

Citywide Context

Shifts in the sectors that drive New York City's economy and changes in where businesses choose to locate are increasingly at odds with the M district zoning that has changed little in the past half century.

New York City's Industrial Areas

Many of New York City's industrial areas, including the Study Area, were developed prior to 1961 under far more permissive land use controls than exist today, which imposed no use restrictions or environmental standards, and allowed businesses and residential uses to locate alongside heavy industry. Many of the buildings that exist in industrial areas were also developed under rules that allowed higher densities and had minimal requirements for yards and off-street

loading and parking. This changed in 1961 when a comprehensive overhaul of the Zoning Resolution established three main types of zoning districts: residential, commercial, and manufacturing, the latter of which separated industrial from residential uses. The architects of the 1961 Zoning Resolution envisioned these newly established M districts as becoming more typical of modern, suburban industrial or office parks, characterized by low-rise factories and warehouses with ample off-street parking. However, the development as envisioned under the 1961 zoning largely

failed to happen as the large-scale manufacturing that once characterized industrial areas in the city began to decline when firms sought lower-cost and more transportation-accessible locations in the region, rural areas, or abroad.

This left industrial areas, including the Study Area, with zoning that did not match the needs of existing businesses and discouraged new development. In 1950, manufacturing accounted for over one million jobs and represented one-third of New York City's total employment. By 1969, however, employment in the sector had declined by over 20 percent, and jobs in the steadily growing service sector exceeded those in manufacturing

for the first time. Steep job losses in manufacturing, which had long been the backbone of the city's economy and a reliable source of middle-wage for lower-skilled workers, was a concern to city planners, many of whom saw a need to protect manufacturing through land use restrictions on competing uses.

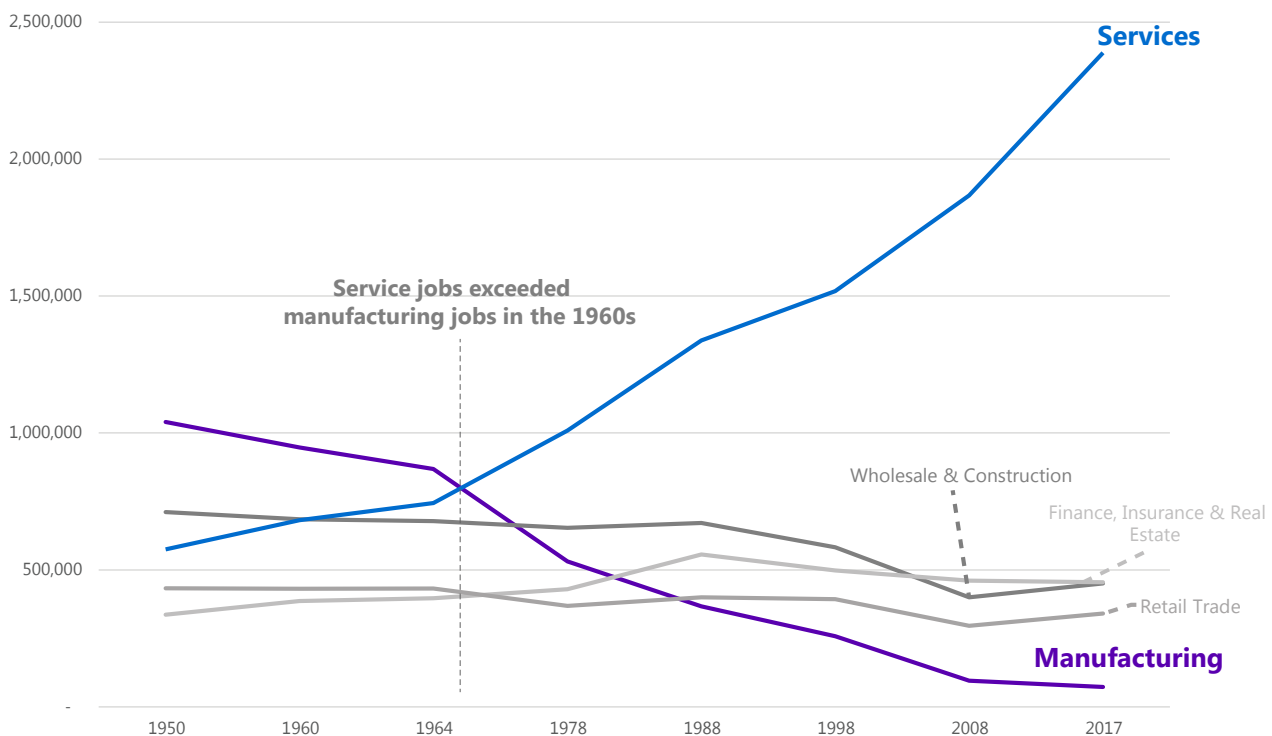
Planning for Jobs, a 1971 report for the New York City Planning Commission, laid out the case for industrial urban renewal to promote site assemblages for modernized industrial facilities that would make manufacturing more competitive in New York City. Although few of the recommendations in this plan were adopted, it did argue for land use policy to address land costs for manufacturing uses: "...competition

for [land] is fierce," its authors claimed. "Unless industrial land is protected it will continue to decline and manufacturing jobs will disappear along with it."³

Planning for Jobs, however, did usher in an era of new land use restrictions aimed at preserving manufacturing jobs. Beginning in the 1970s, in response to non-industrial uses expanding in M districts, new restrictions were created for large retail establishments and community facilities. Nonetheless, manufacturing uses in the city and in the Study Area continued to decline further.

In 1993, DCP's *Citywide Industry Study* proposed strategies to foster job creation and adapt to new industry

EMPLOYMENT BY MAJOR SECTOR, NYC, 1950-2017*



Source: NYS Department of Labor. QCEW, 2008 (Q3), 2017 (Q2); ES-202/QCEW historical estimates 1978-1999; "Jobs in Transition," 1966. Some of the shift in employment between 1998 and 2008 is due to a reclassification of industry codes from SIC to NAICS. Most significantly, most publishing companies once classified as manufacturing would have moved to "Information"; manufacturing headquarters may also have shifted to "management of companies and enterprises."

by relaxing restrictions on commercial uses in M1 districts and allowing for some light industrial uses in certain commercial districts. Although narrowly adopted by the City Planning Commission, the changes were turned down by the City Council due to ongoing concerns about the potential for introducing uses that would compete with manufacturing for space.⁴

In 1987, amendments to the New York State Loft Law allowed the legalization of prior conversions of industrial loft buildings throughout the city, including in the Study Area, to residential use. In 1997, a special mixed-use zoning district was created to allow for new residential, commercial, and community facility uses within appropriate areas

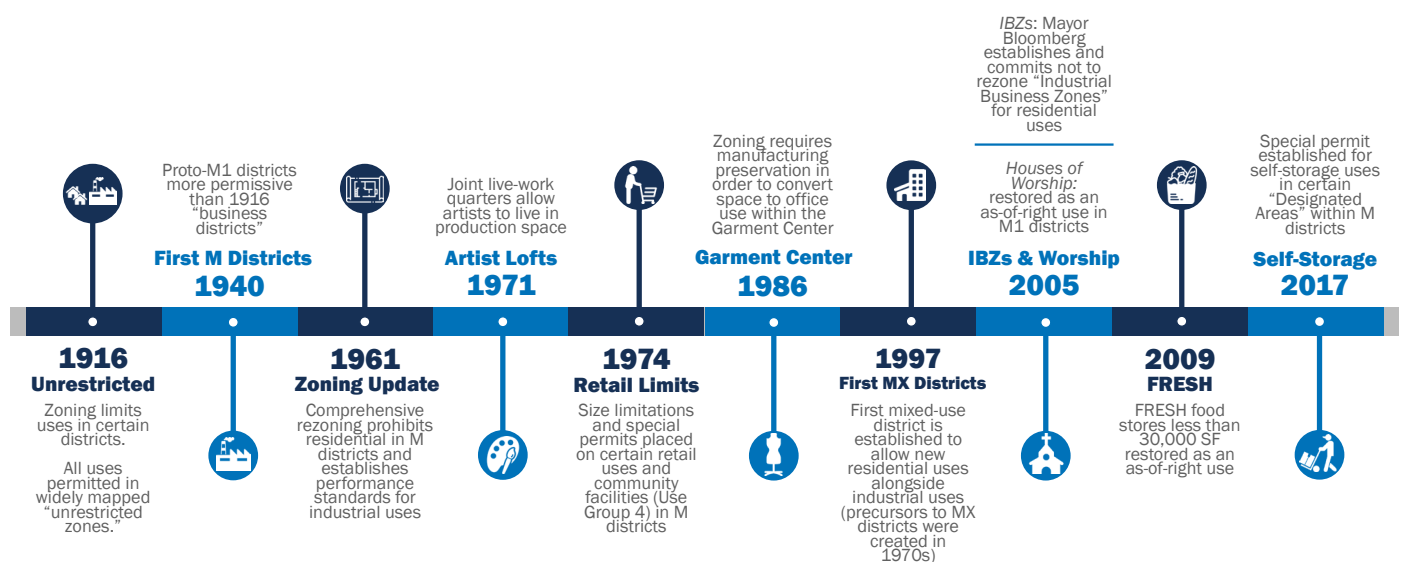
previously zoned for industrial use to facilitate adaptive reuse of vacant loft buildings generally unsuitable for modern industry. These districts were not mapped within the Study Area, but have contributed to the diversification of uses in neighboring Williamsburg.

In 2006, IBZs were instituted under the Bloomberg administration. IBZs are non-zoning designations that demonstrate a commitment to land use and public policies that encourage the retention and growth of industrial businesses, including financial incentives, designation of local ombudsmen, and a resolution not to support residential rezonings within their bounds. Recent efforts to limit uses in industrial areas include

limitations on self-storage in IBZs, approved by City Council in 2017, and limitations on hotels in M1 districts currently undergoing public review.

After a steep decline, manufacturing employment has finally become relatively stable, while other industrial sectors – construction, transportation, and warehousing in particular – have grown. At the same time, rapid growth in non-industrial sectors has driven total employment in the city to an all-time high, and non-industrial jobs are growing in M districts across the city. Zoning in M districts must be reassessed once again in order to create suitable business environments for job growth in a range of industries within these areas.

EVOLUTION OF ZONING IN M DISTRICTS



About M Zoning Districts

Zoning

Zoning districts define the permitted size and use of buildings, such as residential, commercial, community facility, or industrial/manufacturing. Zoning also contains provisions around building size and bulk, urban design, parking, loading docks, and open space requirements.

Floor Area Ratios (FAR)

The floor area ratio controls the size of buildings. Each zoning district has an FAR which, when multiplied by the lot area of the zoning lot, produces the maximum amount of floor area that can be built. For example, on a 10,000 SF zoning lot in a district with a maximum FAR of 2.0, the floor area on the zoning lot cannot exceed 20,000 SF.

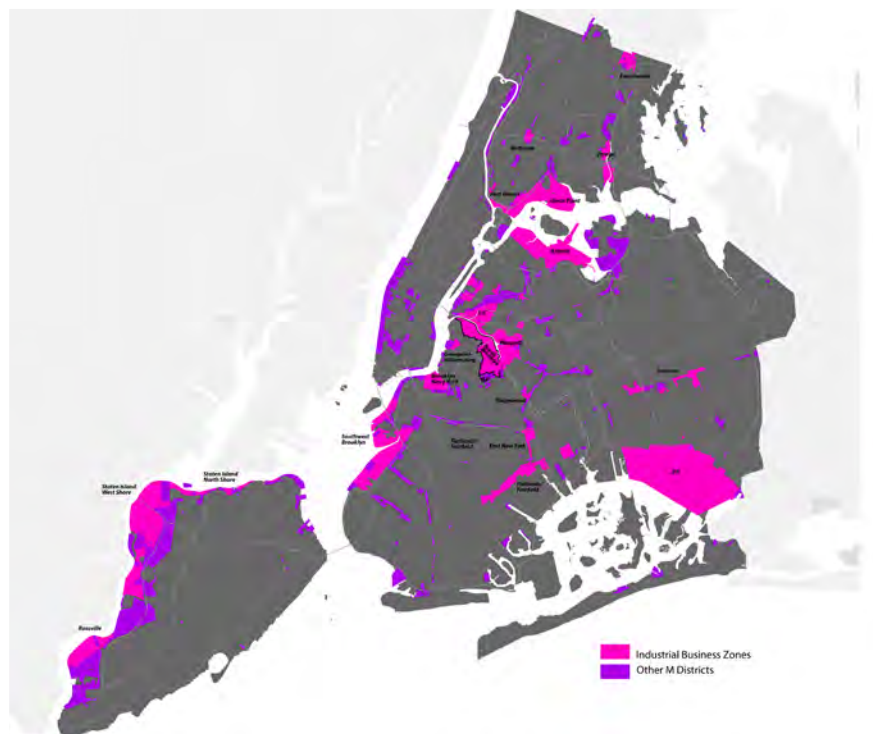
M Zoning Districts

An M district is a zoning district in which industrial uses, most commercial uses, and some community facility uses are permitted. New residential development is typically not allowed.

There are three M districts: M1, M2, and M3, on a spectrum from M1 districts that permit light industrial uses (such as woodworking, auto repair, and wholesale) to M3 districts for heavy industrial uses that generate noise and pollutants (such as power plants, waste transfer and recycling, and fuel depots).

Today's M districts allow for 1.0, 2.0, 5.0, and 10.0 FAR, with no districts allowing for medium-density buildings that may be more appropriate for some industrial areas. Further, the building envelopes in today's M districts tend to encourage taller buildings, rather than squatter and bulkier buildings that resemble historic industrial loft buildings.

M Districts and IBZs



Types of M Districts

	M1	M2	M3
Permitted Uses	<ul style="list-style-type: none"> Industrial/Manufacturing Most Retail <i>(some limited to 10,000 SF)</i> Nightlife/Entertainment Office Self-Storage <i>(limited in IBZs)</i> Hotel* Limited Community Facility 	<ul style="list-style-type: none"> Industrial/Manufacturing Limited Retail <i>(some limited to 10,000 SF)</i> Nightlife/Entertainment Office Self-Storage <i>(limited in IBZs)</i> 	<ul style="list-style-type: none"> Industrial/Manufacturing Limited Retail <i>(some limited to 10,000 SF)</i> Nightlife/Entertainment Office Self-Storage <i>(limited in IBZs)</i>
Permitted FAR	<ul style="list-style-type: none"> 1.0 FAR (M1-1) 2.0 FAR (M1-2, M1-4) 5.0 FAR (M1-3, M1-5) 10.0 FAR (M1-6) 	<ul style="list-style-type: none"> 2.0 FAR (M2-1, M2-3) 5.0 FAR (M2-2, M2-4) 	<ul style="list-style-type: none"> 2.0 FAR (M3-1, M3-2)
Parking	<p>M1-4, M1-5, M1-6:</p> <ul style="list-style-type: none"> No parking requirements <p>All other M1 districts:</p> <ul style="list-style-type: none"> Industrial/Manufacturing: 1/1,000 SF Storage: 1/2,000 SF Food Stores: 1/200 SF Retail/Office: 1/300 SF <p><i>Parking requirements for other uses depend on capacity of establishment.</i></p>	<p>M2-3, M2-4:</p> <ul style="list-style-type: none"> No parking requirements <p>All other M2 districts:</p> <ul style="list-style-type: none"> Industrial/Manufacturing: 1/1,000 SF Storage: 1/2,000 SF Food Stores: 1/200 SF Retail/Office: 1/300 SF <p><i>Parking requirements for other uses depend on capacity of establishment.</i></p>	<p>M3-2 district:</p> <ul style="list-style-type: none"> No parking requirements <p>M3-1 district:</p> <ul style="list-style-type: none"> Industrial/Manufacturing: 1/1,000 SF Storage: 1/2,000 SF Food Stores: 1/200 SF Retail/Office: 1/300 SF <p><i>Parking requirements for other uses depend on capacity of establishment.</i></p>

*A zoning text amendment currently in public review would require a special permit for new hotel development in M1 districts.

New York City's Growing Economy

New York City's economy is growing rapidly. Between 2010 and 2017 the city gained 660,000 private sector jobs, exceeding the rate of growth nationwide and far outweighing job losses experienced during the post-2007 recession. In tandem, New York City's population has been growing and is larger than it has ever been. Between April 2010 and July 2017, the city gained 447,600 residents, an increase of 5.5 percent, a rate of growth not experienced since the 1920s.⁵

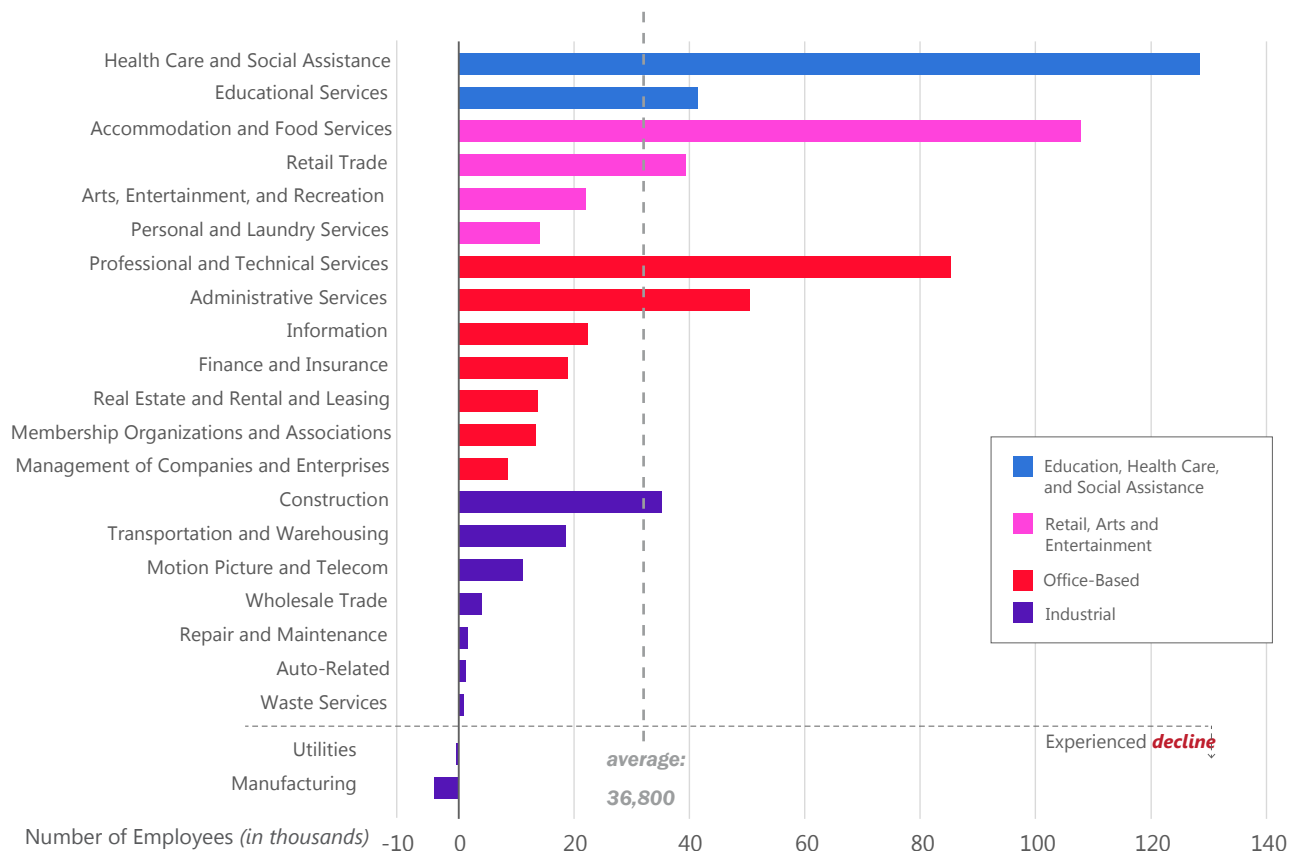
New York City's job gains since 2010 occurred in almost all sectors except for the utilities and manufacturing sectors, which showed small declines. The growth was highly concentrated in three major sectors: accommodation and food services, professional services, and health care. These sectors contributed 48 percent of the employment growth from 2010-2017 and currently constitute 39 percent of all private sector jobs.

While the service economy is leading growth, many industrial sectors are also faring well. Between 2010 and 2017, the major non-manufacturing industrial sectors experienced substantial growth,

with construction, transportation and wholesale, adding 57,600 jobs, or 9 percent of citywide growth. Many industrial firms that have stayed in the city have done so despite the narrow streets, aging industrial buildings, and limited off-street loading that characterize many of the city's historic industrial areas due to locational advantages such as proximity to customers or suppliers.

The decades-long decline of manufacturing jobs has slowed in recent years. Manufacturing employment, which constitutes 2 percent of citywide employment, had a net loss of 3,800 jobs, or 5 percent, during this time period.

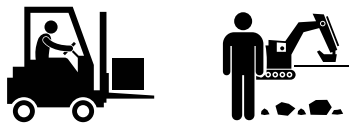
CHANGE IN PRIVATE SECTOR EMPLOYMENT, NYC, 2010-2017



Source: NYS Department of Labor. Quarterly Census of Employment and Wages (QCEW), 2010 (annual averages), and 2017 (Q2). Excludes Unclassified jobs, which constitute less than 2% of citywide employment.

Defining Sectors in a Changing Economy

As technology continues to rapidly change our economy, it is difficult to establish clear definitions of economic sectors. For the purposes of land use planning, the following four “macrosectors” are used in this report, based on a combination of space needs and business activities. *(These categories do not directly correlate to Use Group definitions in the NYC Zoning Resolution, most of which were defined decades ago.)*



Industrial

Businesses that produce, repair, and/or distribute goods, many of which require large, flexible ground floor space for production, equipment, loading, storage, and parking, and rely on trucks.

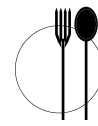
- **Heavy, truck-intensive businesses**, which includes Essential Industrial Businesses that provide services that keep the city running such as **Wholesale; Transportation; Construction; Auto Repair; Utilities; and Waste Management**; it also includes other businesses that create large volumes of truck traffic, odors, and/or noise such as **Film Production** and larger-scale **Manufacturing**.
- **Light industrial**, which includes lower-impact and lower-volume businesses such as smaller-scale **Manufacturing**.



Office

Businesses that provide commercial services and occupy office space.

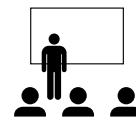
- **TAMI, or Technology, Advertising, Media, Information**, fast-growing creative and tech-driven industries, often described by real estate professionals as driving a change in demand for different types of office space.
- **Traditional office users**, such as **Finance, Insurance, and Real State Estate**, historically the largest office-based industries in the city.



Retail, Arts Entertainment

Businesses that sell merchandise or provide accommodation, food, cultural, entertainment, or recreational services.

- **Retail Stores; Food and Beverage Services; Hotels; Art Galleries; and Music Venues.**



Education, Health Care, Social Services

Businesses that provide educational, health care, or religious services that may occupy either offices or more specially-designed facilities.

- **Education; Health Care; Social Assistance; and Not-For-Profit Organizations.**

New York City's Opportunities for Middle-Wage Jobs

The decline in middle-wage manufacturing jobs and the rapid growth in low-wage, lower-skilled occupations in food services, home health care, and retail has fueled a national debate about how to increase opportunities available to workers without a college degree – which comprise the majority of the workforce living in New York City. A recent information brief by DCP, “Middle-Wage Jobs in NYC,” analyzed the availability of middle-wage jobs, defined as jobs paying more than

\$40,000 a year that do not require a college degree, using detailed employment data generally unavailable to researchers.⁶

The study found that across the city's economy there were 715,000 middle-wage jobs, constituting about one-fifth of the city's total private employment.⁷ While these jobs did not require a college degree, most required some training beyond high school, such as a vocational school, an associate's degree, or on-the-job training.

Approximately 40 percent of all middle-wage jobs were in three sectors, all of

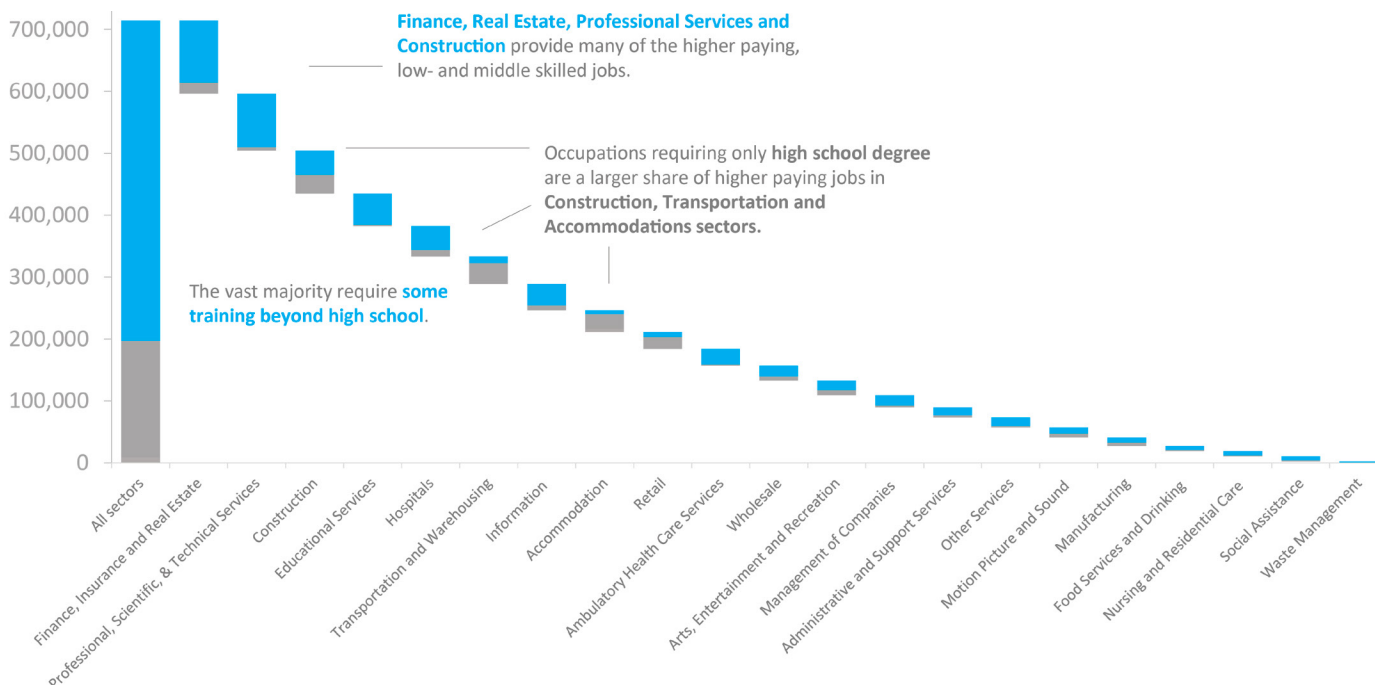
which are growing: finance, insurance and real estate services; professional, scientific and technical services; and construction.

These jobs include occupations such as secretaries, legal assistants, bookkeeping, and customer service representatives.

While manufacturing was historically a source of middle-wage jobs for New Yorkers, it currently makes up a very small share of today's economy: only 2 percent of middle-wage jobs. Instead, jobs offering above average wages requiring only a high school

MIDDLE-WAGE JOBS IN NYC

(with annual wages > \$40,000 that do not require a college degree)

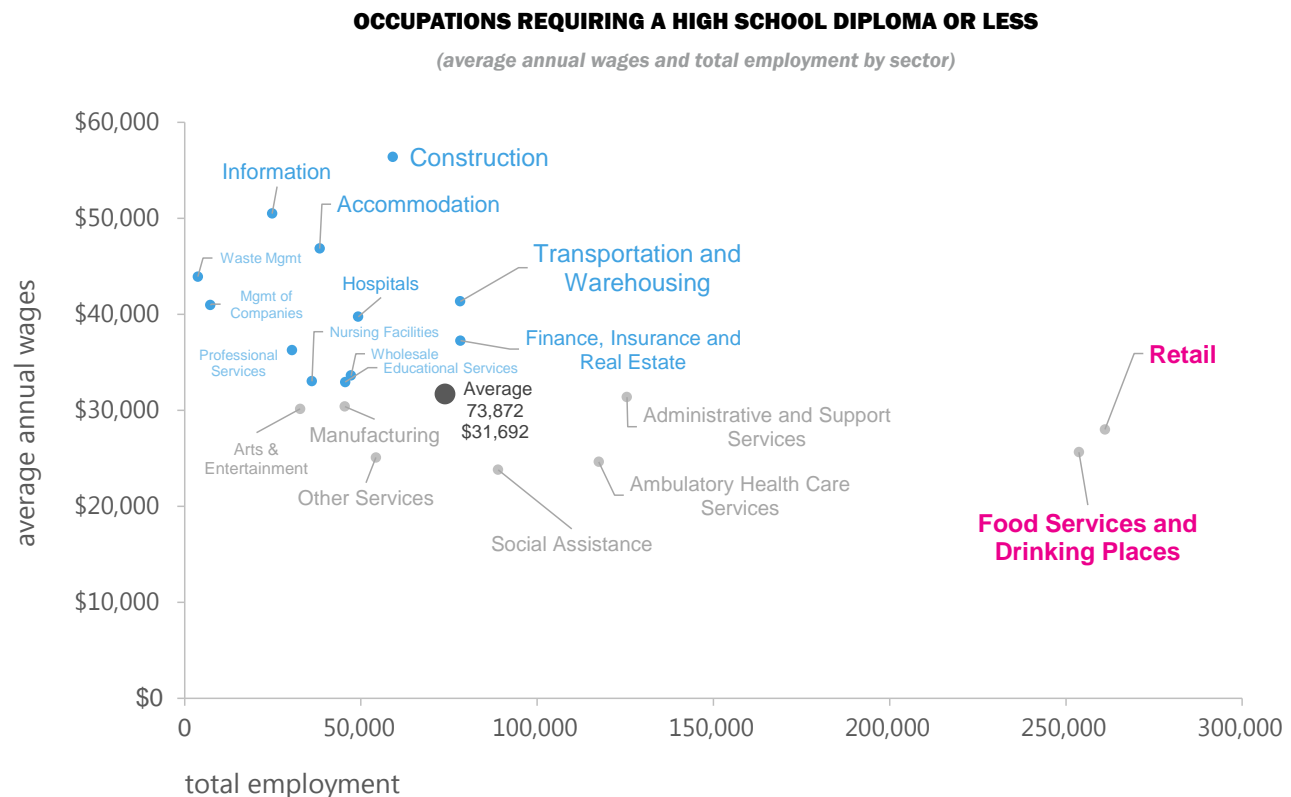


Source: NYS Department of Labor. Occupational Employment Statistics (OES), 2011, 2012, 2013, 2014. Wages updated to the first quarter of 2015 by making cost-of-living adjustments; O*NET OnLine.

degree – with no additional training – were concentrated in accommodation, construction, transportation, and real estate.

strategy to connect local workers with quality jobs across both industrial and non-industrial sectors.

This suggests that, today, there are opportunities for entry-level jobs that extend beyond the manufacturing sector. As such, the City's workforce development programs focus on preparing and connecting workers to jobs in a broad range of growing sectors – such as technology, healthcare, food service, media, and construction. The job growth goals of the *North Brooklyn Plan* should be coupled with a workforce development



Source: Employment and wage data by are based on the Occupational Employment Statistics (OES) survey, which collected information in 2011, 2012, 2013 and 2014 and then updated the wages to the first quarter of 2015 by making cost-of-living adjustments. Occupational Employment Statistics, educational requirements from O*Net.

Shifting Geography of Employment

Job Growth Outside Manhattan

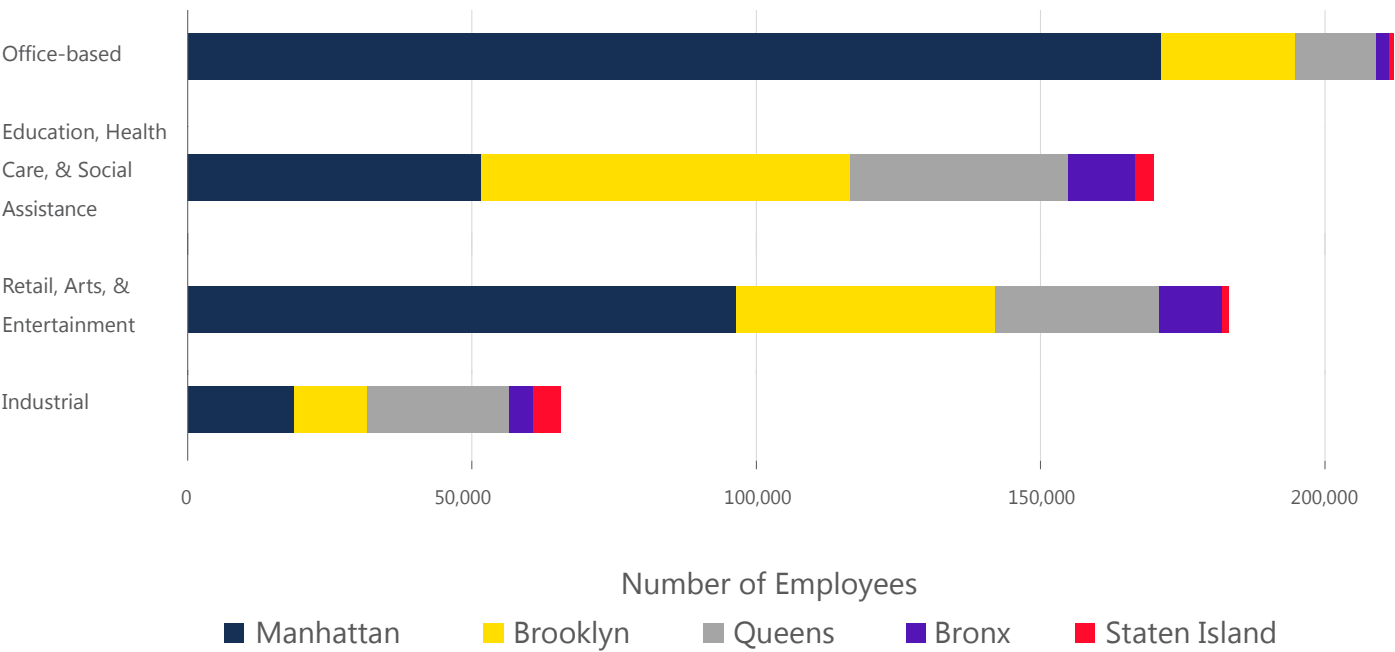
Another notable economic trend is the expansion of job centers in boroughs outside Manhattan, where almost half of the city’s job growth between 2010 and 2017 occurred. This includes 19 percent of growth in office-based jobs; 46 percent of growth in retail, entertainment, accommodation, and food services; 72 percent of growth in industrial sectors; and 70 percent of growth in education, health care, and

social assistance.⁸ Brooklyn gained the most jobs of all the boroughs outside Manhattan — an additional 155,000 jobs between 2010 and 2017.

The estimated net population growth between 2010 and 2017 was also most dramatic in Brooklyn, which gained 144,100 people, a 5.8 percent total gain.⁹ The profile of the labor force living in Brooklyn and Queens is also changing: between 2010 and 2015, the number of residents with a college degree increased by 219,380, and the proportion of workers in management and professional occupations grew from 33 to 37 percent.¹⁰

The types of workspace some businesses seek are shifting. Established companies in the financial services, legal services, real estate, and accounting sectors – important bedrocks of the city’s economy – have traditionally preferred to locate in Manhattan. These traditional office users are the largest occupants of office space in the city in terms of total employment.¹¹ However, TAMI businesses – those in sectors driven by creativity and technology such as software development, sound production and video, biomedical research, architecture, engineering, and advanced manufacturing – are contributing to new demand for

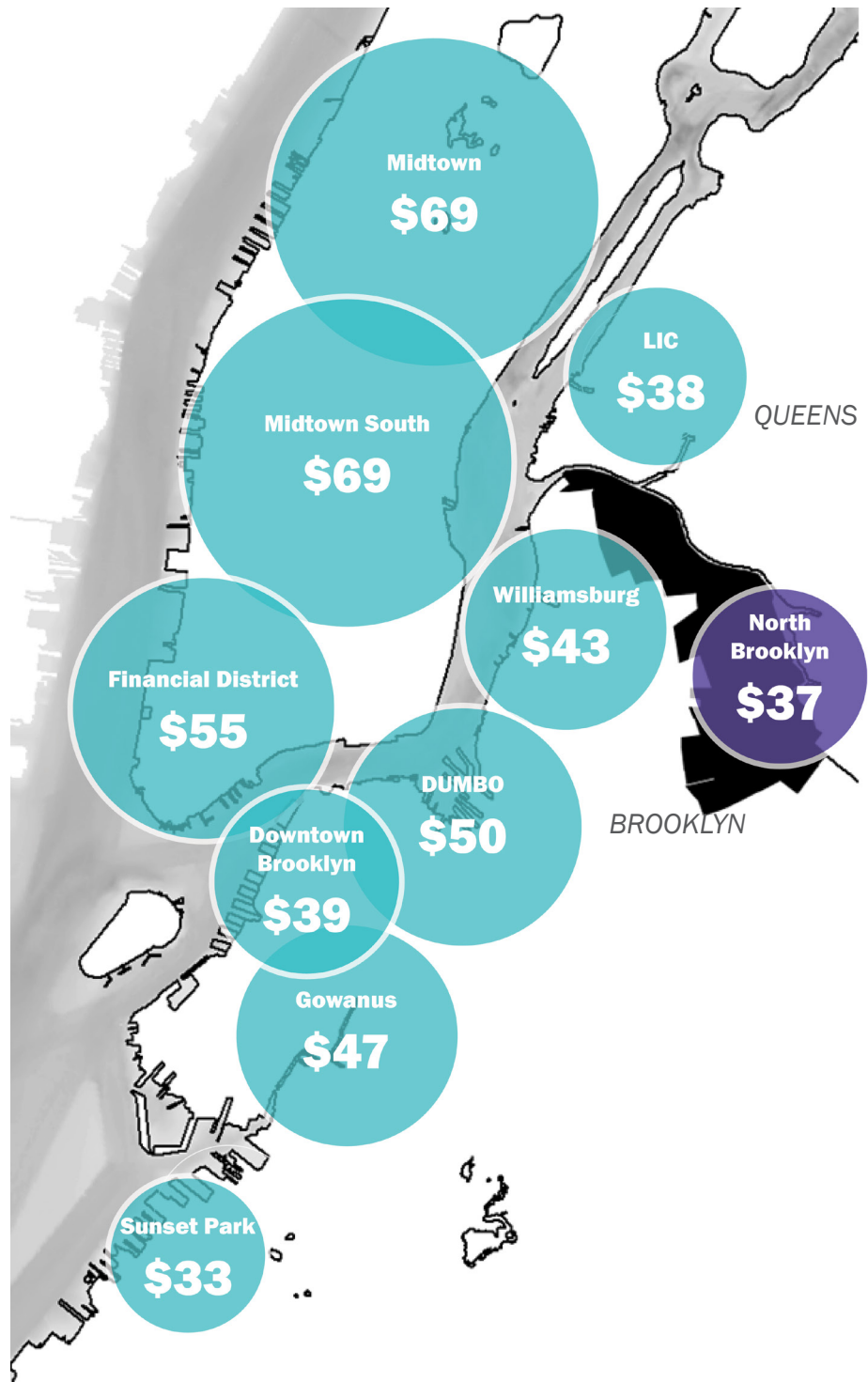
CHANGE IN PRIVATE EMPLOYMENT BY NYC BOROUGH, 2010-2017



Source: NYS Department of Labor. Quarterly Census of Employment and Wages (QCEW), 2010 (annual averages), and 2017 (Q2). Excludes Unclassified jobs, which constitute less than 2% of citywide employment.

office space. These businesses have different economic and workspace considerations, and are more likely to seek space outside of Manhattan in areas near transit and growing residential neighborhoods. These neighborhoods – such as Downtown Brooklyn, DUMBO, Williamsburg, and Long Island City – offer lower rents than established Manhattan office clusters.

The NYC Economic Development Corporation (NYCEDC) estimates that employment in TAMI sectors has grown nearly 28 percent between 2005 and 2015 to a total of 343,000 jobs, or 10 percent of total jobs.¹² Advances in technology and the city's global competitiveness are expected to continue to drive TAMI growth and the need for space that meets their needs.¹³



AVERAGE OFFICE SPACE ASKING RENTS PER SF, 2017

Costar Group, www.costar.com. 2018.

Evolving Industrial Areas

Mixed Industrial- Commercial Areas

Many firms choosing to locate outside of Manhattan have been attracted to M1 districts, which were established by zoning as light industrial buffer areas close to residential neighborhoods. Especially in more transit-accessible portions of M1 districts, aging multistory industrial loft buildings are being repurposed to accommodate office-based, retail, arts, and entertainment businesses. Limitations on entertainment and nightlife uses in many other zoning districts have also encouraged the growth of these uses in these areas.

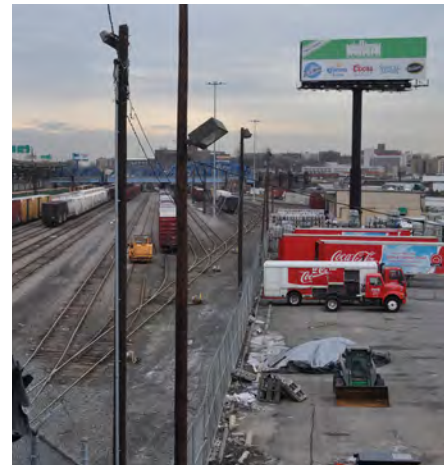
While this trend began in neighborhoods within one to two subway stops of Manhattan, such as DUMBO and Greenpoint-Williamsburg, the trend is now appearing in neighborhoods such as Gowanus, Sunset Park, and portions of the Study Area in East Williamsburg and Bushwick. As residents look for reduced commute times and walk-to-work opportunities, and as pedestrian activity and retail amenities grow, these neighborhoods are likely to continue to see this diverse job growth.

Predominantly Industrial Areas

Many of New York City's industrial areas, however, have remained decidedly industrial with limited commercial growth. This has occurred in areas primarily zoned for heavier industrial uses (i.e., M2 and M3 districts) and in IBZs, which are typically farther from housing and the subway. IBZs, encompassing 7,070 acres of land (excluding airport properties), represent the industrial base of New York City and have outperformed other M districts in maintaining and, to a certain extent, growing the industrial job base.¹⁴ Industrial jobs as a share of total private employment was over 68 percent in IBZs, compared to 46 percent in M districts beyond IBZs in 2014.



Mixed industrial-commercial area: Gowanus

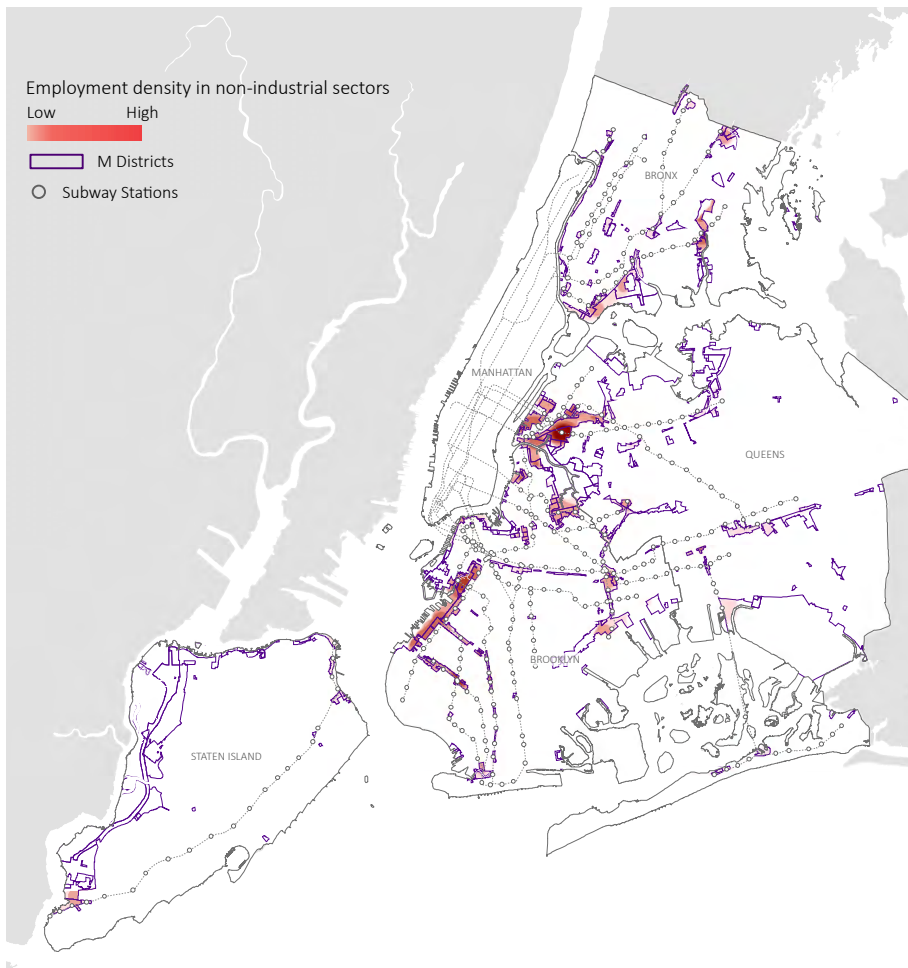


Predominantly industrial area: Hunts Point IBZ



Coworking space in Astoria

Updating Industrial Zoning



DENSITY OF NON-INDUSTRIAL EMPLOYMENT IN M1 DISTRICTS OUTSIDE MANHATTAN, 2015

Source: NYS Department of Labor. Quarterly Census of Employment and Wages (QCEW), 2015 (3Q).

Economic growth in M districts has, in certain instances, created new pressures on industrial sectors that rely heavily on intensive trucking and depend on the limited siting options provided within M districts, far from residential neighborhoods. At the same time, existing zoning creates impediments to the construction of new commercial space in light industrial areas where it may be appropriate. In the Study Area and elsewhere, the growth in both industrial and non-industrial jobs has occurred at times haphazardly.

The *North Brooklyn Plan*, in accordance with the City's *Industrial Action Plan* and the *New York Works* jobs plan, supports DCP's efforts to identify appropriate ways to modify zoning to create suitable business environments for job growth in a range of industries within M districts. In order to create capacity for new work space and jobs within the Study Area, the *North Brooklyn Plan* recommends new zoning that can channel commercial growth into appropriate mixed commercial and industrial areas, while also retaining the majority of the Study Area for large industrial businesses.

Policy Considerations:

Industrial Mixed-Use Building Typologies

Incentivizing or requiring provision of industrial space within buildings for uses that generate higher rents — such as office, residential, retail, and/or self-storage uses — has been proposed as a way to produce new industrial space that would not otherwise be built by the private market. While intriguing, these mixed-use models are largely untested. DCP conducted an in-depth study — [Can Industrial Mixed-Use Buildings Work in NYC?](#) — to determine the feasibility of these buildings in selected M districts, including in the Study Area. The study assessed:

1. **Financial Feasibility:** How likely is it that the private market could create these buildings at a broad scale without public subsidy?
2. **Tenanting and Operations:** What types of industrial businesses and use mixes work best?
3. **Physical Feasibility:** What are the building design and site requirements of an efficient industrial mixed-use building?
4. **Broader Policy Implications:** Are there policy and planning tradeoffs associated with encouraging these buildings?

Overall, the study found that under the right conditions, private construction of industrial mixed-use buildings may be feasible, but requires suitable, flexible development sites, favorable real estate market conditions, and relatively low-volume light industrial tenants.

This suggests that requirements for mandatory inclusion of industrial space in new developments across a neighborhood risk stifling investment. However, the City can update zoning to remove obstacles to the construction of such buildings, such as reducing parking and loading requirements, modifying building envelopes, and increasing allowable FAR; it can also create mechanisms to encourage such developments when feasible in targeted locations (as recommended for the Transition Area in this *Plan*).

FINDINGS

Based on market analysis, interviews with businesses and industrial experts, design of building prototypes, and financial analysis, the study found:

Financial Feasibility

> Industrial mixed-use development is financially feasible without subsidy under certain favorable conditions. Factors include real estate market conditions and development costs, which increase with building design inefficiencies, provision of parking and loading, environmental remediation, and floodproofing.

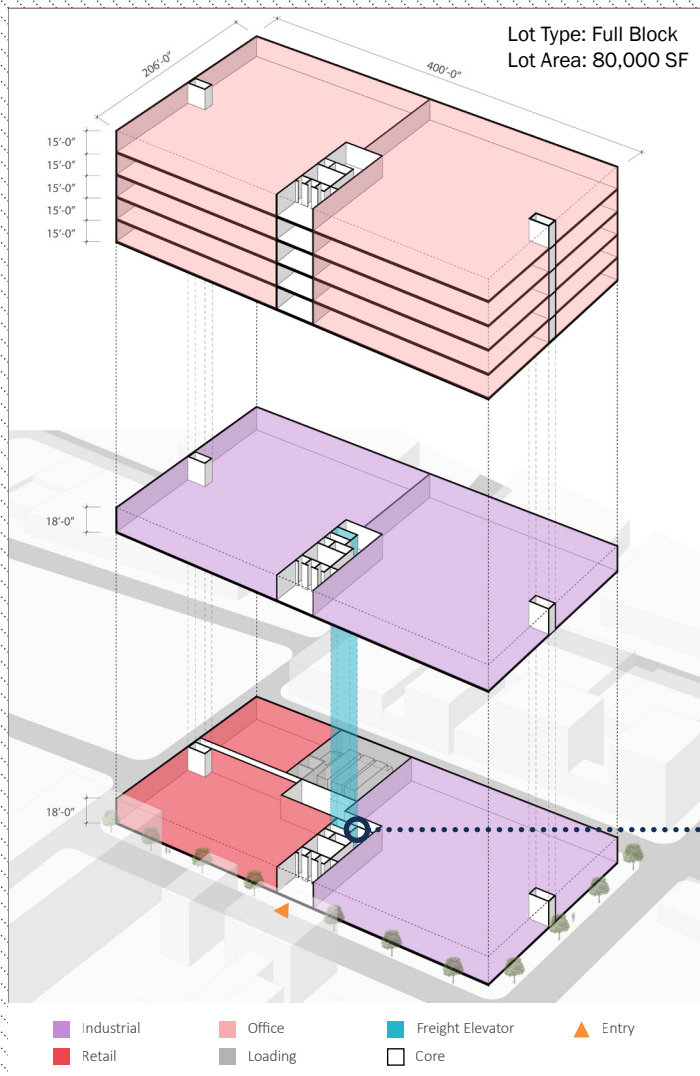
Feasibility also depends on the mix of uses, depth of demand for different types of spaces, and size of development.

Tenanting and Operational Feasibility

> Mixing industrial with office and/or retail results in fewer conflicts and more efficient buildings than mixing with residential. Residential tenants are more sensitive to noise, odors, and other impacts of industrial activities, thus requiring greater separation, increasing costs, and decreasing operational and design

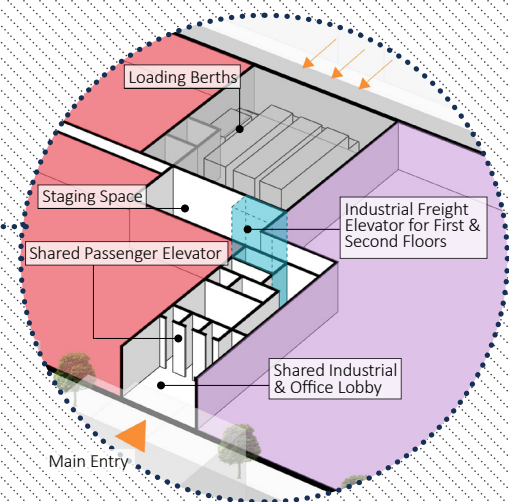
efficiency. Office uses also have similar space needs to industrial businesses, such as large floor plates and wide column spans. Retail can generate additional revenue, but prefers to locate on ground floors also preferred by industrial businesses.

> The types of industrial businesses that can occupy these buildings are generally small, niche manufacturers, including artisanal manufacturing (such as apparel or jewelry making), advanced manufacturing (such as 3D printing), and food manufacturing,



Mixed-use prototypes were tested on different lot types. While mixed-use buildings are generally less efficient than single-use ones, certain conditions made this prototype a relatively efficient building with fewer conflicts:

- > Large site allows for an efficient ground floor design that accommodates retail and light industrial.
- > Office/industrial can occupy similar, large floorplates and share a lobby and core, unlike a residential mix.
- > Multiple frontages allow separation of entryways and loading.
- > Few loading berths and no parking also avoids inefficiencies and costs but requires transit access and tenants with lower loading/parking needs.



which generally generate less fumes, noise, and truck traffic. Artisanal and advanced manufacturing can also often occupy upper floors, freeing ground floors for retail space. Large, truck intensive industrial businesses are more difficult to accommodate.

Physical Feasibility

- > Mixed-use buildings are more complex and less efficient than single-use buildings. Lots over 20,000 SF can increase building flexibility and efficiency, and multiple street frontages can

facilitate separation of uses.

- > Off-street parking and loading occupy valuable ground floor space, increasing costs and decreasing efficiency. Targeting industrial business tenants with lower parking and loading needs and reducing minimum parking and loading requirements in M districts could help address this.

Broader Policy Implications

- > Policy tradeoffs associated with promoting industrial mixed-use buildings should be considered

carefully by policymakers and communities. Mixing industrial uses with other uses may increase the potential for conflicts between trucks, pedestrians, and cyclists. Given financial constraints, providing both affordable housing and industrial space within a development is likely to be challenging without additional subsidy for the industrial space. There is also a tradeoff between providing ground-floor industrial space and providing retail space that serves a neighborhood. Some communities, however, may conclude that these tradeoffs are worthwhile.