

Making Room for Housing and Jobs

Land use policies to stabilize the city's core industrial areas in order to promote development of both affordable residential and industrial uses citywide

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About

The Pratt Center for Community Development has worked for the past fifty years for a more just, equitable, and sustainable city for all New Yorkers by empowering communities to plan for and realize their futures. As part of Pratt Institute, we leverage professional skills - especially planning, policy analysis, and advocacy - to support community-based organizations in their efforts to improve neighborhood quality of life, attack the causes of poverty and inequality, and advance sustainable development.



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I. Executive Summary

The de Blasio Administration is moving forward with an ambitious plan to address the city's affordable housing crisis. The heart of the plan involves zoning changes that would allow new residential uses and increased density in neighborhoods throughout the city. Many of the areas being considered for rezoning are now occupied by industrial uses that provide well-paying jobs that offer ladders out of poverty for workers and their families – the same New Yorkers that *Housing New York*, the Mayor's housing plan, is meant to benefit.

Affordability is a matter of both housing costs and people's incomes. Placing well-paying jobs at risk undermines the Mayor's own objectives to build more housing, lessen the growth in income disparity, and advance a more equitable city. Replacing manufacturing jobs, which pay an average of \$51,637, with jobs in retail and neighborhood services, which pay an average of \$37,584, is a strategy for downward mobility and makes affordable housing that much less affordable.¹

The City's current land use toolkit provides limited options for protecting industrial jobs while encouraging housing development. If we are to avoid pitting jobs against housing, we would need new approaches that would enable housing development without displacing or undermining the city's industrial job base. While a dynamic manufacturing sector also needs targeted economic development services, training and workforce development, and a 21st century system of environmentally sustainable distribution and production, without space, these economic development services would be far less impactful. Most importantly, without space, jobs will be lost.²

Recognition of the need to better integrate land use strategies with the city's overall economic development policy is growing. In November 2014, the New York City Council released *Engines of Opportunity* which detailed the evolution of the city's industrial land use strategies and the emerging gaps in those policies, and laid out a series of new land use tools designed to strengthen the industrial sector, foster innovation and encourage reinvestment and job creation.³

This study by Pratt Center builds on the Council's work to also explore the relationship between industrial land use strategies and housing development. To date, the general perception has been that rezoning industrial areas for housing would almost inevitably help advance affordable housing goals. However, the loss of well-paying industrial jobs might actually undermine the affordability of housing unless steps are taken to minimize displacement.

The Need for New Zoning Tools

Space for manufacturing is under intense pressure due to rising demand from manufacturing uses and encroaching non-industrial uses, coupled with diminishing supply. The Bloomberg Administration's aggressive program of rezoning manufacturing areas for market-rate housing resulted in a significant loss of industrial land across the city. The light industrial zoning districts that remain are highly vulnerable due to permissive use regulations, which allow many non-industrial uses as-of-right; these non-industrial uses consistently outbid manufacturing uses in the procurement of space. These weaknesses combined with the de Blasio Administration's disproportionate messaging about the need to increase housing development has resulted in the speculative acquisition of industrial sites throughout the city in anticipation of potential rezonings for residential development. Creating real estate stability is essential for businesses to make the ongoing reinvestment that is needed to create jobs, remediate the legacy of environmental contamination that threatens both workers and residents of the surrounding

¹ New York State Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013

² For more information on Pratt Center's proposals for a comprehensive approach to industrial development, see: http://prattcenter.net/sites/default/files/industrial-policy_issue-brief_final.pdf

³ There is significant alignment between the Council's and Pratt's work, particularly in the analysis of the flaws in the existing Manufacturing and MX zoning, and in the call for Industrial Employment Districts, a new type of manufacturing zoning.

communities and build a vibrant manufacturing sector that provides well-paying jobs in a healthy environment. The encroachment of non-industrial uses occurs even in the city's 21 Industrial Business Zones (IBZ), which were originally intended to be "safe havens" for manufacturing. Though the word "zone" appears in the designation, IBZs do not reflect zoning provisions, are legally no different from other light manufacturing districts throughout the city, and suffer from the same gaps in protection. The effectiveness of IBZs rested on the perception that they would remain industrial. Since IBZs are not codified in zoning, and funding for the organizations that provide services to industrial businesses has been eliminated in the most recent budget, increased expectations that IBZs will be eliminated further undermine their effectiveness.

The City's approach to mixed-use zoning has also eroded inventory of manufacturing space. MX districts,⁴ created to allow a mix of residential and industrial uses in specific areas, in reality have encouraged rapid and substantial displacement of manufacturing space by residential and commercial uses: Over 4.2 million square feet of industrial space has been lost as a result of MX zoning since 1997.⁵ The MX approach rests more on inertia or the expectation that property owners would not pursue the highest profit from the residential conversion of their space, rather than on incentives or controls to guide the market. This laissez-faire strategy has not yielded the desired balanced mix of uses.

Achieving a sustainable balance of uses in a particular district is not an easy endeavor. As this paper explores, adopting a more prescriptive approach to the creation of a mixed-use district may achieve a more balanced mix of uses over a longer term but would come at a significant cost: considerable density and the need for public subsidy and administrative oversight. Nor is this approach a simple solution that can be applied broadly to resolve the difficult challenges facing many neighborhoods. As the de Blasio Administration seeks to create additional mixed-use zones to allow the production of new affordable and market-rate housing, new zoning and financing models will be essential to ensure that housing and manufacturing can sustainably coexist, but this outcome will be difficult to accomplish.

Conclusion

The City's industrial sector is an essential component of its overall economic health, and the future of this sector is reliant on the availability of affordable, stable real estate. At a time when public discourse is dominated by the identification of areas for affordable housing, the need to stave off rapid real estate speculation in the city's remaining industrial areas has grown critically important. To foster a vibrant industrial base, the City should reinforce and strengthen its commitment to the industrial sector by:

- 1. Strengthening IBZs by creating Industrial Employment Districts which restrict non-industrial uses, prohibit development of big-box retail and self-storage in IBZs, and allow non-accessory offices, hotels, schools, and social service space only by special permit;**
- 2. Codifying the IBZ designation in zoning for all of the areas in which they are currently mapped.**

Only after the City's IBZs have been fortified should it consider a new approach to mixed-use zoning, and only then for select and specific areas. If the City truly intends to create mixed-used districts, it should cease to propose new MX districts. Instead, it should develop a new zoning tool that directly shapes development in a particular district to achieve a balanced mix of residential, commercial, and industrial uses. However, there are a number of challenges inherent in creating a truly mixed-use neighborhood that must first be addressed before the City proceeds further in proposing new mixed-use districts.

⁴ MX is the abbreviation for the City's most-often-used zoning district, which pairs a light manufacturing district with a residential district. The first MX district was mapped in The Bronx in 1997.

⁵ NYC Department of City Planning MapPLUTO, 2004-2014

II. The need to preserve existing manufacturing space and enable development of new industrial space

The shortage of stable and affordable industrial space severely constrains the retention and expansion of established manufacturing firms in New York City and inhibits the emergence of innovative firms and sectors existing at the nexus of technology, design, and production. These types of firms need affordable, suitable, and well-located space. Their growth is hobbled by its scarcity.

The perception that there is an abundance of vacant industrial space is inaccurate. While it is true that the long-term contraction of the manufacturing sector resulted in decreased demand for industrial space, the vast “surplus” of industrial land that the Bloomberg Administration identified to frame its rezoning policy greatly overstated the case by including large areas of M-zoned land permanently occupied by utilities, transportation facilities such as airports, and other types of infrastructure. While Bloomberg’s City Planning department claimed only a small percentage of industrial land was being rezoned, the amount of M-zoned land actually available for private-sector industrial use decreased by almost 2,000 acres between 2002 and 2009.⁶ This loss of industrial space yielded a direct loss of industrial businesses and jobs. For example, a sampling of 32 manufacturing businesses that were located within a Manufacturing District that was rezoned to MX in Greenpoint-Williamsburg in 2005 found that only 8 remain there today.⁷ In addition, many of the areas that were rezoned were fairly high density, such as the Garment Center in Midtown Manhattan and the Printing District in Hudson Square. Companies and jobs were packed tightly in these areas and, when forced to relocate to lower density areas, the concentration of companies and jobs was punctured and spread across the city. These two flaws in City Planning’s analysis continue to distort an understanding of the issue.

The land that remains is increasingly less affordable for manufacturing businesses. Sale prices and rents for industrial property are driven by the “highest and best” uses that are allowed under the zoning. “Highest and best” is a real estate term of art that factors out consideration of uses which may generate the most jobs or taxes or serve a community need in favor of those uses that can pay the most for space. Light industrial zoning (M-1) allows many uses whose returns enable companies eligible for the designation to outbid manufacturers for space. For example, Pratt Center identified 86 self-storage facilities located in manufacturing zones, 52% of which are located in an IBZ. Self-storage facilities consume lots of space and create very few jobs but are very profitable in New York and often outbid more job-intensive uses like manufacturing.⁸ Because most New York City manufacturers rent rather than own their space, they are highly vulnerable to displacement triggered both by actual neighborhood change and the perception that change may soon occur. That perception has been fueled by the relative ease with which landowners have secured special permits to legalize non-conforming uses and the proliferation of as-of-right non-industrial uses, particularly hotels and other large entertainment-related uses.

When non-industrial uses, especially hotels and residential, enter industrial areas (whether legally or otherwise), they undermine the industrial character of those areas through economic competition and conflicts engendered by environmental and operational incompatibilities. Noise, air emissions, trucking for delivery and waste removal, and hours of operation may all fall within regulatory norms for industrial areas but conflict with the expectations of residents and commercial users.

⁶ *Protecting New York’s Threatened Manufacturing Space*. Pratt Center for Community Development, April 2009.

⁷ *Learning from Greenpoint and Williamsburg: Zoning and the Future of Industry in NYC*. Christina Chavez, October 2014 (unpublished thesis) There were over 300 manufacturing businesses operating in the Greenpoint-Williamsburg rezoning area in 2004. This review followed up on a sampling of 32 firms.

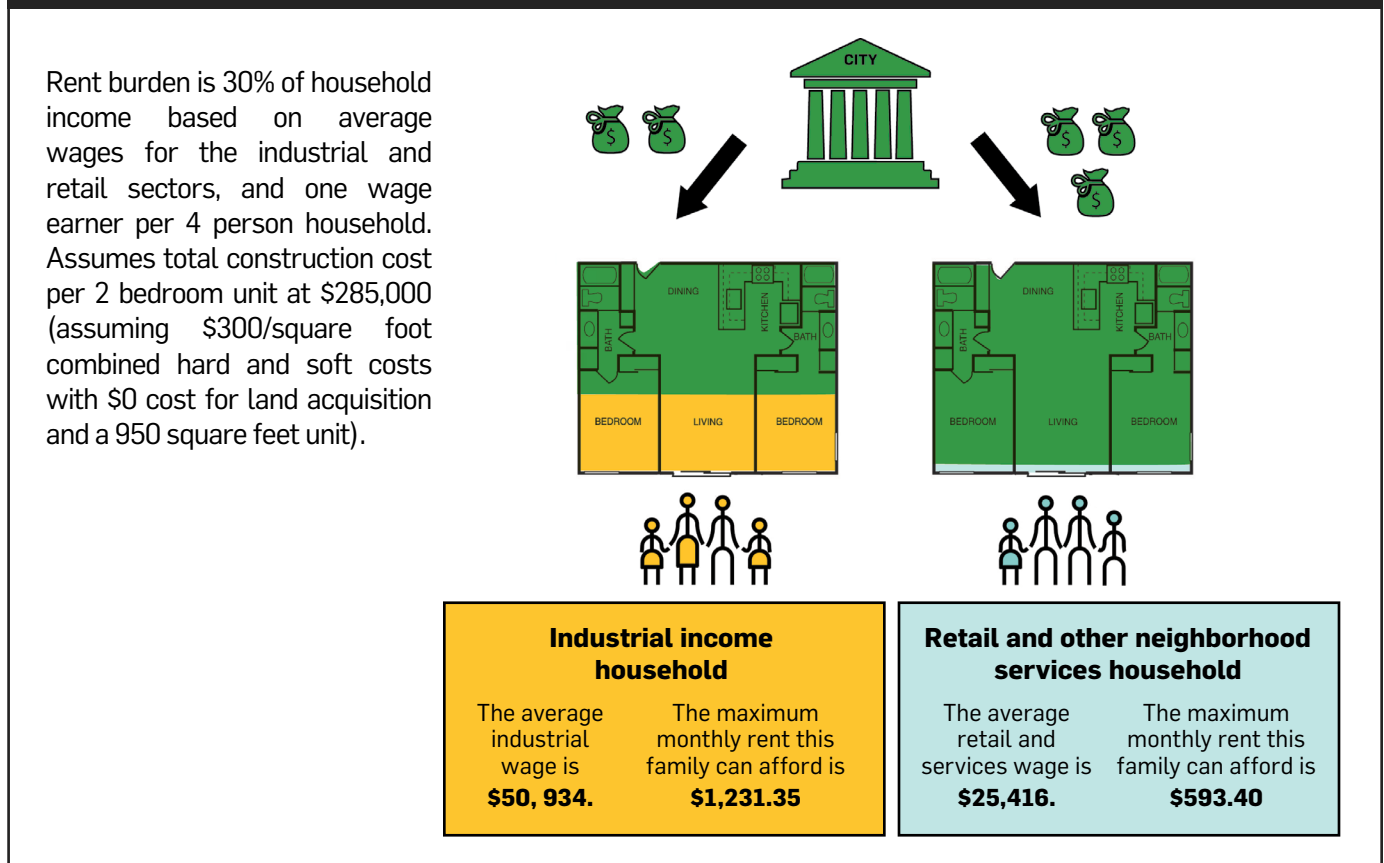
⁸ *Hotel Development in NYC, Room For Improvement*. Pratt Center for Community Development, February 2015.

The result of all this displacement is a loss of well-paying jobs for people with limited educational attainment and English language skills. When forced to look towards alternative sectors for employment after the loss of a manufacturing job, people are often steered to employment in retail, which results in a significant decrease in income. Citywide, manufacturing jobs pay an average of \$51,637 and retail jobs pay an average of \$37,584.⁹ The disparity is even greater outside of Manhattan. A recent study by the City Council reported average industrial wages for Brooklyn and Queens workers at \$50,934 and retail at \$25,416.¹⁰ This income disparity becomes particularly problematic when applied to the Mayor's affordable housing plan. If industrial areas continue to be considered for residential development, and permanent job growth comes largely from the neighborhood businesses serving the new residents, such as jobs in retail, the drop in income will fuel increased need for affordable housing, a dynamic that would undermine the rationale behind the rezoning

(See Appendix A). As presently conceived, the bulk of the new affordable units could be afforded by a household supported by an industrial wage earner, but would be beyond a household supported by a retail income.

New land use tools are essential to reconciling the de Blasio Administration's housing and equity agenda. The Administration has already demonstrated its willingness to explore new strategies in embracing mandatory inclusionary zoning to stimulate affordable housing development. The next step is to develop tools that also provide space for job creation. This report examines the ways that New York City's existing land use policy tools fail both to protect land for manufacturing and to promote a sustainable mix of residential and industrial uses. It proposes new approaches to accomplish these goals in support of the de Blasio Administration's equity agenda as well as its affordable housing plan.

Figure A. : Replacing Industrial Jobs With Retail Jobs Undermines Affordability And Increases The Need for Public Subsidy



⁹ New York State Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013.

¹⁰ *Engines of Opportunity*, New York City Council, November 2014, p. 5.

III. Strengthening Industrial Areas and Creating Jobs Through Industrial Employment Districts

In 2006, in an effort to retain and expand the city's industrial sector and in response to criticism of its large-scale rezoning policies, the Bloomberg Administration established 16 Industrial Business Zones (IBZs) throughout the city by issuing an executive order designating specific areas within existing manufacturing zoning districts. Non-profit industrial service providers were engaged to offer expanded business services to industrial and manufacturing firms in these areas, and tax credits were offered to businesses that relocated to an IBZ. Importantly, to promote the real estate stability that is required for manufacturing firms to thrive on a long-term basis, the Administration made a commitment to not rezone these areas for residential use. Actions by the IBZ Boundary Commission in late 2013 created additional zones, resulting in a total of 21 IBZs throughout the city.

The proliferation of non-industrial uses has fueled speculation and commercial gentrification, even within the IBZs.

While the IBZ designation has fostered some sense of stability for land users within their boundaries, the IBZ designation does not change the porous nature of the underlying industrial zoning. Especially in hot market areas, the proliferation of non-industrial uses, such as self-storage, entertainment, retail, offices independent of a manufacturing operation, and hotels, has fueled speculation and commercial gentrification, even within the IBZs. Many industrial businesses need and want an industrial-only location free of conflicts with non-industrial uses and that offers the real estate stability required for investment in their property and operations. As these non-industrial uses begin to grow in a manufacturing area, they not only directly displace manufacturers but also cause adjacent property owners to reevaluate and price their properties in

anticipation of conversion to non-industrial uses. Industrial tenants also observe the changes in their area, begin to fear for their economic security, and start weighing a future move.

This real estate uncertainty, even though it is of property values increasing, can deter investment by both the property owners and the industrial tenants, triggering a downward spiral that is bad for the business, bad for the community and bad for the workers. Business owners are hesitant to invest in new equipment, training and even in marketing because they are uncertain that they can recover their costs if they have to move. Property owners may also curtail maintenance and investment if they are beginning to consider a sale or use change.

This disinvestment includes not only direct business operations but improvements necessary to adapt to climate change. As the New York Environment Justice Alliance has argued, this is a particular problem because so many of the City's industrial areas are on the waterfront and at risk from sea level rise.

Finally, IBZ service providers have been fiscally squeezed by successive cuts in City support, even as their service areas have expanded. While not strictly a concern of land use policy, decreased funding for or the elimination of programs contributes to the expectation that the land use policy is changing, compounding uncertainty and fear among existing businesses. The experience of the Greenpoint-Williamsburg IBZ in the wake of the area's 2005 rezoning illustrates both the value of IBZs and the need to strengthen the protections they offer in order to preserve areas attractive for industrial activity and investment.¹¹

Greenpoint-Williamsburg Industrial Business Zone

In 2006, in part to remediate the 2005 adoption of the 184-block rezoning plan for Greenpoint-Williamsburg, the City created the Industrial Business Zone program and mapped the Greenpoint-Williamsburg IBZ along the East River near the Bushwick Inlet. While the Greenpoint-Williamsburg IBZ blocks

¹¹ See also *Engines of Opportunity*, NYC Council, November 2014 which examined the impact of the rezoning and reached similar conclusions about the ineffectiveness of MX zoning to preserve industrial jobs.

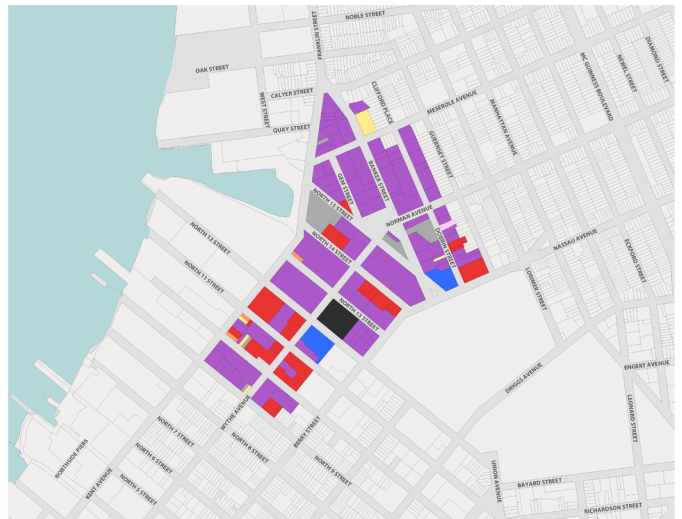
remained zoned for manufacturing, the penetrable character of manufacturing zoning combined with the real estate pressure stemming from adjacent areas that had been rezoned for market-rate residential development led to substantial encroachment by as-of-right, non-industrial uses. In 2004, the year before the rezoning was approved, 87% of the lot square footage in the IBZ was occupied by “Industrial and Manufacturing” uses; there were no “Commercial

and Office” uses (see Figure B).¹² By 2014, “Industrial and Manufacturing Uses” decreased by over 378,000 square feet and now only comprise 65% of the lot square footage. In contrast, commercial uses have increased by 236,000 square feet and now constitute 14% of all lot square footage (see Figure C).¹³ Figure D shows the variety of non-industrial uses that have located in the IBZ in recent years.



Figure B. 2004 Greenpoint-Williamsburg IBZ Land Use

Figure C. 2014 Greenpoint-Williamsburg IBZ Land Use



- | | | |
|---|---|---|
| Industrial & Manufacturing | Mixed Residential & Commercial Buildings | Parking Facilities |
| Commercial & Office Buildings | Multi-Family Walk-Up Buildings | Vacant Land |
| Public Facilities & Institutions | Transportation & Utility | |

^{12, 13} NYC Department of City Planning, MapPLUTO, 2004-2014

Figure D. Non-industrial Uses in the Greenpoint-Williamsburg IBZ, 2015



Bar/Restaurant/Cafe

- 3 MatchaBar
- 9 Kinfolk Cafe/bar
- 19 Berry Park
- 24 Dirck the Norseman
- 25 Northern Territory
- 12 Kent Ale House

Hotel

- 5 Unnamed (under construction)
- 13 Wythe Hotel
- 17 Level Hotel (under construction)

Miscellaneous

- 1 Paws and Claws Veterinary Hospital
- 6 Unnamed (under construction)
- 11 Eva's Play Pups
- 21 The Boiler
- 23 Williamsburg Wellness Center

Entertainment

- 14 Brooklyn Bowl
- 10 Verboten
- 15 Output
- 20 The Gutter
- 28 Brooklyn Night Bazaar

Office

- 2 Fast Ashleys Studios
- 8 Vice Media
- 16 Amazon Photo Studio
- 18 Unnamed (under construction)
- 22 Root Media Studio
- 27 The Yard

Retail

- 4 Kinfolk Store
- 7 Jungle Design
- 26 The Tasting Room

Innovation Districts: Mixing Commercial and Industrial Uses

The justification for affirmative policies to mix commercial and industrial uses holds that proximity of uses will build relationships among companies and individuals that will lead to new product development, new business formation, and an accelerated cycle of innovation that will generate growth. Often called “Innovation Districts,” such areas are intended to contain a synergistic mix of space for design, production, the arts, and other activities rooted in creativity, as well as restaurants and other amenities desirable to the workers in these sectors. However, for all its dynamism and fluidity, the innovation process suggested in this model ironically depends on real estate stability to assure the availability of a diverse range of spaces occupied by tenants who can afford a variation of land costs and rent levels.

As demonstrated in the preceding section, the introduction of commercial uses into an industrial zone can dramatically reduce the amount of space available for production-based uses, bid up the cost of real estate, and displace industrial businesses and jobs. Rather than allow non-industrial uses to permeate an Industrial Business Zone or other heavily industrial area, the City should identify other, more appropriate areas to facilitate this type of mix. An “Innovation District” that seeks to propagate a stable mix of industrial and commercial uses will likely need a series of zoning provisions similar to those described in the following section of this report on mixed industrial-residential zoning. In addition, in order to promote mixed commercial/industrial districts, the City should make greater use

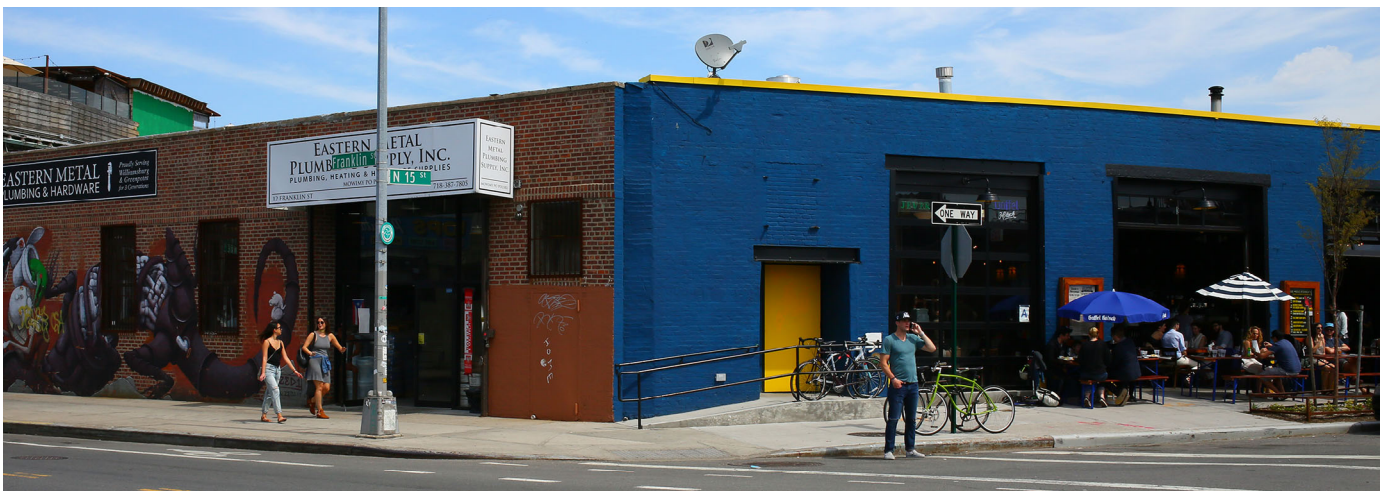
of non-profit organizations or the City’s Industrial Development Agency to own or manage industrial spaces and to foster connections between businesses and those academic institutions able to provide research and development support.

Industrial Business Zones, however, should remain solely for industrial activity.

Recommendations – Codify IBZ boundaries in zoning and strengthen their protection of industrial uses

In light of the challenges posed by encroaching uses in IBZs and by speculation that IBZs may be rezoned to allow residential development, we recommend that the City designate the 21 IBZs as Industrial Employment Districts (IEDs) with the following provisions:

- 1) Eliminate or strictly limit non-industrial uses within IBZs by banning big-box retail and self-storage facilities. A special permit would be required for schools, social services, hotels, and large, non-ancillary office uses subject to findings that they would not displace manufacturers, undermine the operations of industrial neighbors, or provoke speculation. Commercial uses such as restaurants, entertainment venues, and small retail would be allowed only on a scale that supports the industrial uses.
- 2) Codify IBZs in zoning as IEDs so that landowners and businesses have the assurance of relative permanence. The City could also consider increasing the allowable density in these areas to encourage new industrial development.¹⁴



¹⁴ *Engines of Opportunity*, NYC Council, November 2014 also calls for the creation of Industrial Employment Districts (IEDs).

IV. Challenges of creating and sustaining a mix of industrial and residential uses

Pratt Center initiated this research with the intent of developing strategies to support the formation of new mixed-use districts. What we learned about the financial and operational challenges of mixed-use districts forced us to reconsider our original objectives and recognize the limitations of mixed-use districts as a strategy to encourage both affordable housing and industrial jobs. The initial analysis of the impacts that the numerous MX rezonings has had on existing industrial land clearly shows that MX is not working and should not be pursued moving forward. However, developing an alternative approach is not an easy endeavor. As this section demonstrates, the extreme flexibility in MX does not provide any incentive to maintain industrial uses, consequently deterring the mix of uses that is desired. However, alternate approaches present their own challenges. This section seeks to highlight these various challenges, with suggested remedies for many of those hurdles. To fully address remaining obstacles, the City must come to terms with the cost of creating balanced mixed-use zones; namely, how to offset the need for significant density, the need for public subsidy, and the requisite administrative resources to effectively enforce the zoning code.

MX zoning has resulted in a substantial loss of industrial space

New York City's history of mixed residential/industrial neighborhoods long predates the adoption of the 1961 Zoning Resolution. For decades, industrial neighborhoods were job centers for workers who lived nearby and walked to work. When manufacturing locally and nationally began to decline in the 1970s and 1980s, a number of special mixed-use districts, such as the Special Northside Mixed-use District in Williamsburg, Brooklyn, were created in an attempt to maintain a balance of residential and industrial uses. Specific criteria for where various uses could locate within a particular block were issued in these districts in order to preserve a balance of residential and manufacturing. Despite these guidelines, many of

these districts experienced a dramatic shift towards residential uses. Many buildings that prohibited residential uses were illegally converted as there was little enforcement of zoning restrictions. Even when building owners legally abided by the residential restrictions, the Board of Standards and Appeals frequently granted use change variances without adequate investigation or analysis into the merits of the variance request to determine if the balance of uses sought by the special zoning designation was being achieved.

In the late 1990s, in an effort to both streamline the process for setting up mixed-use districts and to create greater flexibility within the new mixed-use zones, the NYC Department of City Planning (DCP) developed a generic mixed-use zoning text that could be applied in different areas of the city. The Special Mixed-use District (MX), as it is known, was first mapped in the Bronx in Port Morris in 1997 and has been the City's primary mixed-use tool over the past two decades. DCP describes the intent behind MX as to:

"... encourage investment in, and enhance the vitality of, existing neighborhoods with mixed residential and industrial uses in proximity and create expanded opportunities for new mixed-use communities. New residential and non-residential uses (commercial, community facility and light industrial) can be developed as-of-right and can be located side-by-side or within the same building."¹⁵

Despite this objective, MX zoning in practice has not ensured a balance of uses but instead has tipped the scales towards a significant increase in residential uses and a substantial loss of industrial space. The fundamental weakness is that MX zoning sets no limits or ratios to maintain the mix of land uses over time and allows both residential and light manufacturing uses as-of-right. Because the return on investment for residential development is exponentially greater

¹⁵ http://www.nyc.gov/html/dcp/html/zone/zh_special_purp_cw.shtml

than the return on industrial development, residential uses will almost always prevail over maintaining or expanding industrial uses.

The majority of existing MX districts has experienced significant increases in residential and commercial uses at the expense of industrial uses. As of 2014, the total amount of industrial and manufacturing lot square footage in the 14 MX districts mapped since 1997 and the Hunters Point Sub-District¹⁶ has decreased by 41%, a loss of over 4.2 million square feet.¹⁷ Residential lot square footage, including mixed residential and commercial land use, has increased by 71%. There has also been a 36% increase in the lot square footage for commercial uses (without residential).¹⁸ In some districts, the negative impact of MX zoning on industrial space is especially acute: in the Greenpoint/ Williamsburg, Flushing/Bedford, and Hudson Square MX districts, industrial lot square footage decreased in each district by over 60%. There is only one MX district that has seen an actual increase in industrial and manufacturing lot square footage: the West Harlem MX district experienced a 7% increase.

There appeared to have been some recognition by the end of the Bloomberg Administration that in order to achieve a desired mix of uses, whether a mix of residential and industrial uses or a mix of residential and commercial uses, a generic zone that simply allows various uses without any provisions to require or maintain any of them will likely not achieve the desired outcome.¹⁹ The M1-6D district mapped in Penn Station South in 2011 and the Special Hudson Square District in Manhattan mapped in 2013 both allow residential development as-of-right only in buildings under a certain size, and with provisions to maintain existing non-residential uses in larger buildings.

MX and Housing New York: the challenge of preserving jobs and creating affordable housing

The de Blasio Administration is relying on the introduction of housing in manufacturing zones as part of its strategy to create and preserve 200,000 units of affordable housing.²⁰ Despite the failure of

the MX zoning tool to sustain a balance of uses, the Department of City Planning has proposed to rezone existing industrial areas in East New York to MX, suggesting an unfortunate return to earlier zoning policies which could have citywide impact on the availability of industrial space.

MX zoning has not ensured a balance of uses but instead has tipped the scales towards a significant increase in residential uses and a substantial loss of industrial space.

Recognizing that MX has not successfully achieved a balance of uses and that in many communities a balance is desired, Pratt Center has explored alternatives for achieving a truly balanced and sustainable mixed-use zone that includes both industrial uses and affordable housing. We examined two scenarios: The *vertical mixed-use scenario* envisions a district where any new construction includes on-site industrial space, affordable housing, and market-rate housing. The *horizontal mixed-use scenario* envisions a district where vertical mixed-use buildings are allowed, but not required. Instead, residential development is restricted to specific lots, and the creation of new industrial space is encouraged through added density and available financial support. Each scenario presents specific challenges.

This analysis demonstrates that, while it is extremely difficult to create balanced mixed-use districts that include affordable housing without displacing manufacturing, it is indeed possible. To accomplish such a mix requires an acceptance of considerable housing density, a contribution of significant public subsidy, and significantly tougher zoning enforcement than has been the practice in the past.

¹⁶ The Hunters Point Sub-District in Long Island City is not officially an MX district but has the same provisions of an MX district.

¹⁷ This analysis is conservative as it only includes changes made since 2004, the oldest reliable PLUTO database available. Therefore it does not account for any change in land use between 1997 and 2004 for the 4 MX districts and the Hunters Point Sub-District that were all mapped prior to 2004.

¹⁸ NYC Department of City Planning MapPLUTO, 2004-2014

¹⁹ For example, the Purpose and Need section in the Environmental Impact Statement for the Special Hudson Square District outlines the need for the various provisions included in the special district. http://www.nyc.gov/html/dcp/pdf/env_review/hudson_square/01_feis.pdf

²⁰ <http://www.nytimes.com/2015/02/04/nyregion/new-york-mayor-bill-de-blasios-state-of-the-city-address.html>

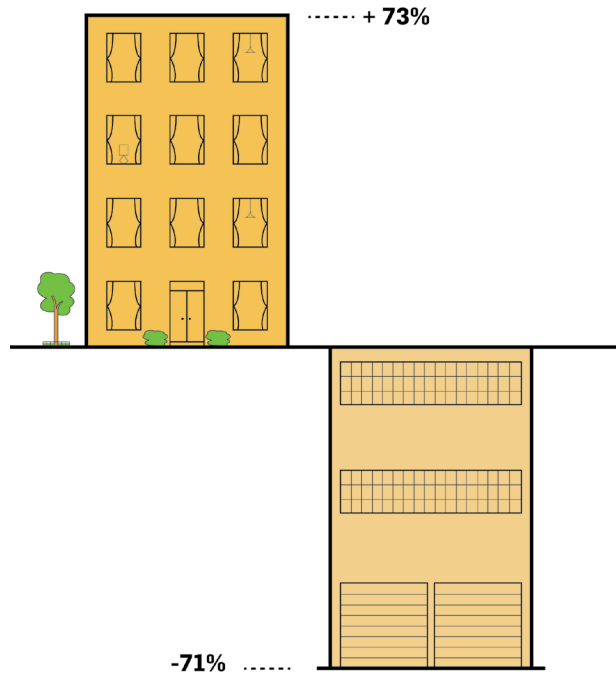
It also suggests that current neighborhoods which remain mixed-use are precious and deserving of attention to maintain and preserve their successful conditions. Zoning in these neighborhoods should be revised by adding the balancing protections described below such that when market expansion catches up to them, the weaknesses in the current MX zoning will have been already addressed. Without such commitments, the mapping of additional MX

zones as it is currently defined will catalyze the displacement of industries that provide living-wage jobs for residents of the low-income communities that the housing plan sets out to help. It is possible to avoid pitting affordable housing against good jobs for New Yorkers who badly need both, but to realize this vision will require thoughtful policy crafting and an investment of capital funding and political will.

Figure E. MX Results In Displacement of Industrial Space

Without any mechanism to balance uses, MX zoning has resulted in a significant loss of industrial space. For example, in the Flushing-Bedford MX district (MX 4), residential uses have increased by 73% while industrial and manufacturing uses have decreased by 71% between 2004 and 2014.

Source: NYC Department of City Planning MapPLUTO, 2004-2014.



Vertical Mixed-use Scenario

The current MX zoning allows for vertical mixed residential and industrial buildings as long as the residential units are located above any industrial use; however, there have been very few instances in which this type of development has actually taken place. In order to evaluate the feasibility of a mixed-use district that would require residential buildings to include space for manufacturing, Pratt Center analyzed the particular challenges of this type of development. The primary challenges identified are financial, operational and administrative.

The vertical mixed-use scenario envisions a district where any new construction includes on-site industrial space, affordable housing, and market-rate housing.

The financial challenges of developing a new mixed-use building stem from the fact that both new industrial space and affordable housing do not generally yield a sufficient return on investment to support development costs, so both require some subsidy. If that subsidy has to come entirely from an internal cross subsidy generated by market rate housing, significant residential density is required. Additionally, in such instances there is still an incentive to charge rents comparable to commercial levels for ground floor manufacturing space, which in most cases proves too expensive for most manufacturers.

To better understand the financial challenge of developing a vertical mixed-use building, Pratt Center worked with the Fifth Avenue Committee to run an illustrative model pro forma of a single building that had 1 Floor Area Ratio (FAR) of manufacturing on the ground floor, 20% affordable housing, and 80% market rate housing.²¹ While the cost of development certainly varies from neighborhood to neighborhood based on real estate values, our model uses a 17,000

square foot vacant site in Crown Heights as an illustration. Crown Heights' community board has indicated it is interested in increasing affordable housing while maintaining its industrial base. Our analysis concluded that in order for a developer to make a 10% return on investment on a building with on-site manufacturing as well as 20% affordable housing,²² the zoning would have to allow an FAR of 6.0 or higher (see Appendix B for more information). This is slightly higher than what is considered necessary to build 20% affordable housing in today's market without a manufacturing requirement. This analysis also assumed a \$17/square foot rent for the ground floor manufacturing space, a high but not unreasonable manufacturing rent. However, landlords would be able to charge higher rents for non-industrial uses that are allowed as-of-right in an M zone, as described earlier in this report in reference to the IBZs. Restrictions on ground floor uses would have to be added to the zoning, but this may make financing more challenging for the developer of a vertical mixed-use building.

The operational challenges of a mixed-use building are the same as a mixed-use district but magnified. These stem from conflicting behaviors, standards, and expectations of different users, which may be as mundane as the time of day for putting out garbage or as potentially serious as having children walk across truck routes to get to school. Many industrial businesses operate on a 24/7 schedule, often with trucks coming and going early in the morning. Even light industrial uses such as woodworking, apparel manufacturing, and food manufacturing can produce noise, vibrations, and/or odors. In recognition of these potential conflicts, current MX district regulations impose tighter performance standards for a limited list of industrial uses. The assumption is that, if the City were to create a new mixed-use district, similar standards would remain.

Nonetheless, a business must be free to perform the operations that are essential to its survival and which fall under allowable limits as per the zoning code, despite the irritation this may cause some residents.

²¹ Pratt Center included an 80/20 split for market/affordable housing development for this study's financial analysis. However, we support a larger percentage of affordable housing as advocated for by the Association of Neighborhood and Housing Development (ANHD), especially where developers are not required to build on-site manufacturing.

²² The pro forma assumes a purchase price of \$250/sf, manufacturing rent of \$17/sf, and affordable housing rents of \$854 for a studio to \$1,278 for a 3BR.

For example, a coffee roasting company should not be fined for emitting the smell of roasting coffee if it legally occupies a building in an industrial area and meets the environmental standards for manufacturing.²³ The potential for complaints by residential or even commercial office users is likely to increase if residents and businesses are located in a single building where the operational impacts are more likely to be felt. There may be design solutions to address these concerns, but it is equally likely that they will come with added cost, which in turn may affect higher manufacturing rents.

The third challenge is the administrative effort required to ensure adequate enforcement of the zoning code. Land use violations are often hard to detect. While manufacturing activities on the first floor are sometimes visible for street inspection, a space designated for manufacturing may be illegally converted easily without detection unless there are regular building inspections, a process that historically has been a low priority in the deployment

of city resources. Even when such violations are discovered, there are few politically viable remedies, especially if the space has been illegally converted for residential use.

A mixed-use district that requires new construction to preserve space for manufacturing would result in the development of new industrial space housed in such close proximity to residential uses that the cost and hassle to manufacturers may not be worthwhile. It is our conclusion that vertical mixed-use buildings are possible, but very difficult and costly to develop. Individual developers may want to pursue mixed-use buildings as part of a particular business strategy or aesthetic, and they should have the option to do so in designated areas. Nonetheless, this approach will not work for every neighborhood and is infeasible for many industrial business types. Therefore, vertical mixed-use should not be considered as a broadly applicable policy solution to the dual challenges of building affordable housing and supporting industrial jobs.



²³ <http://www.nytimes.com/2002/12/11/nyregion/cup-of-kafka-coffee-roaster-cited-for-coffee-sml.html>

Horizontal Mixed-use Scenario

Given the challenges of vertical mixed-use zoning described above, Pratt Center also examined the potential for a horizontal, or district-wide, mixed-use zoning approach. Rather than require a mix of uses in each building, the district-wide approach seeks to maintain a mix of uses across a defined area. The district provisions limit residential development to vacant lots and pre-existing residential buildings, protects existing industrial spaces, and encourages industrial property owners to expand. This district may be appropriate in existing MX districts and light manufacturing districts where there is currently a mix of uses and where the addition of a limited number of housing units would not dramatically alter neighborhood character or place undue burdens on existing industrial businesses. The goals of the balanced, horizontal mixed-use district are to:

- Maintain existing square footage of manufacturing uses and enable expansion and development of new manufacturing spaces within the district;
- Protect existing manufacturing and residential tenants to the greatest extent possible;
- Allow for targeted residential development with mandatory affordable housing;
- Allow for limited commercial development that serves the neighborhood but not at a scale that will compete with manufacturing uses; and
- Promote an equitable approach to development that allows all property owners and tenants to benefit.

A district-wide, mixed-use zoning approach shares many of the same challenges as the vertical approach, including financial, operational and administrative hurdles, but not quite to the same degree. The financial challenges of building affordable housing and expanding industrial properties will similarly require significant residential density as well as some public subsidy. However, there may not be the same construction- or design-related premiums for locating multiple uses in one building. Operationally, conflicts between industrial and residential neighbors would still exist, albeit on a lesser scale. The administrative resources required to strictly enforce the zoning code will still be challenging.

While the industrial uses may be more visible, the regulations governing development and use are arguably more complex and may need greater review by city agencies. In addition, by allowing residential development only on specific lots, those property owners would be positioned for a greater increase in land value than others. We have tried to address these inequities by outlining a number of remedies that could be part of a Balanced Mixed-Use Zone. Moreover, the district-wide approach should not be seen as a broadly applicable option in all light manufacturing zones. It should only be considered in targeted and specific areas, and not in any area dominated by active industrial uses.

The horizontal mixed-use scenario envisions a district where residential development is restricted to specific lots, and the creation of new industrial space is encouraged through added density and available financial support.

Horizontal Mixed-Use Provisions

The following provisions of a balanced mixed-use district aim to direct residential development without displacing industrial uses:

OBJECTIVE:

Protect Existing Tenants and Preserve Space.

STRATEGY:

All lots that have or had industrial building square footage within five years prior to the new zoning designation are designated as an “Industrial Preservation Building” (IPB).

To prevent evictions, real estate speculation, and warehousing of land in anticipation of the zoning change, any lot in the district that has or has had building square footage occupied by a legal industrial use within five years prior to the zoning designation should be certified as an “Industrial Preservation Building” (IPB), and that amount of square footage

must be preserved on site for all uses allowed as-of-right in an M1 zone.²⁴ This designation maintains the current amount of industrial building square footage in the district and discourages displacement of industrial businesses before implementation of the zoning district.



OBJECTIVE:

Provide opportunity for industrial property owners to expand their buildings.

STRATEGY:

All lots in the district are up-zoned for an additional 2-3 FAR of manufacturing.

In order to incentivize the development of additional industrial space, all lots in the district should be rezoned for an additional 2-3 manufacturing FAR. While these properties would not have the same

increase in value as properties rezoned to allow residential, the increased FAR is intended to enable industrial property owners to expand space for industrial activity, creating increased value over time.

²⁴ NYC has several precedents of linking eligibility to the existence of a particular use on or before a specific date in the zoning code. Examples include the varied restrictions for residential conversions within existing buildings as stated in <http://www.nyc.gov/html/dcp/pdf/zone/art01c05.pdf>

OBJECTIVE:

Maintain a balance between commercial and industrial uses.

STRATEGY:

Any Industrial Preservation Building (IPB) that expands must maintain square footage for industrial uses.

As discussed above, existing manufacturing zoning allows for a range of non-industrial uses, including offices, restaurants, and retail. Some uses may be necessary to achieve the return on investment needed for an industrial property owner to expand, but they may also easily undermine the purpose of the district by converting all M-zoned space to commercial uses if allowed without restriction. To ensure that space remains for industrial activity, existing industrial property owners who expand with the additional FAR could lease up to 25% of the expanded building to neighborhood-scale retail and

services; however, they must maintain the remaining space for Prioritized Industrial Uses (PIU). PIUs will vary by district but would include industrial-based uses that are compatible with a mixed-use environment such as light manufacturing.

It is worth noting that a critical challenge to increasing manufacturing FAR is the tension between the goals of protecting existing industrial users and creating new industrial space. Construction may require that a property be vacated for a period, which would put the industrial tenant at risk during construction.

OBJECTIVE:

Allow for limited residential development that does not tip the balance between uses.

STRATEGY:

Residential development is limited to particular lots and must include at least 20% affordable housing.

In order to sustain a balanced mix of uses within the district, new housing should be restricted to particular lots. Residential development must include at least 20% affordable units. Only lots that have had one of the following characteristics for five years prior to the zoning designation would be eligible for residential development:²⁵

- Exclusively residential uses
- Vacant land
- Land with minor improvements (including surface parking lots) that are not associated with an enclosed commercial or manufacturing use in the district

Depending on the street width and other particulars, residential development could be further restricted to wide avenues, which would be more appropriate

for larger, taller buildings.

We have assumed that an 80/20 market/affordable housing mix is a starting point for the analysis, and that the option to increase the percentage of required affordable housing has its own benefits and drawbacks for this particular type of district. The positive is to create a greater number of affordable units, and units that could potentially accommodate workers of adjacent industrial businesses. Requiring a higher percentage of affordable units could also help reduce rapidly escalating real estate speculation. However, in today's market, requiring more affordable units will also require a greater subsidy and/or greater density for a developer to recoup the loss in rental income. This condition is also the same for the vertical mixed-use approach.

²⁵ To ensure that a particular type of development is directed to particular (and appropriate) lots, NYC has several precedents of proscribing eligibility criteria in the zoning code. A recent example is the Special Hudson Square District.

OBJECTIVE:

Support the development of industrial space needed for a balance of uses.

STRATEGY:

Residential developers must pay into an Industrial Development Fund (IDF) that the City can use to support industrial and manufacturing expansion.

Even with additional FAR, existing industrial property owners would have difficulty adding new industrial square footage in today's market. Typical industrial rents do not provide sufficient return to justify the investment in new construction. In order to close this gap, the City should create an Industrial Development Fund (IDF) that would make grants and low-interest loans to lower construction costs. Such a fund could be capitalized by a combination of revenues including fees paid by new residential development and city capital budget appropriations.

The IDF model supported by recaptured fees on residential construction is shaped by the Business Relocation Assistance Corporation (BRAC), a similar mechanism used in the early 1980s. BRAC collected fees from loft conversions in certain districts. The fee, embedded in the zoning code, was assessed on a per-square-foot basis (and adjusted for inflation), and funds were then distributed to assist businesses needing to relocate within the city.²⁶

It would take a combination of these various options to support an Industrial Development Fund (IDF) that would be able to provide needed financial support for industrial development in a timely and equitable fashion.

There are two main challenges presented by collecting fees from residential development to underwrite the industrial fund. The first is the likelihood of a timing or sequencing problem presented in the event an industrial developer intends to expand but is delayed in receiving support because insufficient payments have been collected into the development

fund. In fact, the amount which could be collected through fees on residential development might not be sufficient to fully fund the IDF, even if payments were due before receiving a building permit and/or a Certificate of Occupancy. Secondly, by adding another requirement on a residential developer in addition to an affordable housing requirement, the allowable density a developer would require would have to increase.

These problems may be addressed by several other financing options including capital budget appropriations, tax increment financing, and/or the transfer of development rights. If the Fund were to be supported by city capital budget appropriations, projects would have to demonstrate the fulfillment of a public purpose. This may be facilitated by the inclusion of a non-profit manager of the industrial space to guarantee that space remain affordable for job-creating industrial uses over time. The creation of a Tax Increment Financing District which contributes to the fund and is paid back out of the increased property tax revenues potentially occurring from new residential and commercial development is a complex mechanism and rests on many assumptions about likely increases in land values and tax revenues. However, it adds certainty to the availability of funding for the IDF and, arguably, some equity to the balance of benefits awarded in the creation of the district. The creation of a Development Rights Transfer district should allow a manufacturer to sell some of their additional FAR capacities to a residential developer. However it is unclear in today's market that the additional FAR would be of sufficient value to the residential developer to be priced at a level that would allow the industrial developer to close the gap in construction costs. In all likelihood, it would take a combination of these various options to support an IDF that would be able to provide needed financial support for industrial development in a timely and equitable fashion.

²⁶ Administrative requirements imposed on the management of BRAC made it difficult to spend funds in a timely manner and the City would need to develop ways to facilitate this process.

OBJECTIVE:**Alleviate potential conflicts between businesses and residents.****STRATEGY:****A “Good Neighbor” Policy to guide the development and operations of the district.**

The creation of a mixed-use zoning district should include formulation of a “good neighbor” policy to be drafted by the Community Board that would act to increase awareness among residents and business owners of the area’s intentional mixed-use qualities and to minimize potential conflict among user groups by setting appropriate expectations. These good neighbor policies should also seek to educate residents about the implications of living in a mixed residential-industrial neighborhood and foster understanding of the value of industrial businesses and jobs to the city. Realistic guidelines for business operations, such as

hours of operation, waste removal, noise and odor emissions, parking, loading and use of the sidewalks, and other issues that often lead to complaints from residents should be embedded in this document. The guidelines should encourage tolerance and include appropriate strategies for raising awareness among residents that business operations are a valuable part of the community. This may include the introduction of signage and sidewalk treatments to distinguish the mixed-use areas, public events such as “open house” factory tours and community discussions, and programming with local schools.

**OBJECTIVE:****Ensure the district provisions are maintained.****STRATEGY:****Dedicate enforcement resources to keep the balance from tipping.**

Enforcing the zoning code does not often receive much attention, but it is nonetheless a key component of any land use plan and when not conducted becomes extremely problematic. Enforcement is especially important in a district such as the proposed Balanced Mixed-use Zone, where the incentive and potential for illegal conversions are high. Therefore, the City should significantly increase fines for owners in the

district who violate the zoning and institute a system of regular building inspections to ensure compliance. A potential obstacle to a system of more rigorous enforcement may be posed by the challenge of having to evict an illegal residential tenant, a step most elected officials are reluctant to take, and which has in the past led to state intervention to protect the illegal resident.

Analysis

Pratt Center modeled the district-wide approach using the same 17,000 square foot vacant lot in Crown Heights as was used in the vertical mixed-use scenario to illustrate a potential residential development. Similar to our vertical mixed-use district simulation, the district-wide scenario indicates that in order for a residential developer to make a 10% return on investment on a building with 20% affordable housing and paying \$20/square foot of built residential space into the IDF, the zoning would have to allow an FAR of 6.0 or higher, particularly if restricted by bulk or height limits (see Appendix C for more information). This level of density is considerably higher than what most communities would probably accept, especially if that density were contingent on 80% market-rate housing. As noted above, the required FAR could be decreased if the IDF was capitalized by other sources other than a residential development fee and if public subsidies were made available for the affordable housing. However, without an IDF, new industrial space is unlikely to be built under current market conditions, which will undermine the overall balance of uses in the district. Similarly, if there were other resources to offset speculative land costs, the density could also likely be reduced.

If a residential development is to be permitted without on-site manufacturing or payment into an IDF, the required percentage of affordable housing should be higher than 20%.

While the district-wide approach offers increased FAR and access to the IDF as encouragement to industrial property owners to expand (resources that may also be applied to a vertical mixed-use district), owners of lots eligible for residential development would be poised to profit considerably more. Given the far greater return on residential development, new industrial development might not occur until far in the future if at all, even with the availability of a subsidy provided by the IDF. Industrial property owners would have to be convinced that the city's commitment to the formation of a mixed-use district is long-term and that greater industrial density is their best option. The district-wide approach also allows more flexibility for residential developers than the vertical mixed-use scenario and is more likely

to result in a wider range of industrial uses across the district than would be compatible on the ground floor of a residential building.

Sustaining a mix of uses with different operational requirements, development costs, and rent structures is not a simple endeavor and will require significant administrative oversight to enforce the zoning provisions. The preceding discussion of the challenges and the recommendations for addressing those challenges suggest some of the ways a Balanced Mixed-Use Zone could be pursued to support a thriving, genuinely mixed-use neighborhood. Ultimately, it is important to recognize that a Balanced Mixed-Use District should be pursued only in specific and targeted areas so as not to destabilize solid industrial areas essential for job creation and the city's overall ability to function and prosper. The remaining challenges to the creation of the Industrial Opportunity Districts highlighted previously must first be addressed.

It is important to recognize that a Balanced Mixed-Use District should be pursued only in specific and targeted areas so as not to destabilize solid industrial areas essential for job creation and the city's overall ability to function and prosper.

As a starting point, the City should consider pursuing some of the provisions discussed here to select existing MX zones that still retain a significant amount of industrial space. In these areas, new residential development would include affordable housing (which is not a current requirement of MX) and be directed more strategically so as not to further undermine the mix of uses currently in place.

V. Conclusion

The de Blasio Administration's agenda to protect and create 200,000 units of affordable housing is ambitious and relies on rezoning some industrial areas to meet that goal, risking both direct displacement of jobs and triggering real estate speculation in adjacent areas, which can lead to even greater job losses. The administration can and should minimize the loss of industrial jobs and encourage job creation, improve competitiveness, and encourage adaptation to climate change by adopting new zoning strategies to reduce displacement and speculation. Implementing the housing strategy alone risks pitting housing against jobs and putting affordability further out of reach for the workers who potentially stand to lose their jobs. Zoning to protect jobs should move forward simultaneously with zoning to create affordable housing because the two together are essential to building a more equitable city.

As this study points out, there are industrial businesses that can only thrive in an area that is free of housing and other uses that conflict with industrial uses and bid up the cost of real estate. To demonstrate its commitment to industrial jobs and secure the space in which these jobs can grow, the City should codify the Industrial Business Zones in zoning as Industrial Opportunity Districts and limit the type and size of non-industrial uses that are allowed in these areas as-of-right. The IBZs were created with a commitment to prohibit residential conversions. The Administration should uphold that commitment and further its support for industrial businesses by closing the zoning loopholes that currently allow the encroachment of non-industrial uses.

In other manufacturing zoned-areas that are not Industrial Business Zones but potentially appropriate for mixed-use development, the City should recognize the negative implications of rezoning to MX and acknowledge that displacement of industrial businesses and jobs is a likely result. Instead of MX, the Administration should implement a more nuanced zoning tool—one that allows for residential, commercial, and industrial development but not at the cost of one over the others. We believe the options for a Balanced Mixed-Use Zone outlined in this study can achieve the important goal of fostering diverse neighborhoods that retain their genuine mix of uses over time and where affordability and innovation can cohabit. However, several challenges must first be overcome in order to create a successfully balanced mixed-use neighborhood, and will require a long-term commitment and resources to safeguard that balance into the future. Most importantly, a mixed-use zone should only be considered in targeted and specific areas, and not in any area that is dominated by active industrial uses.

Taken together, Industrial Opportunity Districts and Balanced Mixed-use Zones in targeted and select areas can help ensure there is ample and reasonably priced space for well-paying jobs alongside space for affordable housing. Ensuring space for jobs will strengthen the city's programmatic initiatives in technology assistance, workforce development, and marketing assistance to create a thriving manufacturing sector essential to the foundations of an equitable economy for all New Yorkers.

Appendix

Appendix A : Analysis of Capacity to Finance - Manufacturing Wage vs. Retail Wage

		Manufacturing	Retail	Difference
Annual wages		\$50,934.00	\$25,416.00	\$25,518.00
Household affordable rent (per month)		\$1,248.93	\$593.40	\$351.33
Annual rent Household can afford		\$14,987.10	\$7,120.80	\$4,215.90
Expenses (per unit)		\$6,500.00	\$6,500.00	
Net Operating Income (NOI) (per unit)		\$8,276.00	\$621.00	\$7,655.40
Debt service coverage (ration of cash to debt service)	1.15			
Cash available for debt (per unit)		\$7,196.70	\$539.83	\$6,656.87
Loan size can service (per unit)		\$105,004.98	\$7,876.45	\$97,128.53
Interest rate	6%			
Years	30			

Appendix B : Vertical mixed-use pro forma (Mixed residential and industrial building)

20% Affordable, Industrial Fee		FAR	6
		Lot Size	16,500
DEVELOPMENT BUDGET			
	Amount	Rates	Criteria
Acquisition Cost			
Building	\$0	\$0.00	per Square foot \$250 per square foot
Land	\$4,125,000		per du
		\$0	per du ←
Construction Cost			
Contractor Price - Residential	\$18,150,000	\$220	per Square foot 82,500 square feet
1 FAR Floor Manufacturing	\$3,135,000	\$190	per Square foot 16,500 square feet
Other	\$0	\$120	per Square foot - square feet
Cellar/Parking	\$1,856,250	\$125	14,850 square feet
Contingency	\$1,157,063	5.00%	
Total Hard Cost	\$24,298,313	\$247.78	per GSF
		\$285,863	per DU
Soft Costs			
<i>Soft Cost</i>			
Borrower's Legal	\$90,000		
Borrower's Engineer/Architect Fees	\$1,214,916	5.00%	of total HC
Accounting	\$12,000		
Owner's Cons Rep and Staff	\$0		
Bank's Engineer	\$11,000	18	constr.months
Bank Legal	\$65,000		
Environmental Phase I & 2	\$25,000		
LEED/Green consultant	\$0		
Survey	\$6,000		
Title Insurance	\$293,628	0.9%	
Appraisal	\$12,000		
Market Study	\$8,000		
Soil Borings/GroundTesting	\$10,000		
Other:	\$0		
<i>Subtotal</i>	<i>\$1,747,544</i>		
<i>Financing and Other Fees</i>			
Bank Commitment Fee	\$255,392	1.00%	
Annual L/C Fee & Servicing Fee	\$0	0.00%	
Industrial Fee	\$0		\$ - /sf
Marketing & Rent-up	\$168,000		
Conversion Fee (permanent)	\$154,727	0.50%	
HPD 421a Fee	\$8,750		
<i>Subtotal</i>	<i>\$586,870</i>		
<i>Carrying Costs</i>			
Construction Interest	\$1,347,229		
Negative Arbitrage	\$0		
Real Estate Taxes	\$10,000		
Water and Sewer	\$10,000		
Other:	\$0		
Insurance	\$150,000		
	<i>\$1,517,229</i>		
<i>Reserves</i>			
Rent-Up Reserve	\$157,803		
Other Reserve	\$0		
Capitalized Operating Reserve	\$105,202	\$1,238	per du
Debt Service Reserve	\$351,410		
<i>Subtotal</i>	<i>\$614,416</i>		
Soft Cost Contingency	\$192,582	5.0%	of soft costs
Total Soft Costs	\$4,658,640		
Developer's Fee	\$3,246,754	10.00%	TDC
Total Development Cost:	\$36,328,706		
Construction Sources			
Bank Construction Loan	\$25,359,599	69.81%	
Developer Equity I	\$7,265,741	20.00%	
Deferred Industrial Fee	\$0		per unit < 130% 50.0%
Deferred Reserves	\$456,612	1.26%	per unit < 130%
Deferred Developer's Fee	\$3,246,754	10.00%	0.0% % of equity during construction
<i>Total Cons Sources</i>	<i>\$36,328,706</i>	<i>100.00%</i>	
Permanent Sources			
Bank Financing	\$30,945,488	85.18%	
Developer Equity	\$3,632,871	10.00%	
Deferred Developer's Fee	\$1,750,348	4.82%	54%
GAP	\$0	0.00%	
<i>Total Perm Sources</i>	<i>\$36,328,706</i>	<i>100.00%</i>	
Total Related Costs	\$ 31,056,417	\$ 365,370	per unit

Project Assumptions

85 Apartments
 17 Studios 3 at 60% AMI, 14 at Market
 25 One Bedroom 5 at 60% AMI, 20 at Market
 25 Two Bedroom 6 at 60% AMI, 19 at Market
 17 Three Bedroom 3 at 60% AMI, 14 at Market
 1 Super's Unit

Maintenance & Operating
 1 Full time Super, 1.5 FTE Super, 3/4 time doorman
 Energy Efficient heating (.53/sf/year) and common electric
 6% Management FEE, \$250/unit/year replacement reserve
 \$7,426/unit/year

16,500 SF Manufacturing
 \$17.00 sf rent

Parking
 39 parking spaces; \$300/space/month

Financing
 4.25% Construction Financing, 5.75% Permanent Financing

Developer/Owner Return
 11.01%

Appendix C: Horizontal mixed-use pro forma (Residential-only building with Industrial Development Fund fee)

20% Affordable, Industrial Fee		FAR	6		
		Lot Size	16,500		
DEVELOPMENT BUDGET					
	Amount	Rates	Criteria	Asking Price	
Acquisition Cost					
Building	\$0	\$0.00	per sf -----)	\$250	per square foot
Land	\$4,125,000		per du		
		\$0	per du ←		
Construction Cost					
Contractor Price - Residential	\$21,780,000	\$220	per Square foot	99,000	square feet
First Floor Manufacturing	\$0	\$190	per Square foot	-	square feet
Other	\$0	\$120	per Square foot	-	square feet
Cellar/Parking	\$1,856,250	\$125		14,850	square feet
Other	\$0			-	square feet
Contingency	\$1,181,813	5.00%			
Total Hard Cost	\$24,818,063	\$216.63	per GSF		
		\$245.723	per DU		
Soft Costs					
<i>Soft Cost</i>					
Borrower's Legal	\$90,000			Project Assumptions Apartments 20 Studios 4 at 60% AMI, 16 at Market 30 One Bedroom 6 at 60% AMI, 24 at Market 30 Two Bedroom 6 at 60% AMI, 24 at Market 20 Three Bedroom 6 at 60% AMI, 24 at Market 1 Super's Unit Maintenance & Operating 1 Full time Super, 1.5 FTE Super, 3/4 time doorman Energy Efficient heating (.53/sf/year) and common electric 6% Management FEE, \$250/unit/year replacement reserve \$7,056/unit/year M&O Financing 4.25% Construction Financing, 5.75% Permanent Financing Parking 39 parking spaces; \$300/space/month Return to Developer/Owner 10.9% IRR	
Borrower's Engineer/Architect Fees	\$1,240,903	5.00%	of total HC		
Accounting	\$12,000				
Owner's Cons Rep and Staff	\$0				
Bank's Engineer	\$11,000	18	constr.months		
Bank Legal	\$85,000				
Environmental Phase I & 2	\$25,000				
LEED/Green consultant	\$0				
Survey	\$6,000				
Title Insurance	\$308,880	0.9%			
Appraisal	\$12,000				
Market Study	\$8,000				
Soil Borings/Ground Testing	\$10,000				
Other:	\$0				
<i>Subtotal</i>	<i>\$1,788,784</i>				
<i>Financing and Other Fees</i>					
Bank Commitment Fee	\$266,430	1.00%			
Annual L/C Fee & Servicing Fee	\$0	0.00%			
Industrial Fee	\$1,980,000	\$ 20.00	/sf		
Marketing & Rent-up	\$200,000				
Conversion Fee (permanent)	\$167,383	0.50%			
HPD 421a Fee	\$10,350				
<i>Subtotal</i>	<i>\$2,624,163</i>				
<i>Carrying Costs</i>					
Construction Interest	\$1,405,455				
Real Estate Taxes	\$10,000				
Water and Sewer	\$10,000				
Other:	\$0				
Insurance	\$150,000				
	<i>\$1,575,455</i>				
<i>Reserves</i>					
Rent-Up Reserve	\$178,163				
Other Reserve	\$0			3	month operating
Capitalized Operating Reserve	\$118,776	\$1,176	per du	\$0	per unit
Debt Service Reserve	\$380,153			2	month operating
<i>Subtotal</i>	<i>\$677,092</i>			2	mo mortgage payment
Soft Cost Contingency	\$200,420	5.0%	of soft costs		
Total Soft Costs	\$6,865,914				
Developer's Fee	\$3,513,188	10.00%	TDC		54.46% of fee deferred
Total Development Cost:	\$39,322,165				
Construction Sources					
Bank Construction Loan	\$26,455,614	67.28%			
Developer Equity I	\$7,864,433	20.00%			
Deferred Fee	\$990,000		50.0%		% of equity during construction
Deferred Reserves	\$498,929	1.27%			% of Industrial Fee Due at Construction Closing
Deferred Developer's Fee	\$3,513,188	10.00%			
<i>Total Cons Sources</i>	<i>\$39,322,165</i>	<i>100.00%</i>			
Permanent Sources					
Bank Financing	\$33,476,635	85.13%			
Developer Equity	\$3,932,216	10.00%			
Deferred Developer's Fee	\$1,913,313	4.87%	54%		
GAP	\$0	0.00%			deferred
<i>Total Perm Sources</i>	<i>\$39,322,165</i>	<i>100.00%</i>			
Total Related Costs	\$ 33,717,923		per unit	\$ 333,841	

About

The Pratt Center for Community Development has worked for the past fifty years for a more just, equitable, and sustainable city for all New Yorkers by empowering communities to plan for and realize their futures. As part of Pratt Institute, we leverage professional skills - especially planning, policy analysis, and advocacy - to support community-based organizations in their efforts to improve neighborhood quality of life, attack the causes of poverty and inequality, and advance sustainable development.

Visit us at www.prattcenter.net.



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