap Press of Harvard University Press, 1961), pp. 614-615.
34. Ibid.

35. Ibid. p. 615.
36. Cass Gilbert, "Response on the occasion of the presentation of The Gold Medal for Architecture of the Society of Arts and Sciences to Cass Gilbert, New York, January 16, 1931," an address reprinted in Julia Finch Gilbert, Cass Gilbert: Reminiscences and Addresses (New York: Privately printed, 1935), p. 115.
37. "The Woolworth Building, Most Modern Example of the Fireproof Skyscraper... How it Was Built," The Real Estate Magazine (July 1912), 56.
38. Gilbert, "The Greatest Element of Monumental Architecture," pp. 141-144.
39. Cass Gilbert, "The Tenth Birthday of a Notable Structure," in Real Estate Magazine of New York, (May 1923), 344-345.
40. Ibid., p. 344.
41. Ibid.
42. Gilbert, "Response...!"
43. Gilbert, "The Tenth Birthday...", p. 345.
44. Gilbert, "The Greatest Element of Monumental Architecture."
45. Gilbert papers, "Reports 1910: June 22, 1910," p. 2.
46. Julia Finch Gilbert, Cass Gilbert, Reminiscences..., p. 14.
47. Gilbert, "The Tenth Birthday...", p. 344.
48. A designated New York City Landmark; see Liberty Tower designation report (LP-1243 prepared by Lydia Latchinova for the New York City Landmarks Preservation Commission, New York: City of New York 1982).
49. Gilbert, "The Tenth Birthday...", p. 344.
50. Ibid.
51. Ibid.
52. Gilbert, "Response...", p. 51.
53. Gilbert, "The Tenth Birthday...", pp. 344-345.
54. Ibid., p. 345.
55. Gilbert, "Response ...," p. 51.
56. "The Woolworth Building...", The Real Estate Magazine, p. 62.
57. Gilbert, "The Tenth Birthday...", p. 345.
58. Gilbert papers, J.R. Rockart notes, June 5, 1912, p. 2; Gilbert's minutes, October 20, 1910, p. 6.

59. Ibid.
60. Gilbert Papers, letter from Cass Gilbert, #380, May 4, 1911, to the U.S. Light House Board in Washington, D.C.
61. Edwin A. Cochran, The Cathedral of Commerce, The Highest Building in the World, (Baltimore, 1918), p. 8.
62. Frank W. Woolworth, The Master Builders: A Record of the Construction of the World's Highest Commercial Structure (New York: 1913), p. 22.
63. New York Times, April 25, 1913, in Gilbert Scrapbook, p. 14, Gilbert Papers.
64. Schuyler, "The Woolworth Building," p. 606.
65. For additional citations see Jones, p. 137, note 64.
66. Julian S. Huxley, "America Revisited: VI. Architecture in America," Spectator, January 3, 1925, p. 8. Cited in Jones, p. 136, note 60.
67. Andre Michel, Histoire de l'art depuis les premiers temps chretiens jusqu'a nos jours (Paris: Colin, 1905-29), vol. 8, part 3, p. 1162. Cited in Jones, p. 137, note 65.
68. Matusnosuke Moriyama quoted in "No Architecture in the Skyscrapers," New York Times, February 16, 1913, sec. 2, p. 8. Cited in Jones, p. 137, note 65.
69. "The Woolworth Building..." The Real Estate Magazine, p. 52.
70. Jones, p. 128.

FINDINGS AND DESIGNATIONS

On the basis of a careful consideration of the history, the architecture, and other features of this building, the Landmarks Preservation Commission finds that the Woolworth Building has a special character, special historical and aesthetic interest and value as part of the development, heritage, and cultural characteristics of New York City.

The Commission further finds that, among its important qualities, the Woolworth Building is among the best-known skyscrapers in New York and the country; that it is the most famous design of Cass Gilbert, a nationally prominent architect; that Gilbert's design for a romantic, Gothic-inspired polychromatic terra-cotta exterior over a steel-cage tower joined Midwestern theories of structural expression with Eastern preferences for historical styles; that the Woolworth Building was the final monument in the first phase of skyscraper development that culminated in the romantic skyscraper-tower type; that its design embodied concepts elaborated in the post-World War I skyscrapers which permanently redefined the skyline of New York and the image of twentieth-century urban America; that as the tallest building in the world for sixteen years it gained an international reputation;

that it was built to be the headquarters and symbol of the F.W. Woolworth Company, a nationally known institution and among the most prominent of the mass-merchandizing chains typical of twentieth-century American retailing; and that the Woolworth Building today is recognized as one of the great symbols of twentieth-century America, and one of New York's and the country's outstanding landmarks.

Accordingly, pursuant to the provisions of Chapter 21 (formerly Chapter 63) of the Charter of the City of New York and Chapter 8-A of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the Woolworth Building, 233 Broadway, Borough of Manhattan, and designates Tax Map Block 123, Lot 22, Borough of Manhattan, as its Landmark Site.

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Woolworth Building
233 Broadway
Manhattan

Architect: Cass Gilbert
Built: 1911-1913

Photo Credit: Landmarks
Preservation Commission

Appendix 2. Designation report of 20 exchange

Landmarks Preservation Commission
June 25, 1996, Designation List 273
LP-1941

CITY BANK-FARMERS TRUST COMPANY BUILDING, 20 Exchange Place (aka 14-28 Exchange Place, 61-75 Beaver Street, 6 Hanover Street, and 16-26 William Street), Borough of Manhattan. Built 1930-31; architects Cross & Cross.

Landmark Site: Borough of Manhattan Tax Map Block 27, Lot 27.

On December 12, 1995, the Landmarks Preservation Commission held a public hearing on the proposed designation as a Landmark of the City Bank-Farmers Trust Company Building, and the proposed designation of the related Landmark Site (Item No. 3). The hearing was continued to January 30, 1996 (Item No. 2). Both hearings had been duly advertised in accordance with the provisions of law. Eight witnesses spoke in favor of the designation including representatives of Manhattan Borough President Ruth Messinger, Council Member Kathryn Freed, the Municipal Art Society, the New York Landmarks Conservancy, the Historic Districts Council, and the New York Chapter of the American Institute of Architects. There were no speakers in opposition. In addition, the Commission has received a resolution from Community Board 1 in support of the designation.

Summary

One of the most prominent features of the Lower Manhattan skyline, the fifty-nine-story City Bank-Farmers Trust tower is among New York City's tallest skyscrapers. Designed by the architectural firm of Cross & Cross in the restrained modern style once known as "Modern Classic," it was built in 1930-31 to be the Wall Street headquarters of one of the country's largest financial institutions, which survives today as Citibank. The steel-framed tower is sheathed in granite and limestone, making it, on completion, the world's tallest stone-faced building. Its lower portion is both massive, especially in contrast to the narrow streets, and dramatically vertical, organized around widely spaced giant piers which rise to freestanding stylized heroic figures said to represent "giants of finance." The main entrance, located on Exchange Place, is distinguished by its round arch surrounded by eleven coins of carved granite representing the various countries in which National City Bank had offices. Decorative doors of nickel silver with bronze trim and a variety of carved forms, many designed by British sculptor David Evans, adorn the lower floors. The slender, square tower with chamfered corners, rising slightly askew to the irregularly shaped base, today remains a commanding presence in the skyline of lower Manhattan, and one of the most noteworthy of the era's skyscrapers.



DESCRIPTION AND ANALYSIS

City Bank-Farmers Trust, the National City Bank, and the Canadian Bank of Commerce

No. 20 Exchange Place was built to house the head offices of one of Wall Street's new banking conglomerates, the City Bank-Farmers Trust Co., along with a branch of the National City Bank of New York and a branch of the Canadian Bank of Commerce.¹ The City Bank-Farmers Trust Company was the product of a merger of two long-established banking firms: the National City Bank of New York and the Farmers Loan and Trust Company. The Canadian Bank of Commerce was a tenant in a building demolished to make way for the new tower and had been located on the site since as early as 1872.

The National City Bank of New York, which survives today as Citibank, is among the country's largest and oldest banks, tracing its origins to the First Bank of the United States, founded in 1791, of which it was the New York branch.² That branch was reorganized in 1812 as the City Bank of New York by Col. Samuel Osgood, the country's first Postmaster General and Treasury Commissioner. Moses Taylor, who took control of the bank after the financial panic of 1837, had it chartered in 1865 as a national bank, and renamed it the National City Bank of New York.³ By 1893, led by president James Stillman, the bank had become the city's largest, and the following year the country's largest. By 1920, it had become the first American bank with assets totalling one billion dollars. During the 1920s, the National City Bank of New York became the country's first full-service bank; among many innovations, it was the first major bank to offer interest on savings accounts. Expanding dramatically during that decade, the National City Bank acquired the Commercial Exchange Bank, the Second National Bank, and the People's Trust Company of Brooklyn before merging with the Farmers' Loan and Trust Company in 1929.

The Farmers Loan and Trust Company, founded in 1822, was the first trust company to be organized in New York, and is said to be the first "company of record to be incorporated for the purpose of executing trusts."⁴ Beginning as a fire insurance carrier, the company moved into agricultural loans, and grew enormously in the following two decades as farms expanded in New York State following the opening of the Erie

Canal. After the Civil War, the Farmers Loan and Trust Company turned to railroad trust mortgages. By the turn of the century the company had established offices overseas, and in 1918 the company joined the Federal Reserve System.

The Canadian Bank of Commerce was founded in 1867, the year of Canada's confederation, by Toronto businessman William McMaster.⁵ By the time of the First World War it had 379 branches, and during the 1920s almost doubled that number by acquiring the Bank of Hamilton and then the Standard Bank of Canada. Today, known as the Canadian Imperial Bank of Commerce, it is Canada's second largest bank.

The Site and Wall Street Banks

The site of No. 20 Exchange Place is a small, irregular four-sided plot occupying the entire block bounded by Exchange Place, William Street, Beaver Street, and Hanover Street. This block lay within the original Dutch settlement of Nieuw Amsterdam, and is shown in part in the so-called *Castello Plan*, the earliest reliable surviving map of the colony.⁶

By the late nineteenth century, this block had become associated with the banking houses of Wall Street. Exchange Place itself was named for the old Merchants Exchange on Wall Street, which backed onto Exchange Place and was one of Wall Street's most important institutions; that building also served later as the U.S. Custom House. Maps of the area from 1899 show that while the blocks to the south of Hanover Square were still occupied by small loft buildings, the block now occupied by 20 Exchange Place had been redeveloped with larger structures, including two owned by the Farmers Loan & Trust Company.⁷

Wall Street had become almost exclusively a street of banks and exchanges as early as the 1820s. At first these institutions tended to move into former dwellings, but by the mid- 1840s most of them had erected new Greek Revival bank buildings. At mid-century many financial institutions responded to the increasing demand from private bankers and insurance companies eager to locate in the Wall Street area by replacing their earlier bank buildings with Italianate commercial palaces containing both banking rooms and several office floors. In the twentieth century, banks on Wall Street began to build skyscraper headquarters, notably the Bank of New York at 48

Wall Street, the Manhattan Company (predecessor of the Chase Manhattan Bank) at 40 Wall Street, Bankers Trust at 14 Wall Street, and the Irving Trust Company at 1 Wall Street.

In 1907, the National City Bank acquired the old Merchants Exchange Building at 55 Wall Street, to capitalize on its historic connections to Wall Street and the financial world. Instead of demolishing the structure, the bank commissioned the prominent firm of McKim, Mead & White to double the building's size while maintaining something of its original architectural character. In 1929, following its merger with the Farmers Loan and Trust Company, National City Bank expanded its offices again, but instead of replacing 55 Wall Street with a skyscraper, the Bank acquired most of the block directly across Exchange Place from the rear of its still relatively new and prestigious headquarters building at 55 Wall Street,⁸ and began planning its new skyscraper headquarters at 20 Exchange Place. The new and old buildings were then connected by an enclosed pedestrian bridge (no longer in existence) over Exchange Place.

The newly-named City Bank Farmers Trust Company hired the eminent architectural firm of Cross & Cross to design the new skyscraper.

Cross & Cross⁹

The firm of Cross & Cross was formed in 1907 by brothers John Walter Cross (1878-1951) and Eliot Cross (1884-1949). John, who studied architecture at Columbia, and then at the Ecole des Beaux-Arts in Paris, served as the firm's chief designer. Eliot took charge of the real-estate end of the business.¹⁰ In 1922 he organized the real estate investment firm of Webb and Knapp, and served as chairman of the board until he retired in 1947.¹¹ Both firms, Cross & Cross and Webb and Knapp, had offices in the Knapp Building, 385 Madison Avenue, previously two buildings combined into one and altered to designs by Cross & Cross in 1923.

The building commissions of Cross & Cross fall into three general categories: 1) smaller-scaled buildings including private residences, churches, clubs, neighborhood bank branches, and schools; 2) hotel and apartment buildings; and 3) tall office buildings. The firm's early design work reflects John Cross's architectural education in the French Beaux-Arts tradition, as at the Church of Notre Dame, at Morningside Drive and West 114th Street, designed in 1914 and modeled on the

church of the *Invalides*, one of the most famous eighteenth-century buildings in Paris.¹² Their designs for other small-scale work, and for hotels and apartment buildings, tended to the eighteenth-century English style, either Georgian or Adamesque. Their designs for tall office buildings initially drew inspiration from Classical or Gothic ornamental patterns, but in the late 1920s moved in the general direction of Art Deco.

In the late 1920s, the office buildings of Cross & Cross began to show the influence of modern design. The first to begin to do so was the City Bank-Farmers Trust Company Building, begun in 1929 in a "Modern Classic" style. Two bank, office and storage buildings designed for the Centrum corporation, the real-estate arm of the Central Hanover Bank & Trust, at 271 Church Street and 335 Greenwich Street (both 1930), continued the evolution of their design in a modernist direction. The culmination of this tendency in the work of Cross & Cross came in the RCA Victor Building (1929-31, later known as the General Electric Building) at 570 Lexington Avenue, a designated New York City Landmark, which is one of New York's finest Art Deco skyscrapers.

Design and construction of the tower Contender for "world's tallest building":

The design for No. 20 Exchange Place went through several versions, ranging from a moderately short office building to the tallest building in the world, before taking final shape as the city's fourth tallest, a 60-story tower.¹³

The late 1920s saw a spate of announcements of office buildings intended to wrest the title of "world's tallest building" away from the Woolworth Building (completed in 1913). When City Bank-Farmers Trust filed plans in October 1929 for a 66-story building 846.4 feet high,¹⁴ it staked a claim to the title.¹⁵ The new skyscraper was to be a set-back building with a "tower eighty feet square rising from the twenty-eighth floor. The tower will taper off from the fiftieth floor and at the top will be an illuminated globe fifteen feet in diameter, supported by four eagles of heroic size. The general style will be conservative modern."¹⁶

Within a month of filing, however, a proposed merger of the City Bank-Farmers Trust Company with the Corn Exchange Bank, which would have created the world's wealthiest bank, fell through, a victim of the stock market crash.¹⁷ The

following year City Bank-Farmers Trust scaled back the plans of its tower to 685 feet 7 1/8 inches.¹⁸ When it opened in February 1931, though no longer in the running for the title of “world’s tallest,” 20 Exchange Place claimed the lesser distinction of being the tallest building with a predominantly stone facade.¹⁹

Engineering feat:

Despite its substantial size, the new tower was completed in less than a year, an especially noteworthy achievement considering the special difficulties the site presented to its builder, the George A. Fuller Company, and the foundation and tower engineers, Moran & Proctor.²⁰ Site conditions including quicksand, water, and old foundations created the need for heavy cross-lot bracing, while the building’s unusual shape required heavy steel construction. The excavation took the lower basement to 40 feet below water level, dug out of solid rock. Other structural feats included the accommodation of what was called the largest pneumatic tube communication system ever devised for a banking house.²¹

The form and style of the tower:

The style and ornament of the tall slender tower of 20 Exchange Place have been called Art Deco. Although the design reflects the general trends of late 1920s skyscrapers, the building has a minimum of specifically “Art Deco” ornament. Similarly stylized versions of classical forms were sometimes referred to as “Modern Classic.”²² Cross & Cross believed that the building’s design fell into no particular stylistic category, and wrote about its design in terms suggesting a familiarity with Modern architectural theory:

*The architects hold no brief for any particular architectural style and have been at some pains to clothe the structure in material and form to serve as a frank expression of the mechanical and economic forces involved and at the same time to express, with some degree of originality, the place of the building in the life of its location.*²³

An important part of the design conception was the architects’ insistence on fine materials. Unlike other tall buildings of the 1920s conceived originally with stone facades but executed, for reasons of economy, in brick or terra-cotta, 20 Exchange Place is sheathed almost completely in stone: Mohegan Granite at the base, and Alabama

Rookwood veined gray limestone on all the upper stories.²⁴ They also used, instead of bronze, an unusual alloy of nickel, white in color, known as nickel silver, “[f]or the first time in a major structure,” according to contemporary accounts, specifically to avoid “colored metal” in the building.²⁵

The contrast with the architects’ profusely ornamental Art Deco design for the almost contemporary RCA Victor (later General Electric) Building at 570 Lexington Avenue is striking. The two buildings share a strong vertical emphasis and a sculptural approach to massing. City Bank-Farmers Trust has no profusion of Art Deco ornament, but like the RCA Victor Building it relies for effect on its profile, the richness of its materials, and -- if to a lesser extent -- the architects’ much noted high quality ornament. The crowning eagles and lantern of the original proposal did not survive in the final version. The building is adorned, however, by programmatic sculpture and reliefs symbolizing the banking companies it was built to house, ranging from representations of industry and the professions to the coinage of countries where the banks had branches.

Contemporary assessment:

On the opening of the City Bank-Farmers Trust Company Building, the *New York Times* called it a “magnificent building,” and noted that it “has been called one of the handsomest buildings, architecturally, in the city.”²⁶ Parker Chase, in his 1932 book *New York The Wonder City*, wrote:

*Everything in connection with this monumental building expresses beauty, completeness and grandeur. ...every detail of this colossal structure is right up to the minute. The building throughout is the very last word in all that spells DELUXE.... No one visiting New York should fail to visit the “City Bank Farmers Trust” edifice -- this magnificent and beautiful pile of marble, stone, and masonry is one of the sights of the city.*²⁷

Description

The form of the City Bank-Farmers Trust Company building (Fig. 1) follows the basic configuration mandated by zoning regulations. Filling out the block at street level, it rises through a series of setbacks to a slender tower. Because

the site is irregularly shaped, so is the building's lower portion. The tower, however, is square in plan, with chamfered corners, and rises askew to the base. The transition from the irregular base to the square tower is accomplished by manipulating the shape of the third setback at the twenty-first story and creating sympathetic facade verticals to ease the transition between the symmetries of the lower and tower elevations. Seen in the skyline, the tower appears as a regular geometric form rising dramatically from a low, bulky base.

Framed with steel, the building is sheathed in Mohegan granite at the basement and carved entrances, in Alabama Rookwood limestone above, and in limestone and brick in the tower. The elevations are framed by vertical piers; at the base some spandrels are of blue pearl granite and others of aluminum. The tower has spandrels of aluminum. Many of the spandrels have applied medallions. The windows are steel-framed with one-over-one sash.

The ornamental scheme is largely confined to the building's lower portion, especially the entrances and the setbacks. Much of the ornament, including pilaster caps, cornices, and nickel silver grilles, is the work of British sculptor David Evans. (Fig. 2)

This designation does not include the building's interior spaces.

Base

The basement level of the building is faced in granite, and terminates in an overscaled molding. Set into the basement are square openings with grilles, some of nickel silver and others of carved stonework. The names of each street are carved into the stone at the corners. (Fig. 3)

Exchange Place entrance: The main entrance to the building, at 20 Exchange Place, is a round-arched portal of carved Mohegan granite. (Fig. 4) Its chief adornment is a series of eleven carved granite replicas of coins, which represent countries with branches of the National City Bank, set on a background of abstract foliate forms. Above and to either side of the portal are large medallions, to the right a seal of the National City Company (Fig. 5), and to the left a seal of the National City Bank (Fig. 6). The entrance, approached by several steps, is set behind a deep reveal, to which a modern set of revolving doors has been added at the location of the original doors; windows above the doors fill in the arch. There is a non-historic stainless steel grille on the

left within the entranceway, and on the right an original nickel silver door with abstract geometric detailing. A period light fixture hangs from the apex of the reveal, from a stone soffit of intersecting triangles. The portal is flanked by illuminated signs with the building's address; the nickel silver framing appears to be original. A flagpole is set above the Exchange Place entrance at the fifth floor level.

William Street entrance: At the corner of William Street and Exchange Place is an entrance set in a carved reveal leading to a rotunda and the former senior officers' room of City Bank-Farmers Trust. (Fig. 7) The four doors are of nickel silver, a white alloy of nickel, zinc and copper, with bronze trim. (Fig. 8) Both the two round doors in the center and the two flanking flat doors include a series of panels representing various forms of transportation. The panels in the center doors show historic transportation methods including sailing ships, hot air balloons, and steam locomotives. Those on the sides show modern transportation, including airplanes, ocean liners, and diesel engines. Two nickel silver panels above the doors include in their ornamentation two allegorical figures in bronze, one with a cornucopia suggesting abundance, the other with a lock and key suggesting the prudence of banking. They are surrounded by a variety of animal figures and abstract floral forms. Four owls stand on the top of the panels. The glass panes above, in the upper half of the entranceway, are set into a nickel silver framework trimmed in bronze, including still more symbols of industry, including scales, hourglasses, sheaves of wheat, and mechanical gears. Above the entrance is another large stone medallion, this one showing the seal of the City-Bank-Farmers Trust Company. There is a flagpole above the fourth-floor level.

Beaver and William Street entrance: A similar but less elaborate set of doors with scenes of transportation survives at the corner of Beaver and William Streets. (Fig. 9) Here there are only two doors, not four; they repeat the scenes of the modern transportation series. Panels above with ornamental patterns centering on sheaves of wheat have been removed.

Beaver Street entrance: The rear entrance to the tower, in the middle of the Beaver Street facade, is through three round-arched openings. (Fig. 10) Above the middle opening is another stone medallion. (Fig. 11) Within the middle archway is a service entrance. Above the door is a carved

bison head flanked by reliefs of coiled snakes. (Fig. 12) In each flanking arch is a set of four doors, framed in nickel silver, with marble transoms and multi-pane windows set in decorative nickel silver framing.

Hanover Street entrance: The Hanover Street entrance set in a carved reveal (Fig. 13) leads to the branch office originally created for the Canadian Bank of Commerce. The nickel silver entrance doors with bronze trim repeat the design of the doors at William Street almost exactly, with the one exception that in the nickel silver grilles above the doors with scenes of transportation, in place of the allegorical figures suggesting abundance and prudence there are two caducei, ancient Greek symbols of commerce. The entrance itself is set within a round-arched double-height opening with ornate framing. There is a triple flagpole above this entrance.

The remainder of the main double-height level is punctuated by large square-headed window openings with heavy stone lintels. (Fig. 14) Each lintel has a replica of an historic coin in its center. (Fig. 15) Each window opening has a deeply recessed multi-pane window set in decorative nickel silver framing, protected by a nickel silver grille. (Fig. 16) Each grille includes in its ornament a figure representing one of the professions set in a square panel at either end of the grille, flanking a long panel with a fasces -- a tied bundle of sticks.

Each set of large window openings, whether one on Hanover, three on Exchange Place, or five on William Street, is flanked by two much narrower and shorter openings, each with a simple nickel silver grille at the base and a keystone at its top center. Above this level of openings runs a series of small, plain square-headed windows, at the level of the large stone medallions above the entrances. A final level of larger, square-headed windows in deep openings encircles the building; it is topped by a band of abstract geometric panels. (Fig. 17) Above all this rise the largely unadorned elevations of the remainder of the base, and the tower.

Setbacks

At the nineteenth-floor setback, a set of fourteen enormous sculptural heads, representing "giants of finance,"²⁸ and apparently modeled on Greek and Assyrian sources, stare down at the

street. (Fig. 18) Not all piers end in these heads, just those that visually line up with the tower above. Flanking piers end at the seventeenth floor and have large statues of eagles perched atop them.

Tower (Fig. 19)

The tower, which has little ornament, is defined by broader and slenderer piers, faced with brick, framing uninterrupted vertical bays of paired windows and spandrels. The windows are one-over-one double-hung steel sash. The top level of spandrels are aluminum, rather than stone. Two levels of horizontal ashlar bands wrap around the dark brick center bays, visually binding the tower. Tall arches at the top support a double-tiered crown. Communications equipment has been placed on top of the tower.

Throughout the building, such symbols of modern industry as airplanes, ocean-liners, and even a portrait of the skyscraper itself²⁹ are interwoven with traditional designs in pilaster caps and panels.

Subsequent history

Surviving the stock-market crash of 1929 thanks to its size and organization, the National City Bank of New York continued on through the Depression and World War II. It was renamed the First National City Bank of New York in 1955, in 1962 became the First National City Bank, and in 1976 became Citibank, part of the larger Citicorp. The City Bank-Farmers Trust, which had been a State-chartered affiliate of the nationally chartered City Bank, has gone out of existence. Citibank headquarters remained at 20 Exchange Place until 1956, when it moved to midtown Manhattan. Even so, Citibank owned 20 Exchange Place until 1979, and remained a tenant in the building until 1989.³⁰ The Canadian Imperial Bank of Commerce closed its branch and offices at 20 Exchange Place in 1989, consolidating its operations in its midtown location at 425 Lexington Avenue.³¹

Today 20 Exchange Place is a commercial office building, owned by the West World Holding Company, Inc.

Report prepared by Anthony W. Robins,
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FINDINGS AND DESIGNATION

On the basis of a careful consideration of the history, the architecture, and other features of this building, the Landmarks Preservation Commission finds that the City Bank-Farmers Trust Company Building has a special character and special historical and aesthetic interest and value as part of the development, heritage, and cultural characteristics of New York City.

The Commission further finds that, among its important qualities, the City Bank-Farmers Trust Company Building, fifty-nine stories high, is one of New York City's tallest skyscrapers; that it was built to house what was at the time New York's largest financial institution, formed by the merger of the National City Bank of New York and the Farmers Loan and Trust Company; that its steel-framed structure sheathed in granite at the entrances and in limestone above became, on completion, the tallest stone-clad building in the world; that it was designed in a conservative "Modern Classic" style by the prominent architectural firm of Cross & Cross; that its tower and base profile reflect the unusually-shaped site and the requirements of the New York City zoning law, as well as the programmatic needs of the building's banking clients; that its outstanding ornamental features include piers terminating as freestanding stylized figures detailed as Greek and Assyrian heroes, a round arch surrounded by eleven coins of carved granite at the Exchange Place entrance representing the various countries where National City Bank had offices, and a variety of ornamental details designed by British sculptor David Evans; and that its dramatic tower, rising from a relatively low bulky base, makes the City Bank-Farmers Trust Building one of the most prominent features in the Lower Manhattan skyline.

Accordingly, pursuant to the provisions of Chapter 74, Section 3020 of the Charter of the City of New York and Chapter 3 of Title 25 of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the City Bank-Farmers Trust Company Building, 20 Exchange Place (aka 14-28 Exchange Place, 61-75 Beaver Street, 6 Hanover Street, and 16-26 William Street), Borough of Manhattan, and designates Manhattan Tax Map Block 27, Lot 27, as its Landmark Site.



Fig. 1, City Bank-Farmers Trust Building, 20 Exchange Place, Manhattan
View from the southwest showing the Beaver and William Street facades
Photo: Carl Forster

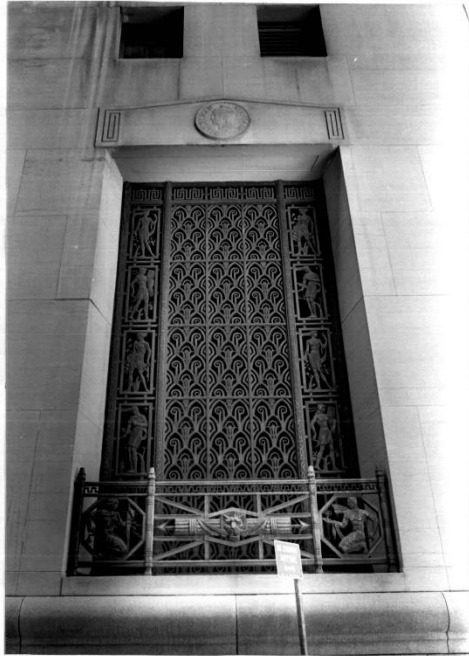


Fig. 2, David Evans, sculptor, Nickel silver grille (left)
Fig. 3, Detail of the base of the William Street facade (right)
Photos: Carl Forster

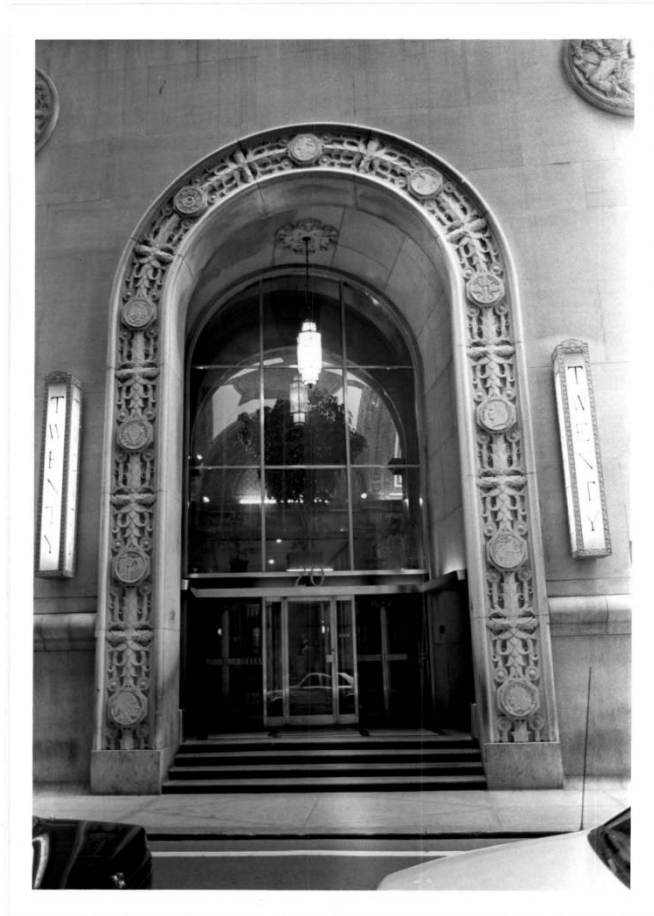


Fig. 4, Main entrance at 20 Exchange Place
Photo: Carl Forster

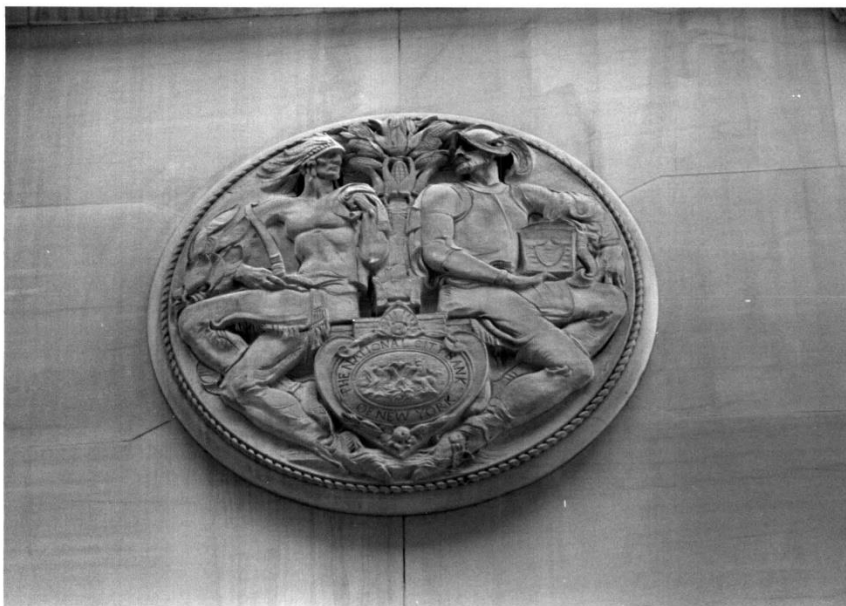
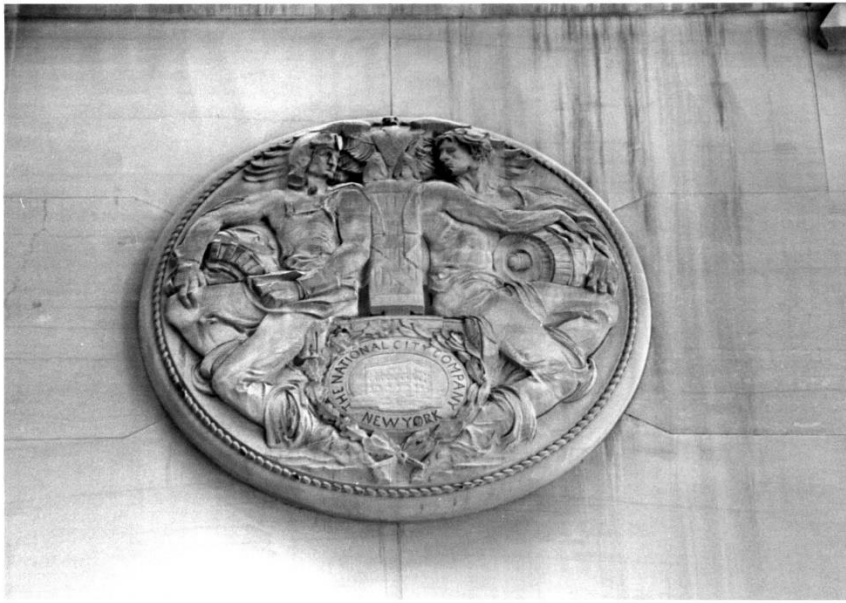
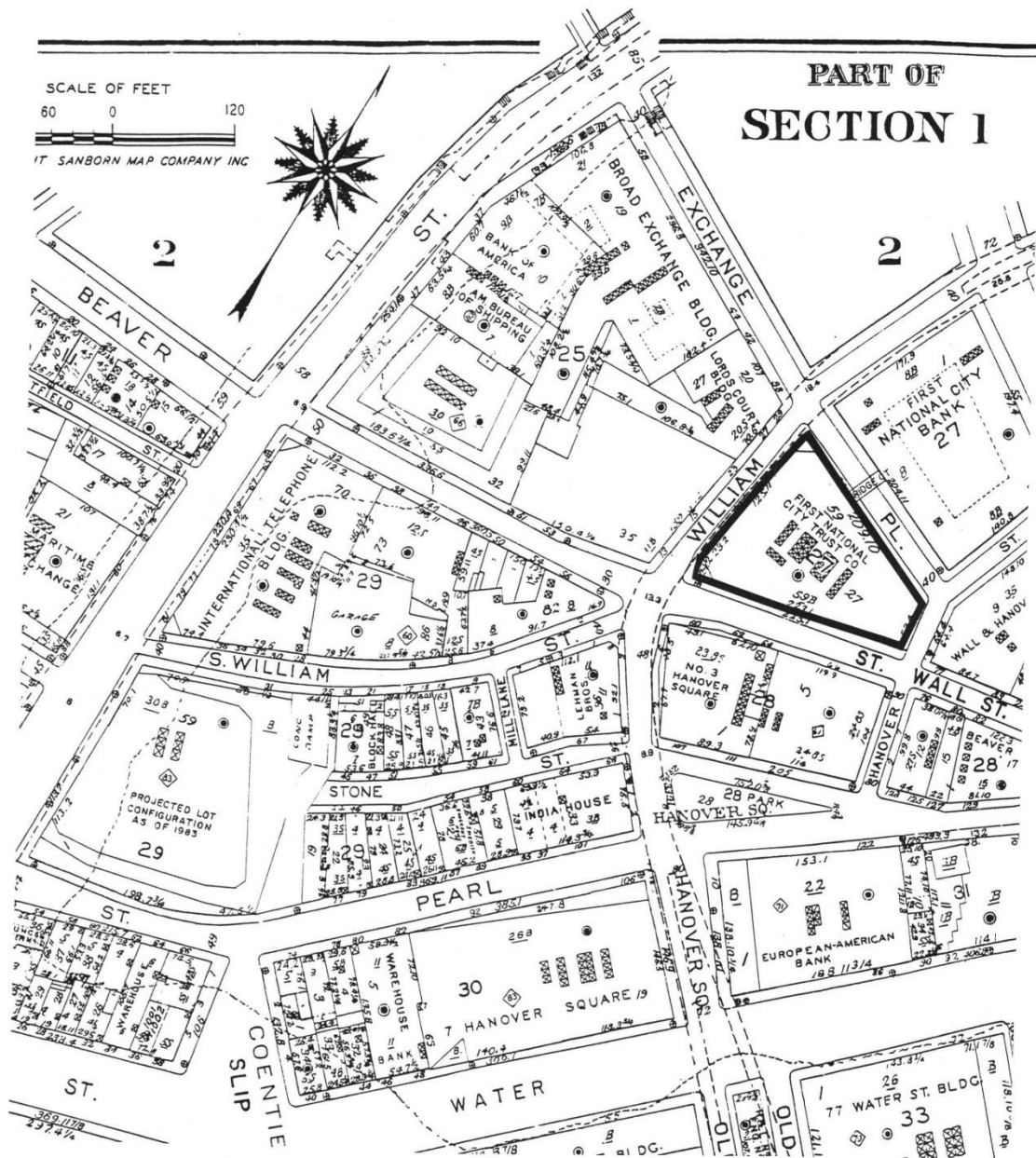


Fig. 5, Seal of the National City Company above the entrance at 20 Exchange Place (top)
Fig. 6, Seal of the National City Bank above the entrance at 20 Exchange Place (bottom)

Photos: Carl Forster



Fig. 7, William Street entrance
Photo: Carl Forster



City Bank-Farmers Trust Company Building, 20 Exchange Place
 (aka 14-28 Exchange Place, 6 Hanover Street, and 16-26 William Street), Manhattan
 Landmark Site: Borough of Manhattan Tax Map Block 27, Lots 27
 Source: *Sanborn Manhattan Landbook*, 1994-95, pl 1

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