THE SUSTAINABLE MICRO-SCALE MOVEMENT OF COMMUNITIES: CASE STUDIES OF SUBDIVIDED DEVELOPMENT AND ADAPTIVE REUSE OF SHARED SPACE IN NEW YORK CITY

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1. INTRODUCTION

In New York City a decline in manufacturing has propelled social and economic changes that have transformed certain districts [1,2]. Unused building stock there has been the basis for adaptive reuse yielding new housing for families of varying compositions. The constant pressure of the need for affordable housing has resulted in the conversion of existing abandoned industrial structures, providing a green, environmentally friendly alternative to new construction [3,4,5]. Adaptive reuse provides an opportunity to bring a building up to current codes, to make the layout and building systems more appropriate and efficient, and to help revitalize neighborhoods.

The nineteenth through the middle of the twentieth centuries were characterized by urban environments which provided manufacturing jobs and the municipal services and education that supported them [6]. American cities such as Detroit, Cleveland, and Pittsburgh became boom-towns as people followed employment opportunities and moved to these locations throughout this period [7,8,9]. In the decades after World War II, the creation of highways and freeways–including the interstate highway system that stretched east to west and north to south–led to suburbanization, exemplified by Long Island's mushrooming Levittown and many more like it [5,10]. These were the Baby Boom years. The suburban sprawl ultimately resulted in the creation of mega cities like New York City. Families typically consisted of a father, mother, and at least two children [16]. This trend was supported by strong manufacturing industries and plentiful space that allowed much of the population to fulfill the American dream of home ownership [2,11].

As labor cost increased due to stricter labor laws, unions, increasing land cost, and higher taxes, many manufacturers began a search for less costly environments, moving first to locations in the less expensive suburbs and then to the South [4,8]. Eventually, American factories moved overseas to places such

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as China, other Asian countries, and South America. This became known as out sourcing manufacturing [6,7,12]. With the subsequent boom town collapse that began in the 1980s and continued through the new millennium, old U.S. industrial cities faced declining populations, and Detroit, Cleveland, Pittsburgh, and their like were soon deserted by those who could no longer find employment there [14,40]. City populations decreased by as much as 50% and in some places even more steeply [13]. According to the U.S. Census (figure 1) [13,14], among American cities only New York City's and Los Angeles's populations have grown since the 1980s. Migration for employment opportunities became common and members per household, and households of one or two became not uncommon [15,16]. Typical housing no longer required a big space for shelter and a lawn or garden, and many people looked for smaller units [11,16]. Smaller working spaces made micro-scale businesses possible. New York City is an example of this change. Left with abandoned super block manufacturing buildings such as the Brooklyn Navy Yard and Brooklyn Army Terminal and retired infrastructure, New York City has looked for ways to repurpose these structures [10,17]. Super block, old manufacturing buildings and factories still stand, but in New York and elsewhere some have become mixed-use spaces.

The goal of this paper is to examine how New York City served the public by providing working and living space through the conversion of existing super block buildings and creating new public spaces out of under-used or abandoned infrastructure. Comparative case studies are conducted focusing on the micro-scale movement and renewed use of old infrastructure. It considers a future model for sub-divided building spaces and repurposed structures providing shared, public venues as it analyzes this movement structurally and the changes it has wrought on local communities.

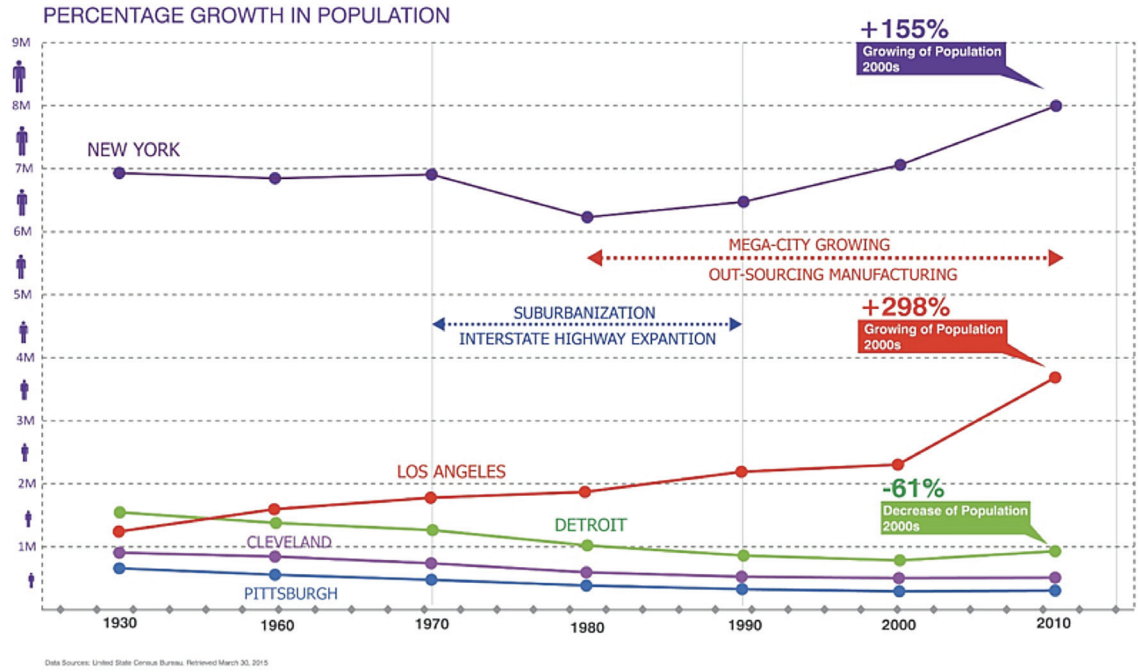
KEYWORDS

adaptive reuse; New York City; mixed-use; non-governmental advocacy groups; mega-city; micro-scale; subdivided development; infrastructure development

2. PRESERVING HISTORICAL CONTEXT: PRESSURE BY NON-ORGANIZED GOVERNMENTAL GROUPS

Cities are dynamic organisms. There has been growing population pressure on many cities' cores in recent decades, which can often result in gentrification of depressed areas or formation of newer city centers resulting in sprawl. Nonetheless, it is valuable for historic cities to retain their original character. Even if society changes, the urban core has to respond positively to the changing stakeholders' participation throughout the process. As some people tired of the negative aspects of suburban living–including its dependence on the automobile with its substantial cost, they sought the convenience of cities, reversing the path that their parents or

FIGURE 1: U.S. cities' growth or decline in population by percentages [13,14,15].



grandparents trod. Lack of available conveniently-located suburban land and ancillary services in the suburbs are driving forces for new social formations [18]. This return to city cores has led to the creation of new jobs in the cities and has been accompanied by a change in household composition, a shift from bigger families to smaller ones and even to a notable rise of households composed of a single person [16,18]. These conditions have driven a need to reuse existing structures and concurrently contribute to social, cultural, and environmental sustainability and urban regeneration. Thus, cities have seen a growth in adaptive reuse of old structures in a smart and sustainable way to meet new needs.

Jane Jacobs was an urban theorist, active during the period of the mid-twentieth century interstate highway expansion, who fought the redevelopment and highway construction plan for New York City promulgated by planning czar Robert Moses [19]. She fought Moses's plan to build an expressway through Manhattan's Washington Square Park and West Village, which would have displaced nearly 10,000 residents and workers and destroyed thousands of historic buildings [19,20]. She critiqued twentieth-century urban planning and proposed radically new principles for rebuilding cities. She inspired ways of accommodating city changes without bulldozing neighborhoods and slums, focusing on more diversity, density and dynamism [19,20]. Fighting to prevent Washington Square Park from destruction for a highway, she led the Joint Committee to stop the Lower Manhattan Expressway, which recruited as members eminent figures including Margaret Mead, Eleanor Roosevelt, Lewis Mumford, Charles Abrams, and William H. Whyte. This resulted in the city's preserving and closing Washington Square Park to traffic [19,20]. She continued to fight the expressway in 1962, 1965, and 1968, and she became a local hero for opposition to the project. She established that many urban planners and developers had largely ignored vibrant living systems which were not the product of grand, utopian schemes concocted by overzealous planners [38]. This influenced New York City to preserve many of its vibrant communities, small

businesses, small-grid blocks, and culture. Jacobs felt it was foolish to focus on how cities look rather than how they function as economic laboratories [19]. As a result of her efforts, modern planners try to preserve and create livable cities and to micromanage urban forms through regulation [19].

As Jacobs in a 2001 Reason magazine interview stated, "The New Urbanists want to have lively centers in the places that they develop…. And yet, from what I've seen of their plans and the places they have built, they don't seem to have a sense of the anatomy of these hearts, these centers. They've placed them as if they were shopping centers. They don't connect. [21]"

2.1. Local Communities' Movement: Friends of the Highline, the Lowline, and the Queensway

Cases of adaptive reuse of the post-industrial era structures like abandoned railway lines, industrial yards, and manufacturing factories have been created in the U.S. and Europe in cities such as Paris, New York, Pittsburgh, and Detroit. Examples of such abandoned post-industrial structures, which have adapted to newer uses, are many. Like the micro-communities that have sprung up, these efforts involve repurposing and sharing of space and often provide opportunities for the growth of small, local businesses. In the case of the Highline Park project, an abandoned section of the New York Central Railroad track was converted into an elevated public park starting in 2007 [22]. An important element in the creation of the Highline Park, as it is for any renovation or renewal project, has been community support. In fact, the Highline park community fund raised $19 million toward construction of the park: this is 12.5% of total project budget of $152 million [22,23]. The Lowline and Queensway projects are also community based, and so is the process of the fund-raising movement [24,25]. Involving the local community leads to a more adaptive reuse design process. These projects grow the local economy, are culturally adaptive, preserve historical structures, and are sustainably maintained for future generations.

These underground, grade-level, and elevated park spaces have diverse ways of involving local communities. The Highline Park was built first, and it has developed an extensive, seasonal food partner program. Founded in 2011, Highline Food creates a sustainable food system on the Highline. It selects innovative food partners and designs food-related events and activities for the Highline. Highline Food inspires care for the environment and builds community. Revenue from the program supports the maintenance and operation of the Highline [22,23]. Local restaurants serve breakfast, and site-specific commissions, exhibitions, video programs, and billboard interventions are all part of the program [23,26]. The Highline offers artists an opportunity to think of creative ways to engage with the uniqueness of the architecture, history, and design of the park, and raises a creative dialogue with the surrounding neighborhood and urban landscape. There are a variety of programs scheduled around and in the Park, including a local toy drive, a December holiday concert, and a Winter Sound Walk in addition to 15 art installations and exhibits that run at least until March 2016 [22-23].

The Lowline Park will be a local cultural park and will showcase art, live performances, and events tied to the neighborhood. There is also a plan to create two additional access points for, the existing Z, M, and J subway lines [24]. Currently, the local community is fundraising under the umbrella of Friends of the Lowline. This space has been unused for 60 years, and re-activating it will create the world's first underground park using "remote skylights." Via these innovative structures "sunlight passes through a glass shield above a parabolic collector and is reflected and gathered at one focal point and directed underground [24]. Sunlight is

transmitted onto a reflective surface on the distributor dish underground, transmitting that sunlight into the space. This technology would transmit the necessary wavelengths of light to support photosynthesis, enabling plants and trees to grow. During periods of sunlight, electricity would not be necessary to light the space. This project will bring needed green space to the Lower East Side community adjacent to it and will be accessible to those using the existing subway lines [24].

The Queensway runs through one of New York City's most diverse communities, and commercial corridors will intersect or adjoin the Queensway. Around 320,000 people live within a mile of the Queensway: thus, this linear park will have a tremendous catchment area [25]. New recreational opportunities for all ages will be available such as 3.5 miles of walking and bike paths, rock climbing facilities, a fitness zone, and a multi-functional sports space [25]. Also, there will be an ecological educational space comprising wetlands and bioswales as well as outdoor classrooms, BBQ picnic spaces, and activities for green infrastructure demonstrations [25]. It will provide a safer alternative to pedestrians and bikers who currently use Woodhaven Boulevard, the parallel street that is the city's second most deadly thoroughfare. In addition, there will be local food provided by food festivals and local restaurants.

The project will bring local economic and cultural benefits as well. It has been estimated that there are 900,000 annual visitors to Forest Park, an existing major greenspace on the western edge of the borough, and many millions more who visit nearby attractions such as Queens Mall and Aqueduct Racetrack and Casino, making the estimated total number of Queensway annual visitors about 1 million people including those people who will come from outside the community [25]. This promises an economic boon for the local businesses. If the projected 250,000 visitors come from outside of Queens and spend $7 to $21 each, the result would be in the neighborhood of $2.2 million to $10 million in new local spending [27]. This will bring new businesses, restaurants, and small shops to the adjoining neighborhoods.

In any project such as the above, it is important that the local community know how the public space and design will meet local needs. Although the design for Queensway has been decided, funding is still being raised. Sources of support include city/state, federal, and private funding. As mentioned above, the Highline Park's private donors provided 12.5% of the necessary funds for the Park's construction much of this coming from local community fund raising [27]. Also, after construction of a project such as the Queensway, maintenance, becomes an important responsibility to sustain the park, and here possible operational funding sources include public funding, value capture, earned incomes, and philanthropy [27].

3. SUCCESSFUL ADAPTIVE REUSE CASE STUDY

3.1. The Brooklyn Army Terminal: A Subdivided Super Block Building

The Brooklyn Army Terminal located in the Sunset Park area of New York City's borough of Brooklyn is well connected to public transportation including the subway, buses, and the water taxi that comes into the Terminal's ferry stop. As part of the New York Port of Embarkation, the complex was previously also known as the U.S. Army Military Ocean Terminal and Brooklyn Army Base. It was completed in September 1919 and was the largest military supply base in the United States during World War II [17]. The base was closed in the 1970s. The 95-acre complex had its own railroad line and police and fire departments [17]. The site was listed on the National Register of Historic Places in 1983, and the listing includes 11

TABLE 1. Development of Pressure by Non-Organized Governmental Groups [23-25].

Local Community Group	Friends of Highline	Friends of Lowline	Friends of Queensway
Year abandoned	1980's	1948	1962
Year repurposed	1999-2014, completed fully	2011-present	2011 - present
Size	1.45-mile-long (2.33 km)	One acre area	5.6 km (3.5 miles)
Site	NYC linear park built in Manhattan on an elevated section of a disused New York Central Railroad spur called the West Side Line	The former Williamsburg Bridge Trolley Terminal to be converted to underground park.	Long stretch of Long Island Rail Road (LIRR) Rockaway Beach Branch to be converted to green park.
Uniqueness/ Design concept	Naturally developed plants that are inspired by the landscape that grew on the disused tracks.	Innovative solar technology for illuminating the underground park using "remote skylights".	Preservation of open space and creation of parks for local residents.
Accessibility number	11 point of access	Plan in progress	14 point of access
Leading Group	Designers, Artists, Horticulturists, Volunteers, School students, Executives and management staffs etc.	Designers, Solar Technicians, Artists, Architects, Students, Executives and management staffs etc.	Architects, Landscape Architect, Activists, Economists, Planners, Engineers etc.
Projected Economic Value	More than US$150 million for repurposing and management	Estimated US$55million to US$72million	Estimated US$122 million
Developer & Management	Friends of the High Line, headed by Joshua David and Robert Hammond, in partnership with the New York City Department of Parks & Recreation.	James Ramsey and Dan Barasch, co-founders of Raad Studio	A group of local residents formed "Friends of Queensway" (FQW), a non-profit organization.
Impact	Revitalization and sustainable green park in a congested neighborhood, real estate boom	Revitalization of abandoned underground area into park and utilization of solar energy.	Revitalization of abandoned rail line and preservation of the open space and urban greenery.

contributing buildings. Fifty-Eighth Street separates the Army Terminal from the similar Bush Terminal.

This building is world's biggest concrete structure. During WWII, approximately 56,000 military and civilian workers were employed there [12]. The total building space area is 4 million square-feet. As a gauge of the size of this behemoth, this space could accommodate 2,676 apartments of 1,500 square-feet each. It was able to produce 37 million tons of military supply shipment for the European theater. After the war the building was no longer needed, and this led to its abandonment [28].

The federal government sold the property to New York City in 1981, and the city government began a total renovation of the site in 1984 [28]. The New York City Economic Development Corporation (NYEDC) then started leasing the property as a center for dozens of light manufacturing businesses [28]. Today, over a hundred companies work in this complex. Since the buildings were constructed as an army base, their sound structural elements have provided opportunities for adaptive reuse. New York City re-activated the building by creating world class office space and a light manufacturing complex within it. Since 1985, NYEDC has renovated the terminal in stages.

At first 25% (1 million ft^2) of the space was subdivided in Building B. The second change was the subdivision of 30% (1.2 million ft^2) of the space in Building B [28]. Now, 77% of space has been renovated by NYDEC and the renovated area is 3.1 million ft^2 [28]. The reconfigured floors have been modified into various spaces ranging from 4,500 to 39,000 ft^2 [28,29]. These configurations can be combined together and remodeled to suit tenants' specific needs.

NYDEC has worked towards a complete renovation of the building to make it function as a commercial and light industrial space. The Army Terminal community reflects the diversity of New York itself. Its 70 tenants include laboratories, a call center, machinists, a fulfillment center, print shops, a division of the New York City Police Department, arms of two museums, electronics component manufacturers, financial services, jewelry and textile producers, and distributors among others [28]. These small, mostly local operations have created jobs for more than 2,500 employees. Besides a diverse company base, the Terminal has a number of onsite amenities for all the employees and a number of ancillary services [29]. These services include 24-hour access and security for all users, on-site restaurants, parking, full service banking, nearby retail spaces, and also an attractive waterfront location with convenient recreation facilities. The site also provides day-care facilities adding to its value for local employees [29].

Due to the proximity of the water front, the Terminal also offers on-site shipping and distribution outlets. This allows tenants to transport goods and materials easily. Each space within the complex has free access to service elevators and loading docks. The New York City Planning Department formulated zoning regulations to ensure green infrastructure and amenities [29]. This is an initiative to facilitate green industries and provide sustainable techniques which will benefit them [41].

Micro-scale movement changes in the land-use pattern of the area as a whole have followed after the redevelopment project. A number of unused factory space has been converted to light-industrial or commercial buildings. Many super block manufacturing buildings have been transformed into mixed-use buildings, which means that there is diversity in the use-groups as a result of the subdivision concept. Existing manufacturing zoning can be changed to vibrant mixed-zoning through the local community's and the city's support [12, 30].

FIGURE 2: Building A's subdivided floor area [29].

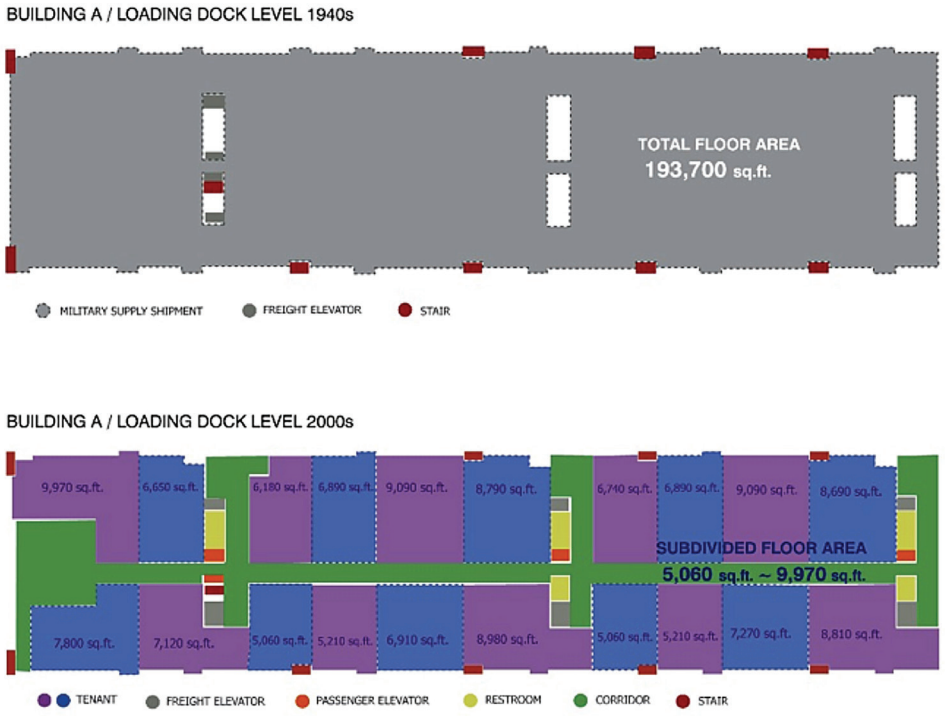
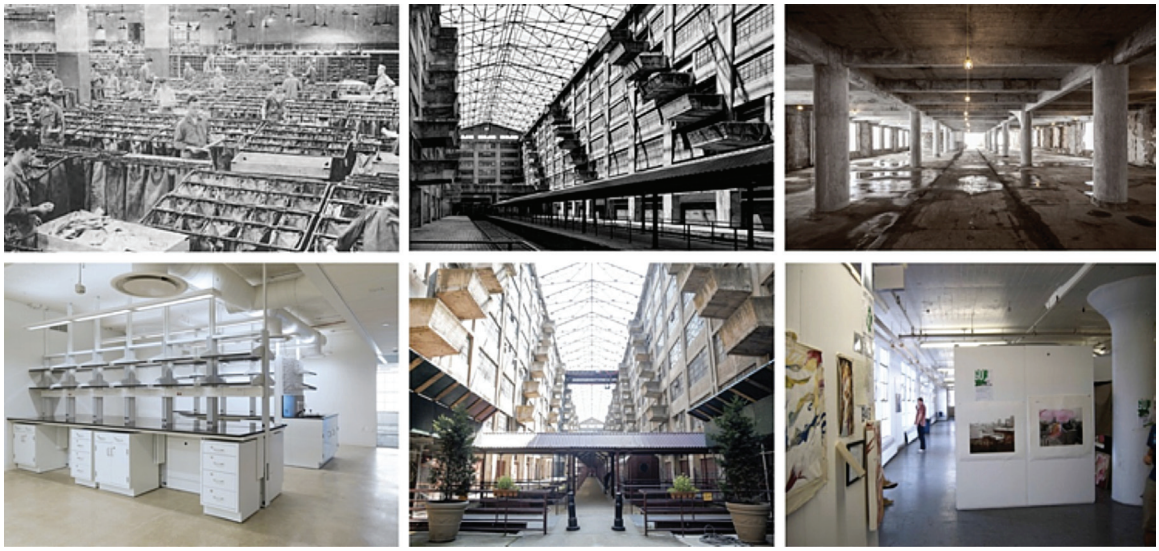


FIGURE 3: Manufacturing and physical structure converted to mixed-zoning and use by diverse groups [29,31].



3.2. Re-Use of Historic Urban Artifacts: Chelsea Market in Manhattan: Subdivided floor plan

The Meatpacking and Chelsea districts along the Hudson River in Manhattan were a seat of industrialization after the 1870s with the development of market, industrial sites, and the freight railroads (including the spur developed later in the 1930s and eventually abandoned that became the Highline Park) [32]. Farmers markets, packing plants, slaughterhouses, bakeries, and other related businesses situated here were the most important point of food distribution in New York City for decades; their output was transported by freight railroads [32]. With the advent of supermarkets in the 1950s and 1960s and modernized national packaging systems along with the decline of rail freight, the neighborhood increasingly fell on leaner times. These two neighborhoods experienced a considerable transformation after the 1980s and 1990s from gritty manufacturing districts to bustling high end retail services and international food junctions. The entire city block bounded by 9th and 10th Avenues and 15th and 16th Streets, with a connecting bridge over 10th Avenue to the adjacent 85 Tenth Avenue building, comprises the Chelsea Market [32]. The site is near the southern border of the Chelsea district and the northern end of the Meatpacking district. It has been repurposed into a major facility comprising 19 separate buildings of the former National Biscuit Company (Nabisco) bakery and other facilities. Today it is a versatile food hall boasting about 35 vendors; those selling a variety of food items as well as retail stores [32].

These retail facilities were installed into the original buildings by connecting the back lots of the blocks through a central ground-level concourse perpendicular to 9th and 10th Avenues in 1997 as shown in the figure below [32-33]. The block is approximately 240 meters long and 60 meters wide [32,34].

The resident stores include Chelsea Market Baskets and BuonItalia, Manhattan Fruit Exchange along with a variety of small, specialized retail stores selling specific items such as cheese, olive oil, and chocolates. As in the past, the Chelsea Market is home to many local bakeries of regional fame including Amy's Bread, the Doughnuttery, the Fat Witch Bakery,

FIGURE 4: Chelsea Market ground level subdivided development.[32].

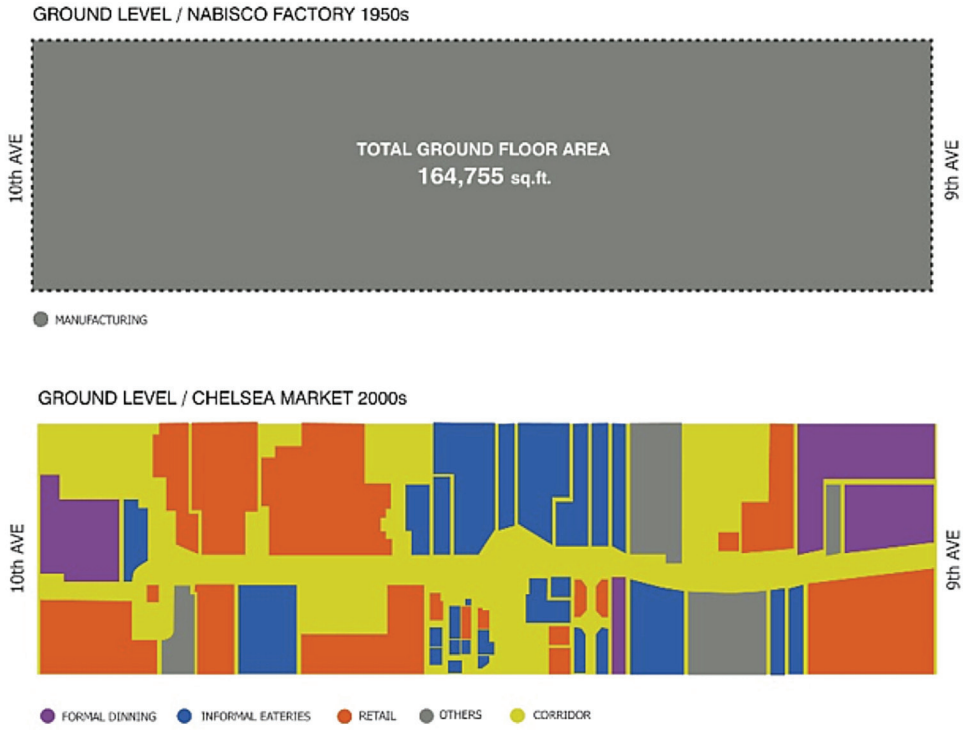


FIGURE 5: The former Nabisco Factory and the Current Chelsea Market [32,33].

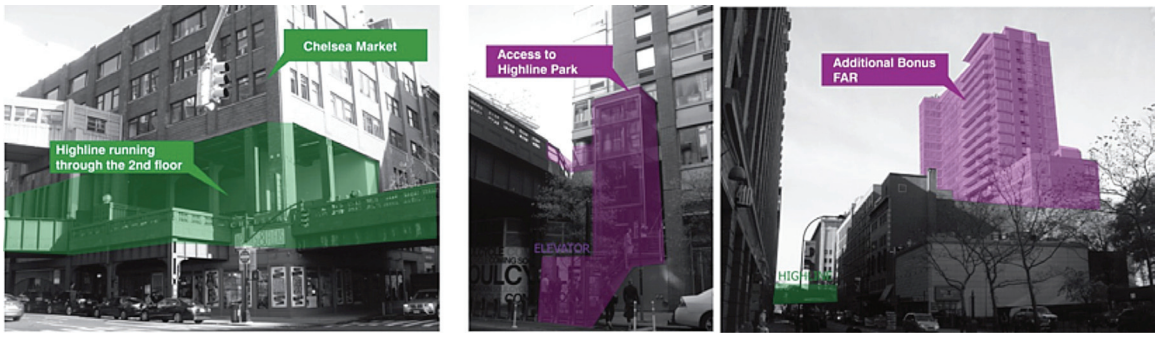
Sarabeth, and the Tuck Shop, linking the historic tradition of the Nabisco bakery with the present [33]. In 2006, a specialized food chain outlet designed by world renowned Japanese architect Tadao Ando opened on the 10th Avenue side, taking the market to a different level [32]. The specialty of the Chelsea market is its maintenance of a symbiotic relationship between the restaurants and the suppliers within the market. Figure 4 shows the breakdown

of services situated in the Chelsea Market. Formal dining includes restaurants and bars; informal eateries include bakeries, ice-cream parlors, and cheese shops among others. Retail outlets include florists, shoe shops, and clothing stores. All other services have been incorporated into "Others" as noted in Figure 4.

The construction of the Nabisco factory was completed in 1898 when several baking companies in the local area merged to form Nabisco [32]. The company continued to work from this area until 1958, after which it shifted to the suburbs, part of the outsourcing of manufacturing to less expensive locales noted above. The repurposing of the buildings started in the 1990s under a new owner with the help of Vandenberg Architects [32]. The complex was redeveloped to feature a retail concourse at the ground level with office space on the upper floors. Since the building consisted of heavy timber wood constructions with brick facades initially, a major initiative had been taken to conserve the historic urban artifacts. In the 1930s, the Nabisco company constructed a freight rail siding within the building itself as a part of the Highline railroad. Rail and aluminum-clad pedestrian bridges were also added for walking purposes [32]. Figure 6 illustrates the Highline running through the second floor of the Chelsea Market which has been recognized by the New York State and the National Register of Historic Places as part of the "Gansevoort Market Historic District" in the Meatpacking District of New York City [22,32]. The Highline Park redevelopment project is connected to the buildings of the Chelsea Market, bringing together two re-purposing projects, one of abandoned infrastructure and one of underused buildings, adding in a significant way to the historic urban fabric. The Chelsea and Meatpacking districts have been supplying food to the whole of New York City for over a century now. Due to the shift of the industries to the suburbs and decline in the freight railroad, the area suffered a loss in its historic delivery of food to the city's inhabitants for a brief period of time, but the redevelopment of Chelsea Market and the adjoining areas as a major food and retail destination is a significant adaptive reuse approach to commemorating the history of both districts as a whole.

The Chelsea Market ties Ninth and Tenth Avenues together and also contributes to the contextual and commercial richness of the Highline district. The above examples suggest that this is not necessarily difficult as long as all parties involved work together as much as possible. Local governments can rezone an area for new uses and increase the allowable FAR (floor area ratio) to make an area more useful.

FIGURE 6: (a) Present condition of the Chelsea Market showing the Highline from 10th Ave; (b) An access point to the Highline; (c) Contribution to Public space affected re-zoning and bonus FAR [22,29].



3.3. Micro-Scale businesses: Co-Working Space in New York City: Diversity group, small business incubator

New York City is home to a number of community-oriented and affordable business incubators. Enterprises nurtured in city-supported incubators have raised more than $180 million in venture capital funding [35]. Co-working space networks have provided low-cost space, business services, training, and networking opportunities. The result is 1,000 startup businesses and 1,500 employees benefiting from New York City [35]. The five boroughs (Queens, Brooklyn, Manhattan, Bronx, Staten Island) all have affordable working space [35-36]. There are two kinds working space: one encompasses wet lab spaces, and the other incubator spaces. Wet lab spaces such as the three that are located in Manhattan and the one in Brooklyn, involve research for science, technology, and biotechnology. The 11 spaces available around New York City each boast unique features. Spaces host businesses, fashion operations, entrepreneurs, artists, food, and an urban future lab [35]. Each community has a local character so that each co-working space serves its local growing businesses effectively. Traditional businesses frequently required mass production and need more space and labor than the affordable working spaces can offer. However, as business becomes more complex and dependent on computerized systems, small work spaces can accommodate growing enterprises of various sizes, and small business in turn helps the local economy [41]. These co-working spaces recycle super block buildings, subdivided to meet their own particular needs. This concept provides different-sized individual spaces, offices for one person or five or six people [39]. This allows small businesses to start with minimal overhead and can also accommodate their needs for larger spaces as they grow.

Every city block's buildings have their own character, and the incubators often reflect the original purposes of the buildings in which they are housed. For example, the Council of Fashion Designers of America (CFDA) is one of those incubators, located in the heart of New York City's historic garment district in mid-town Manhattan [35-36]. This incubator, not surprisingly, supports fledgling fashion designers. NYCEDC launched the CFDA fashion incubator and provided the CFDA with a three-year, $200,000 grant to help establish the site. Its goal was to be self-sustaining after three years, something that it has already achieved [35]. Current tenants include art design studios and fashion designers who are provided with working space and showrooms. Each tenant enjoys a two year lease at below-market rates.

One incubator, the New York Media Center located at 30 John Street in Dumbo (District under the Manhattan Bridge Overpass), Brooklyn, does not reflect its building's original use. This building was once Arbuckles Ariosa Coffee Company in the late 1800s, a coffee factory. Arbuckles was known for a machine it designed that efficiently roasted, ground and packaged coffee for mass distribution [35]. In later years the structure served as Kinsey Distilling Company's whiskey storehouse and then as a warehouse for Abraham & Strauss, once Brooklyn's leading department store. In the latter part of the twentieth century, the space was repurposed yet again into co-working space and studios for creative professionals [35]. Now 30 John Street will brew new ideas instead of serving as a locale for mass production or shipping. Digital creations will be sent around the world to be uploaded, downloaded, and streamed. Major partners in the effort are NYCEDC and Verizon, and supporting partners include Illy (the coffee company), Vimeo (a media enterprise), and Hearst Corporation (another media operation). The Center's 20,000 square feet contain a media arts gallery, a screening room, an education center, a café, and the essential co-working incubator spaces [35].

FIGURE 7: Co-working space in Harlem, New York [37].

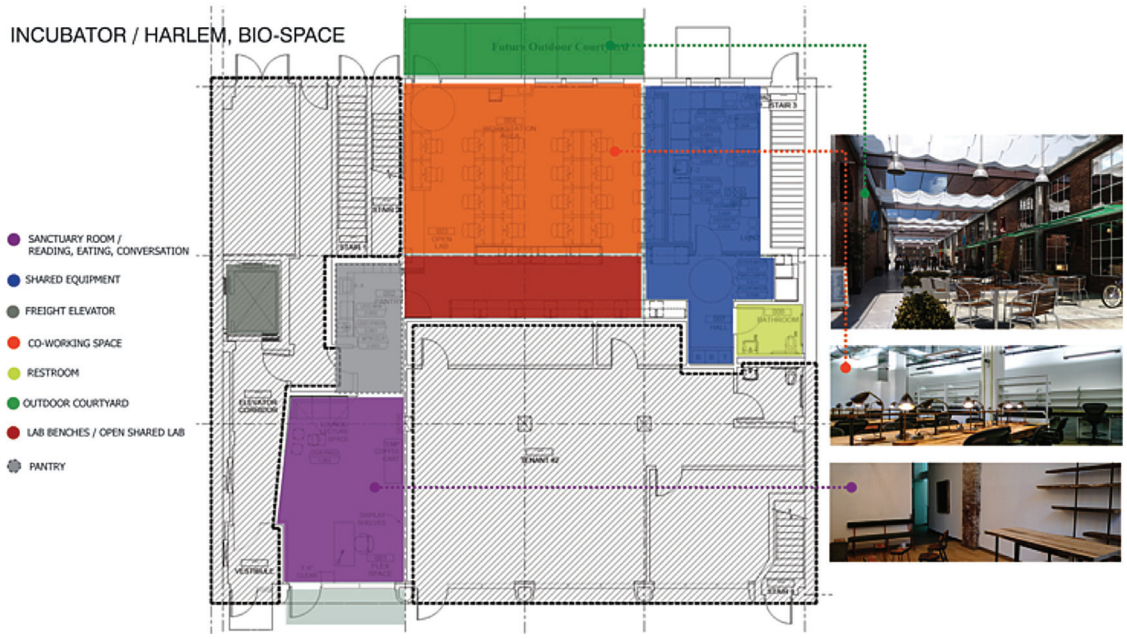
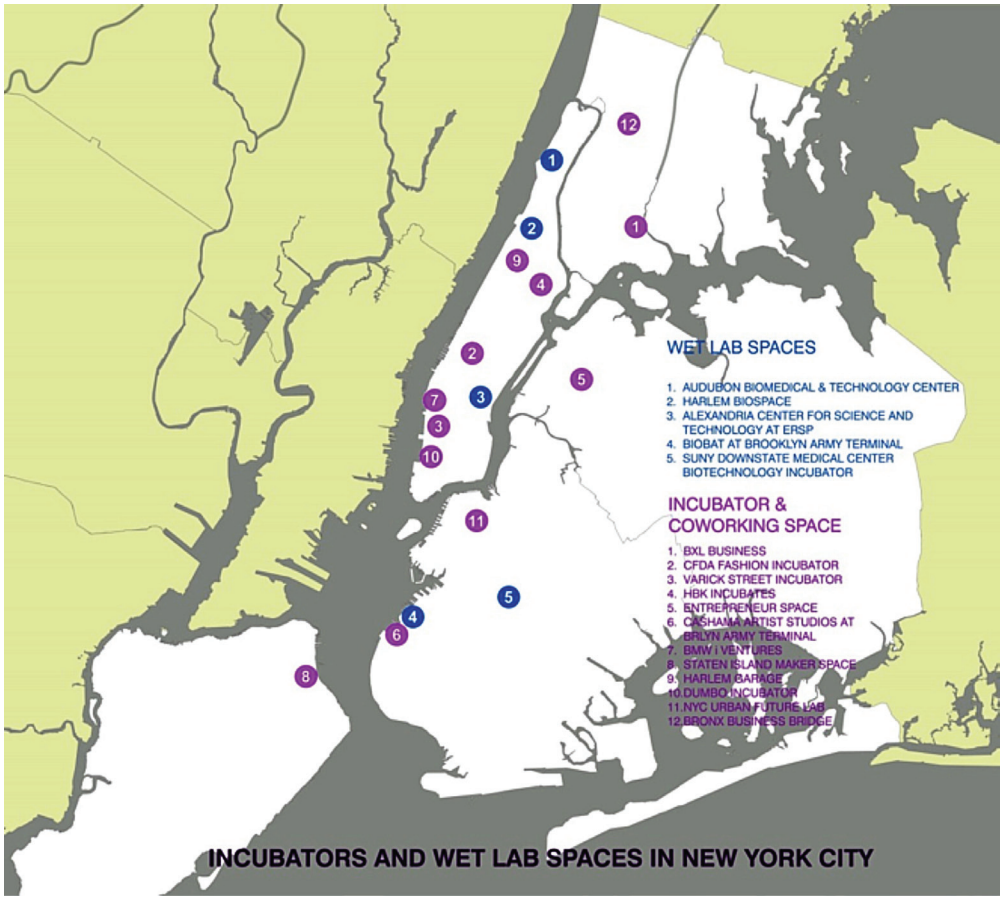


FIGURE 8: Incubator & Co-Working Space in New York City [35-36].



4. CONCLUSIONS

Rehabilitation is the type of conservation that involves creating a new use for a building, while restoration returns a building to the condition it was in when originally constructed, and renovation modifies a building so that it meets current standards and codes. Renovation, it should be noted, does not involve a change of use. It can therefore be reasonably stated that rehabilitative adaptation is a step towards sustainability by adding to the life of a building as a whole.

Adaptive reuse in urban areas has many benefits starting with the savings that come from avoiding the costs of new construction. Adaptive reuse has been the core concern in older cities as a step toward sustainability. The importance of adaptive reuse for our built heritage comes from restoration, renovation and rehabilitation.

As the above successful projects illustrate, future developers and local communities need to re-think contextual responses and the potential local cultural aspects of any such effort. This is not to advocate for only the preservation of physical structures, but to make the point that future development can engender adaptive reuse for the continuing transformation of businesses, which should guide any upgraded development. Each small group or related business occupying subdivided space can help its local economy to create a new cultural context. These local communities must enter into dialogue to help make transformative changes for the future. It is also critical to think about "urban sprawl," which usually results from mass produced housing, super block shopping centers, un-walkable cities and towns, and car-based communities.

Mega-cities always see their populations grow from migration from suburbs and immigration, especially in the case of New York City. The concept of adaptive reuse is not simply using old structures, it involves ensuring that the re-working of a structure harmonizes with the context and culture of its surroundings. Other mega cities such as Seoul, Tokyo, Paris, and Beijing have made use of or have the potential to use similar approaches. Taken together, successful projects in New York City and other cities should serve as a beacon for the preservation of social and physical urban context at the same time as they create new opportunities for employment, affordable housing, shared social infrastructure, and subdivided space.

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