

# **The Politics and Policies of New York City's Manufacturing Industry**

A Thesis Presented to the Faculty of Architecture, Planning, and Preservation  
COLUMBIA UNIVERSITY

In Partial Fulfillment of the Requirements for the  
Degree Master of Science in Urban Planning

Melissa Loomis Bindra  
May 2017

# Table of Contents

CHAPTER 1: INTRODUCTION .....	3
CHAPTER 2: BACKGROUND .....	7
CHAPTER 3: LITERATURE REVIEW .....	11
Economic Patterns .....	11
Policy Development and Efficacy .....	13
CHAPTER 4: RESEARCH DESIGN .....	17
Economic Data Analysis .....	17
Policy Timeline .....	19
Interviews.....	19
Analysis and Findings .....	20
CHAPTER 5: THE NYC MANUFACTURING ECONOMY.....	21
The Industry .....	22
Number of Jobs in the industry.....	22
Number of Establishments over time .....	24
Top sectors in the industry overtime.....	27
Labor .....	29
Wages.....	29
Educational Attainment .....	30
Age .....	32
Gender .....	32
CHAPTER 6: NYC POLICY.....	33
Land Use and Zoning Laws .....	33
Protecting Manufacturing.....	37
CHAPTER 7: INTERVIEWS .....	49
Manufacturing Land.....	49
Competing Land Interests.....	49
Zoning.....	51
Workforce Development .....	55
Equity .....	56
Access to employment opportunities.....	56
Manufacturer’s "Right to the City” .....	58

Future Policy and Industry Needs.....	58
Availability and form of funding .....	59
The role of developers .....	59
Clarity in land use.....	61
Enforcement mechanisms .....	61
More data .....	62
CHAPTER 8: FINDINGS.....	63
Industrial land use is inconsistent.....	63
Modern zoning and policy is driven by the real estate market .....	64
Without further intervention, the jobs created will not be low barrier to entry jobs .....	65
The Government is unwilling to pursue policies that restrain the real estate market.....	67
CHAPTER 9: RECOMMENDATIONS.....	68
Making Jobs and Income a Priority .....	68
Planning and Zoning for Industry.....	68
Using Current Practices as Case Studies .....	69
More Data .....	70
APPENDIX A.....	72
APPENDIX B.....	75
INTERVIEW SCHEDULE .....	75
NYC INDUSTRIAL ACTION PLAN .....	77
BIBLIOGRAPHY .....	81

## CHAPTER 1: INTRODUCTION

The manufacturing industry has played an important role in the prosperity of the United States, particularly in New York State. In the first half of the 20<sup>th</sup> century, New York was one of the nation's leading ports and 40% of New Yorkers were employed in the manufacturing industry. Industrial employment peaked in New York State at 2 million jobs in the 1950s. (Manufacturing Research Institute 2010). Fundamental changes in the economy in the 66 years since the post-World War II boom have created a vastly different economic landscape. The job market for low skilled workers is now dominated by service sector jobs which offer low wages and few to no benefits, accounting for over half of the job growth in New York City since 2010.<sup>1</sup> These economic shifts have created an environment where the once thriving middle class has decreased both in size and wealth, and more people are living in poverty despite being employed (Adkisson, et al. 2016, Appelbaum 2016).

While manufacturing may not have the same economic market share it once had, according to reports from the New York City Council and the Pratt Center for Community Development, employment and investment in the manufacturing industry still offers economic advantages over more dominant sectors. In 2013, manufacturing jobs in New York City paid \$51,000 a year on average, compared with \$25,416 for positions in retail, hotel, and restaurant sectors. Equally significant, every \$1.00 invested in the manufacturing of products in New York creates \$1.33 in additional output in other sectors, while the same \$1.00 invested in the retail and professional services industries create \$0.66 and \$0.61, respectively<sup>2</sup>.

---

<sup>1</sup> New York City Planning Report - Employment Patterns in New York City Trends in a Growing Economy July 2016

<sup>2</sup> United States Bureau of Economic Analysis, Annual Input-Output Tables

As one of the great industrial cities of the past, New York City has seen its share of decline and change over the years and is no stranger to the struggle of keeping and creating manufacturing jobs. The ever-growing population and cost of land has made it one of the most difficult places to support manufacturing but seemingly the most in need of well-paying manufacturing jobs (Pratt Center for Community Development 2016).

Policies that encourage and subsidize manufacturing processes within New York such as the establishment of Industrial Business Zones (IBZs) and favorable tax policies for manufacturers of particular products have been standard and expected practices for over 60 years (Bacheller 2000). Land use and zoning regulations aimed at retaining or creating manufacturing jobs have existed since the 1961 zoning resolution establishing manufacturing specific zoning, but the desired results have yet to be achieved. After 65 years of the same economic policies, the number of manufacturing jobs in New York State total less than 10% of the number of manufacturing jobs that existed in the 1950s (Adkinsson 2016, Campbell, et al. 2010, Wolman 2015).

The lackluster performance of policy to retain manufacturing jobs has led researchers to search for answers by studying global and regional economies and which policies work and how. Unfortunately, results have been mixed and largely inconclusive except to say that policies have varying effects and success (or failure) rates vary among regions and cities (Feldman 2016). The inconsistent results could mean that local policies and dynamics may play a bigger role in economic development than we think (Adkinsson, et al. 2016).

This thesis will add to the body of work attempting to piece together the narrative of the American manufacturing economy by exploring the history of politics, policy and land use in New York City as it pertains to manufacturing.

[Page Intentionally left blank]

## CHAPTER 2: BACKGROUND

The economic expansion of the 19th century and early 20<sup>th</sup> century was fueled by a dominant manufacturing sector that depended on urban ports, transportation and infrastructure. Cities like New York, Boston, Detroit, and Chicago were hubs of low skilled manufacturing jobs, providing increasingly more of the population with a middle class living. Their economies were both dominated by and dependent on manufacturing.

What began as a decrease in the need for manufacturing in the late 1950s quickly became an ongoing restructuring process that fundamentally transformed the manufacturing industry in the United States. Continued advancements and investments in technology and infrastructure changed the spatial, capital, and labor needs of manufacturers (Dinc, et al. 1999). These fundamental changes initially led to chronic joblessness in cities that were dependent on manufacturing jobs and ultimately contributed to their decline (Wilson 1997).

The impact of economic restructuring has been disproportionately borne by workers employed in manufacturing while benefits are defused across the population. After the loss of a manufacturing jobs, workers with skills limited to manufacturing have struggled to be re-employed and are more likely to find jobs that pay less than their previous jobs despite participating in state and local programs that encourage education and reintegration into the workforce. (Beneria 2001).

Most economic development programs were crafted during the initial era of deindustrialization when retention and attraction of any job was the objective (Theodore 2001). Since then, advancements in the economy have changed the use of labor in the manufacturing



process and substantially decreased the potential gains from job creation (Theodore 2001).

Whether it applies to today's economy or not, the focus in economic policy continues to be on job creation for low and middle income workers (Beauregard 1999, Friedman 2010, Porter 2016).

This is especially true in New York City, where the economy continues to gain year after year, while the unemployment and joblessness rate among the poor is over 20% - almost four times the unemployment rate for the metropolitan area as a whole (5.7%).<sup>3</sup> Compounding the focus on job creation, the State has refocused its efforts on diversifying the industries in which the labor force is employed, after being especially affected by the dominance of the financial industry in New York City during the Great Recession of 2008.

Planning for a diverse economy with a focus on creating manufacturing jobs is further complicated by the complexities of the current economy and the diversity of companies involved. Companies face different types of issues related to land use, population, and resources in different cities, especially compared to 60 years ago. In growing cities like New York, the high cost of labor and land has created an environment that makes locating a manufacturing facility in proximity to labor cost prohibitive and politically difficult (Lund, Armstrong 2005) and much of the land currently zoned for manufacturing is concentrated on the waterfront, prime real estate for luxury residential and recreation space (Schleicher, Hills 2010). The focus on highest and best use and property values, compounded by the City's need

---

<sup>3</sup> Source: Bureau of Labor Statistics, 2016 Local Area Unemployment Statistics

and focus on creating housing has fueled speculation and rezoning of a significant portion of the City's land originally designated for manufacturing uses without any plan for replacement.

The will to preserve and create manufacturing jobs is stronger than ever. Still, most economic agencies stick to a narrow set of the traditional policies (Reese 2001). Attempts to quantify the effects of these policies have been largely inconclusive due to a lack of tools to accurately measure efficacy and the complicated and unique nature of each regional economy (Will, et al. 2001).

Considering the history of the manufacturing economy, the fundamental transformation of the manufacturing industry and its participants, and the lack of consensus of which economic development policies actually work (Reese 2001), a more localized review of the policies and dynamics of individual cities is needed to better understand which policies actually contribute to job creation and economic expansion.

[Page Intentionally left blank]

## CHAPTER 3: LITERATURE REVIEW

Retention of the manufacturing base in cities has become an essential part of economic development policy (Russo et al. 2008, McCormack 2009). As such, economists and policy researchers continue to attempt to understand manufacturing's role in the US and global economy and what goals and related policies are appropriate for the modern economy. The research and related literature has been grouped into two basic categories: 1) changes or patterns in the economy that affect the decline (or conversely, growth) of manufacturing, often called "deindustrialization," and 2) how policy at the federal and state level is developed and successfully contributes to economic development.

### **Economic Patterns**

At the national level, the regional redistribution of manufacturing from 1954 – 1987 and the continued decline through the great recession have been attributed primarily to changes in characteristics of the market and only secondarily to changes in characteristics of labor (Duffy 1994, Adkisson 2016). Three key economic changes have been identified and studied for their effects on the characteristics of the economy:

1. The "modernization" of manufacturing including the reclassification of certain services, such as design, that were originally part of the overall manufacturing process but have been reclassified as part of the service sector and an increase in focus on innovations and high performance work systems due to a change in the competitive advantage for manufacturers from the cost of inputs to the efficiency of processes (Flynn 1997).

Manufacturing has not only migrated but transformed into an industry that requires different types of capital, labor and land uses than previously. Complementary and supplementary uses such as retail and commercial services have also changed, impacting how and where manufacturing policy should be implemented and who qualifies to be included in the manufacturing category. (Levine 1992, CBO 2001, Sassen 2006).

2. Technological changes in manufacturing processes that have increased capital to labor ratios (Will, et al. 2001), leading to a decline in manufacturing employment.
3. Offshoring of jobs caused by trade liberalization and competitive pricing pressures for commodities and labor from developing countries (Flynn 1997), resulting in additional job losses in this sector.

Studies of national economic changes tend to put more emphasis on the modernization of manufacturing and changes in technology, concluding that changes in manufacturing output have not changed as dramatically as expected and have little to do with labor supply and everything to do with fundamental demand side issues (Duffy 1994, Adkisson 2016).

In New York, research has identified three themes specific to the local economy:

1. The establishment of specific new types of producers due to the modernization of manufacturing. The evolution of the local industry to high value-added manufacturing processes that are both “high-tech/high touch,” meaning they utilize and rely on advanced technologies, require an expertise and often creative design and artisanal aspect, and rely on innovation. These new manufacturers have been said to be part of

the “knowledge economy” created by advancements in technology or a new manufacturing specific sector termed the “maker economy” (Pratt 2013, Wolf-Powers, et al. 2016)

2. Change in the size of concentration of enterprises from large employers with access to capital and the preference for custom manufacturing space and equipment to small and medium sized enterprises and their necessarily different needs. 80% of industrial businesses in New York in 2005 employed fewer than 20 people and 60% lease rather than own space. (City of New York 2005, Pratt Center 2013)
3. A new focus towards a “triple bottom line” business model that simultaneously prioritizes economy, society, and the environment (Friedman 2010).

### **Policy Development and Efficacy**

The International City/County Management Association (ICMA) conducts regular surveys of local economic development practices that consistently show a narrow list of tools used by government entities (Reese 2014). For manufacturing attraction and retention, cities have implemented policies in one of three categories: 1) competitive spending/incentives in the form of tax abatements and subsidies; 2) research and development and technical assistance for growing businesses and new submarkets; and 3) land use controls and zoning.

On the competitive spending side, research has focused on whether the competition between states and cities that it produces is actually effective. These researchers are often concerned with justifications for government spending. To answer these questions economic data are used to find correlations between policies that offer incentives to businesses to choose

one region over another and general job growth in a city and in the manufacturing industry. Some studies also look further to the possible secondary and long term effects of this spending.

Research on support services is focused on what types of services are needed and why and how they can best be implemented. Policy and recommendations are related to developing networks of suppliers, customers, partners, etc. or access to advanced forms of technology with Most of this research is spearheaded by advocacy and lobbying organizations related to regional economic development or membership organizations for manufacturers in specific industries or geographic areas. The specialized nature of the organizations and their recommendations is related to local competitive advantages such as location and local resources.

When it comes to land use policy, research is focused around the fundamentals of Euclidian zoning. Is the most basic concept of Euclidian zoning of separating land uses still relevant today or can we simply make exceptions when appropriate? To disprove the negative effects of manufacturing zoning that is assumed in most zoning laws, research in this area focuses on the effects of modern manufacturing uses or the promotion of manufacturing uses in surrounding areas. Through the analysis of quality of life data and the use of case studies, these researchers often conclude that “non-cumulative zoning” and the valuation of other uses over manufacturing are outdated concepts (Hills, et al. 2010, Savitch 1988, Friedman 2010). Yet, an accepted modern concept of zoning has yet to be conceived much less adopted (Pratt Center 2015)

These studies have been largely inconclusive and offer mixed results as to whether state spending on economic development and segregating land use for manufacturing makes a difference in employment. Some have found a significant impact on workforce characteristics and employment rates (Bartik 1991); others have found evidence that the presence of manufacturing significantly effects income and educational attainment (Donaldson 2013). The presence of manufacturing has even been connected to lower educational attainment and higher income, while growth in manufacturing is associated with both lower education attainment and lower income (Chapple 2014). These contradictory results are evidence of the need for further study and the development and use of more robust research techniques and appropriate data.

Although patterns or effects have been detected in most studies, there is little irrefutable evidence to suggest that common regional policies have positive effects on economic development as measured by job growth (Adkisson 2016, Feldman 2016, Wolman 2015). The range of results across cities using virtually the same policies seems to indicate that local dynamics and structure affecting specific areas and subindustries may play a larger role in the effects of regional and federal policies than previously thought. (Adkisson 2016, Wolman 2015) What is missing from the discourse is a robust or even cursory review of the role that local structures play.



[Page Intentionally left blank]

## **CHAPTER 4: RESEARCH DESIGN**

The purpose of this thesis is to understand how economic development policy specific to the manufacturing sector is created and implemented in New York City and how successful this approach has been in furthering economic goals. Understanding the state of manufacturing-related policy and its effectiveness requires understanding and influences over a significant time period. To achieve this, three distinct research tasks were conducted: 1) review and analysis of economic reports and data from 1980 to the present, 2) review of policy and legislation from 1980 to the present, and 3) interviews with professionals who affect or are affected by these policies. This Research was approved by Columbia University's Institutional Review Board on December 28, 2016. This study focuses on the modern context of policy beginning in 1980 because this decade witnessed the first nationwide nominal loss in manufacturing jobs. This resulted in a shift in economic development policy which acknowledged the impact of land use on manufacturing and the government's role in sustaining the sector.

### **Economic Data Analysis**

To understand the effects of and reasons behind economic policy related to manufacturing, primary data concerning changes in economic indicators over time and activity related to manufacturing were reviewed. This includes changes in the number of jobs and employment in the major industries in New York, changes and trends in manufacturing employment, and changes in the number and type of firms in New York. Data is based on

primary information collected through the American Community Survey, The U.S. Census Bureau's County Business Patterns, and the Bureau of Labor Statistics.

The data used for manufacturing establishments is categorized according to the NAICS codes. These codes were established in the 1930s and reflect the makeup of the economy at that time. Technical changes in the economy and the "modernization" of manufacturing have changed how people think about manufacturing and what is characterized as part of the manufacturing process (Flynn 1997). For example, what was considered a design trade may take a prominent role in the manufacturing process now versus when the NAICS code was first introduced. Because of this, many researchers have found it necessary to include portions of data from other specific industry classifications as part of the manufacturing data set. This technique accounts for productivity in the industry that may be lost in a survey because of the change in manufacturing processes. The data referenced here only includes industry codes 31-33, the traditional major sector classifications for manufacturing. This data is County Business Patterns data based from the US Census Bureau's Business Register.

Data relating to demographics, is based on the American Community Survey 5-year estimates which survey residents within a geographic area, rather than a survey of the businesses. The industry classification is self-reported by survey takers and includes people who consider their work part of the manufacturing industry. This data may or may not be captured in NAICS coded data as part of the manufacturing sector. It includes part time employees, unemployed persons who report the industry they most recently worked in, and people who live within New York City but work outside of the city. This presents very different information

than what is reported as part of the Census Bureau's Business Register and is not necessarily representative of the statistics of New York based companies. For example, NYC based manufacturers report a total of 78,000 jobs in 2015, while the population based data reflects a total of 175,500 people living in New York who consider themselves as employed in manufacturing. Therefore, the demographic data presented should not be confused with the demographics of workers in New York City.

### **Policy Timeline**

To establish a historical context for the current state of manufacturing policy, legislation passed or contemplated was surveyed and compiled into a timeline. The data were collected from the New York City Council's legislation archive and the New York State Archives repository, the New York City Department of City Planning, a recent comprehensive report released by the New York City Council, and from reports sponsored by the Pratt Center for Community Development, a not-for-profit independent policy research and advocacy group in New York City and the Center for an Urban Future, an independent, nonpartisan policy organization based in New York City.

### **Interviews**

To go beyond the regional statistics and understand local dynamics and the effectiveness of policies, interviews were conducted with professionals who are actively involved in the industry. Because of the diversity of actors who influence and implement manufacturing policy at different levels seven (7) subjects in total were interviewed, each of which fall into one of four (4) distinct categories: 1) advocates, 2) government entities, 3) Non-profit developers, and

4) researchers. (A list of each of the interview participants along with a short description of their organization is included in Appendix A).

Interviews were conducted in person or over the phone in a loosely structured manner allowing the interviews to be led by the thoughts and experiences of the interviewees. Interviews were guided with an interview schedule, a copy of which attached as Appendix B. The interview schedule was designed to collect data on the subjects and their experience creating or implementing economic policy and their opinions on current or future policy.

### **Analysis and Findings**

The analysis of the research and the findings is developed in three parts in the following sections: (Chapter 5) a compilation of statistics related to the manufacturing industry and the labor in New York, (Chapter 6) A survey of legislation and policies enacted in New York City meant to impact industrial activity in New York City, and (Chapter 7) results of interviews conducted. These chapters will be followed by (Chapter 8) Findings from the research conducted in Chapters 1-3, and (Chapter 9) Recommendations for future policy and research based on the findings in Chapter 8.

## CHAPTER 5: THE NYC MANUFACTURING ECONOMY

Economic development policy is intended to make a positive economic impact, in the case of manufacturing, by supporting or expanding an industry, directly or indirectly (FTI Consulting 2016). A positive impact on the economy can take many forms, each of which are assessable through qualitative and quantitative measures. Broadly, there are four common intended impacts of economic development policy.

First, an increase in economic output; that is, an increase in productivity, measured by the overall output of to the economy, and/or exports to other countries. Second, an increase in the number of jobs, both directly in the industry and indirectly through multiplier and spillover effects. In manufacturing, in particular, the merits of the creation of low barrier to entry jobs, or jobs that are more accessible to portions of the labor market with limited physical, human, or social capital are seen as worthwhile economic endeavors.

Third, an increase in the incomes of and overall wellbeing of the labor market. This can be measured as the average income to an individual employee or the gross amount of money spent on wages and salaries. A few employees earning higher earnings or many employees earning lower wages are often valued similarly. Fourth, an increase in tax revenues and overall contributions to the City or State's income through the increase in taxable activity or the value of property.

While it may not directly or consistently contribute to one of the categories above, the overall diversification of industries within a local economy is also considered a worthwhile investment. The New York City employment rate was hit particularly hard in the 2008 financial

crisis due to its concentration in financial and service sectors. Diversification is considered to protect against the economic impact of individual industry market risks and external factors.

By reviewing economic statistics and the supply and demand for labor we can better establish the actual needs of an area and which economic development goals are appropriate to target. A broader data analysis will also establish the history of the industry. While economic data at the county level is scarce, reviewing some basic statistics can help us better understand the current presence and trajectory of manufacturing. The following data is presented two major groups, industry data based on survey of businesses and an overview of the labor market based on demographic data.

## **The Industry**

### *Number of Jobs in the industry*

The number of manufacturing jobs in New York City has trended steadily downward and now makes up less than 2% of the total number of jobs. Jobs in all sectors are affected by volatility related to the economy and external events. During the recessions in 1992, 2000, and 2008, manufacturing and New York City as whole experienced a decline in jobs and then an increase during subsequent recovery periods. However, over the last 25 years, the number of manufacturing jobs has trended downward overall while the number of New York City jobs has grown by over 20%. (See Table 1 and Figure 1)

Similar trends are observed in other major industries; however most industries have been able to recover from recessions and maintain or increase their overall share of jobs. The

finance industry is another industry that has lost employment as a percentage of all NYC employment but not as dramatically as the manufacturing industry.

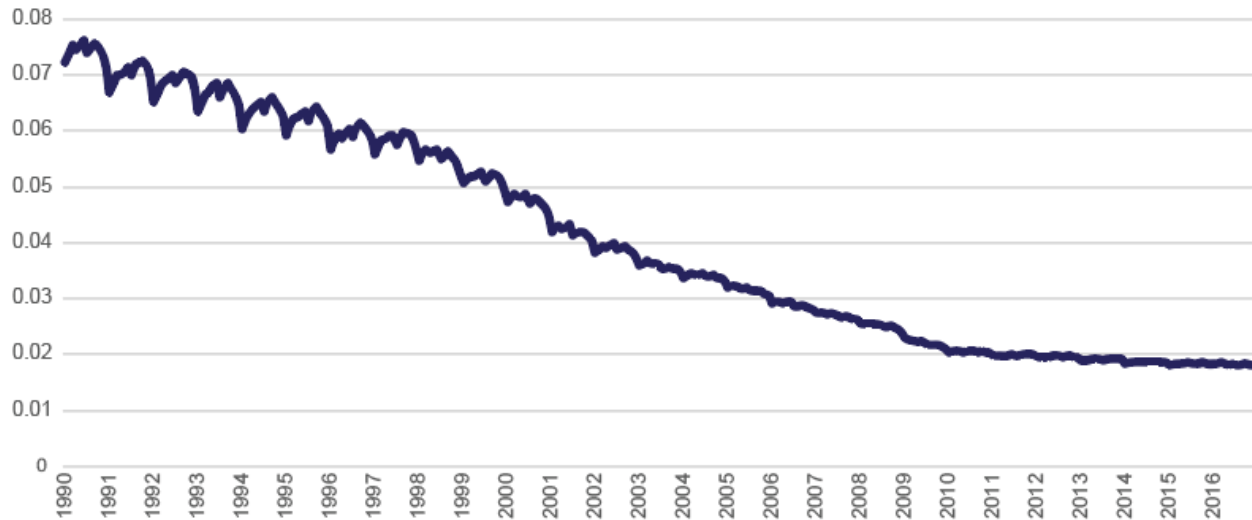
Table 1 – Number of Jobs in Select Industries and Total in New York City 1990 - 2016

	Manufacturing		Retail		Finance		Professional Services		All Industries
	Jobs	%	Jobs	%	Jobs	%	Jobs	%	Jobs
1990	265,208	7%	262,983	7%	521,358	15%	467,033	13%	3,563,433
1991	237,742	7%	244,825	7%	493,733	15%	427,592	13%	3,372,567
1992	225,525	7%	233,567	7%	471,492	14%	415,600	13%	3,278,408
1993	219,250	7%	233,608	7%	464,892	14%	425,167	13%	3,286,650
1994	211,792	6%	236,567	7%	471,800	14%	437,267	13%	3,317,908
1995	207,767	6%	242,992	7%	467,242	14%	445,308	13%	3,334,983
1996	200,450	6%	248,175	7%	464,208	14%	468,725	14%	3,366,350
1997	201,158	6%	253,083	7%	467,742	14%	494,000	14%	3,439,500
1998	195,875	6%	260,142	7%	477,258	14%	525,450	15%	3,524,533
1999	186,808	5%	270,150	7%	481,033	13%	553,342	15%	3,616,000
2000	176,792	5%	281,542	8%	488,767	13%	586,917	16%	3,715,608
2001	155,500	4%	272,033	7%	473,625	13%	582,300	16%	3,688,925
2002	139,408	4%	268,075	7%	445,083	12%	550,750	15%	3,580,783
2003	126,567	4%	267,325	8%	433,575	12%	536,992	15%	3,531,017
2004	120,825	3%	273,458	8%	435,467	12%	541,975	15%	3,546,250
2005	113,908	3%	281,308	8%	445,092	12%	555,975	15%	3,599,875
2006	106,075	3%	287,442	8%	458,333	13%	571,883	16%	3,663,992
2007	101,025	3%	295,392	8%	467,633	12%	592,208	16%	3,742,600
2008	95,592	3%	299,558	8%	464,992	12%	603,342	16%	3,793,533
2009	81,633	2%	291,925	8%	434,167	12%	569,100	15%	3,690,683
2010	76,325	2%	302,742	8%	428,567	12%	575,200	16%	3,707,783
2011	75,667	2%	314,408	8%	439,467	12%	597,375	16%	3,795,100
2012	76,342	2%	327,725	8%	439,092	11%	619,158	16%	3,881,908
2013	76,358	2%	339,717	9%	437,933	11%	642,458	16%	3,975,750
2014	76,608	2%	350,067	9%	449,583	11%	668,483	16%	4,106,067
2015	78,033	2%	351,000	8%	459,725	11%	699,767	17%	4,225,217
2016	79,092	2%	347,300	8%	459,783	11%	716,767	17%	4,312,792
Change	-70%		32%		-12%		53%		21%

Source: Bureau of Labor Statistics, State and Area Quarterly Employment, Hours, and Earnings 2009 – 2016.



**Figure 1 - Manufacturing Jobs as a Percentage of All NYC Jobs 1990 - 2016**

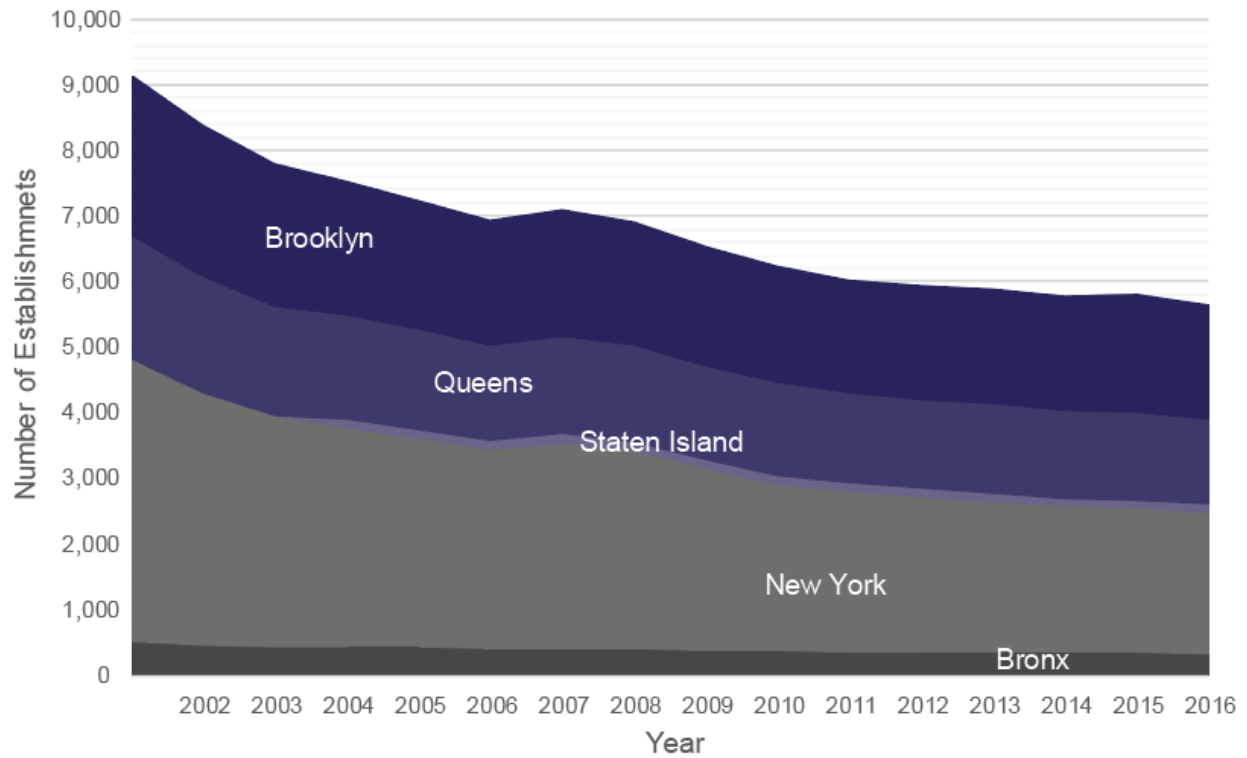


*Source: Bureau of Labor Statistics, State and Area Quarterly Employment, Hours, and Earnings 2009 – 2016.*

#### *Number of Establishments over time*

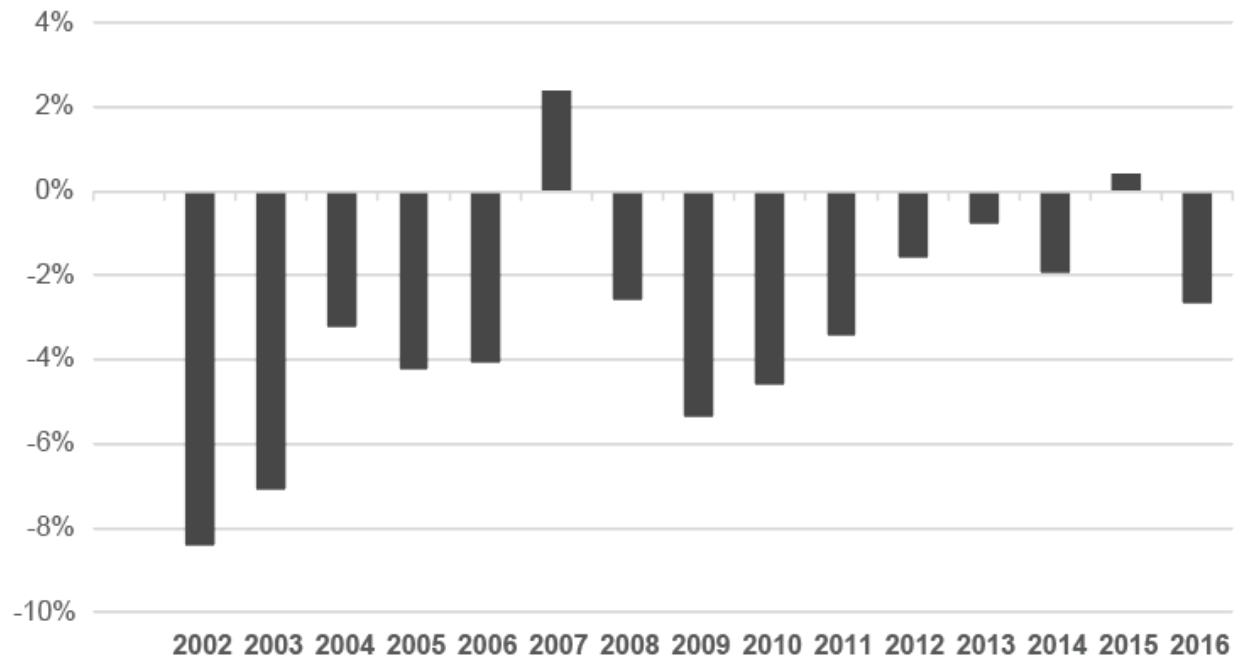
The total number of manufacturing establishments in New York City has steadily declined between 2001 and 2016 at an average of 3.2% per year for a total loss of 309 establishments. The number of establishments increased 2.4% in 2007 in a hot real estate and consumer market and then trended down again, but at a gradually slower rate. The pre-recession decline was -5.4% while the post-recession decline averaged -2.5% and even saw a small increase in 2015. (See Figures 2 and 3.)

**Figure 2: Number of Manufacturing Establishments by Borough 2002-2016**



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages 2002 – 2016.

**Figure 3: NYC Establishment Growth Rate 2002 - 2016**



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages 2002 – 2016.

Today, the industry is concentrated in establishments with 1-4 employees. Over 51% of the total establishments in the industry having 4 or fewer employees and less than 5% of establishments have more than 49 employees. (See Table 2). This is clearly a regional or City specific trend, considering that 66% of manufacturers nationwide employ over 500 employees.

**Table 2: Establishments by Number of Employees, Manufacturing Industry, New York City**

<i><b>Number of Employees</b></i>	<i><b>Number of Establishments</b></i>	<i><b>% of Total</b></i>
1 - 4	2,816	51.55%
5 - 9	1,024	18.74%
10 - 19	804	14.72%
20 - 49	576	10.54%
50 - 99	155	2.84%
100 - 249	67	1.23%
250 - 499	20	0.37%
500 - 999	1	0.02%
1,000+	0	0.00%
<b>Total</b>	<b>5,463</b>	<b>100.00%</b>

*Source: U.S. Census Bureau, County Business Patterns, 2014*

While establishments with 1-4 employees make up over 50% of establishments, they make up fewer than 40% of the total number of establishments lost. Extrapolating from establishment loss rates, the range of job loss possible from changes in the number of establishments is concentrated in small and medium size companies.<sup>4</sup> (See Table 3 below).

---

<sup>4</sup> There is no accepted universal standard for classification of a business as a small, medium, or large company, but number of employees and revenues are common forms of measurement. The US Small Business Administration classifies a business with fewer than 20 employees as a very small enterprise, a business with 20 – 99 employees as a small enterprise, a business with 100 – 499 employees as a medium business and all other enterprises as large enterprises.

**Table 3: Change in Number of Establishments by Number of Employees and Extrapolated Job Loss 2008 – 2014**

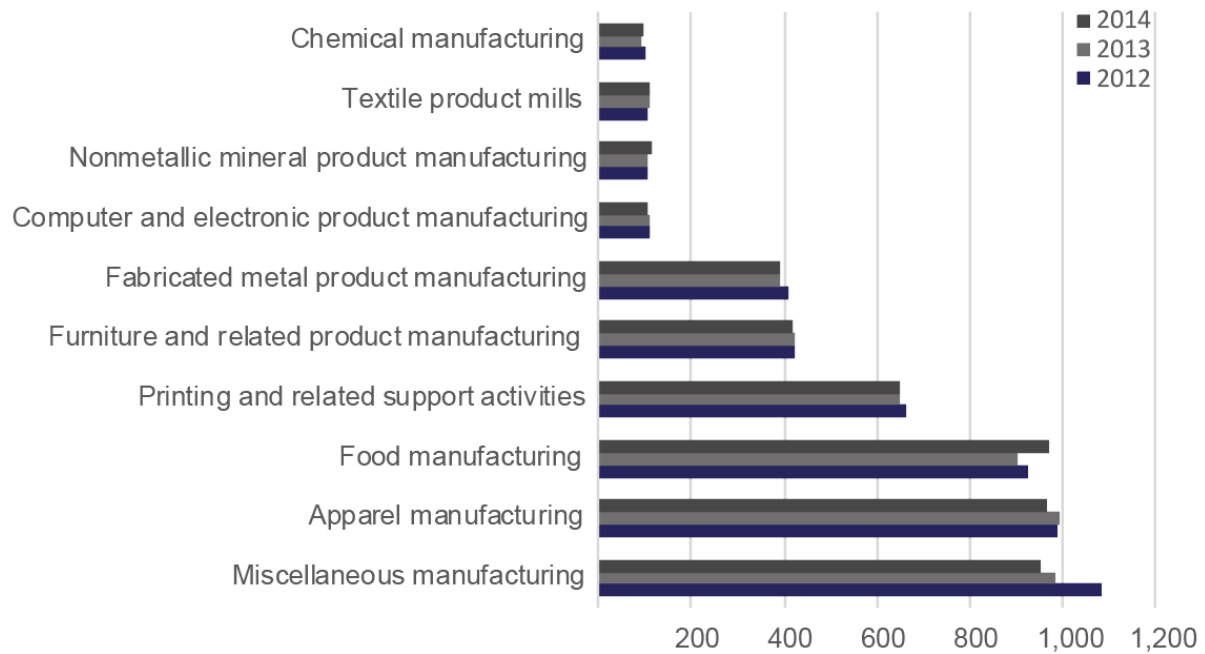
Number of Employees	Number of Establishments				Job Loss Concentration			
	2008	2014	Total Lost	% Change	Low	High	Low	High
1-4	3,200	2,816	384	-14%	384	1,536	2%	4%
5-9	1,187	1,024	163	-16%	815	1,467	5%	4%
10-19	951	804	147	-18%	1,470	2,793	9%	8%
20-49	720	576	144	-25%	2,880	7,056	17%	19%
50-99	233	155	78	-50%	3,900	7,722	23%	21%
100-249	107	67	40	-60%	4,000	9,960	24%	27%
250-499	22	20	2	-10%	500	998	3%	3%
500-999	5	1	4	-400%	2,000	3,996	12%	11%
1000+	1	0	1	0%	1,000	1,000	6%	3%
	6426	5463	963	-18%	16,949	36,528	100%	100%

*Source: U.S. Census Bureau, County Business Patterns, 2014*

*Top sectors in the industry overtime.*

Manufacturing establishments are concentrated in miscellaneous manufacturing, apparel manufacturing, food manufacturing, and printing. (See Figure 4). Miscellaneous manufacturing is a catch-all term for which the NAICS codes do not have a specific classification. The activities and processes of firms in the category vary widely, from the manufacture of medical equipment to sporting goods and includes seasonal products like Christmas ornaments. Food manufacturing is the only top industry that experienced a growth in the number of establishments from 2012-2014.

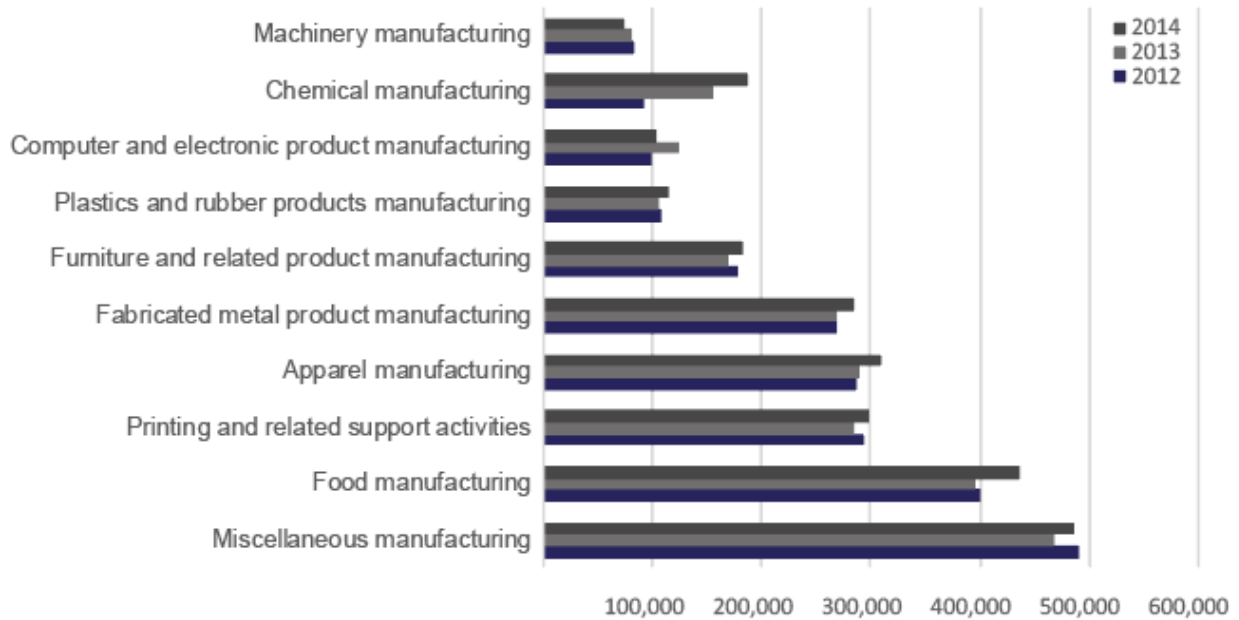
**Figure 4 - Top 10 Industries by Number of Establishments 2012 - 2014**



*Source: U.S. Census Bureau, County Business Patterns, 2008 – 2014*

While the number of establishments may not be growing, the total amount spent on wages has increased over the same time period or decreased less dramatically, indicating that establishments that remain in the city continue to increase wages and/or there is employment growth within the companies that remain. (See Figure 5).

**Figure 5: Top 10 Industries by Amount Spent on Wages 2012 - 2014**  
(In 1,000s of \$US Dollars)



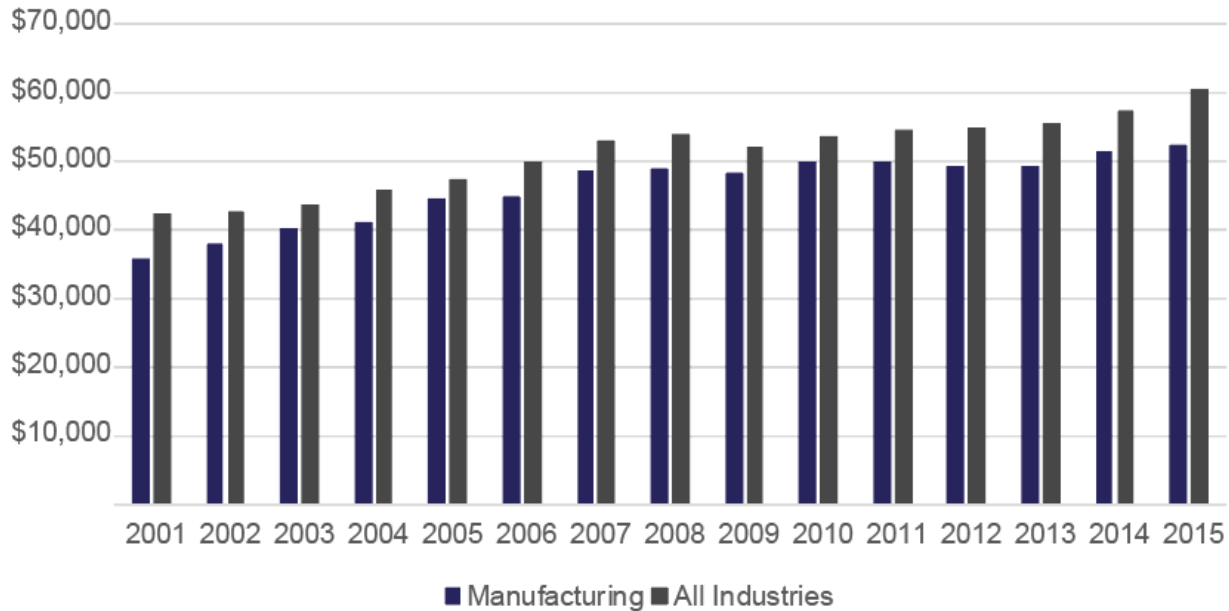
Source: U.S. Census Bureau, County Business Patterns, 2008 - 2014

## Labor

### Wages

Wages in Manufacturing are consistently between 84% to 94% of the average salary in New York City, keeping pace with any increases due to inflation and increases in salaries in better performing industries. The manufacturing wage for a single person is also consistent with the median income for an entire household, which in 2015 was \$53,373, and far above the per capita income of \$33,078 in 2015. (See Figure 6 below). Less than .015% of people who self-report as being part of the manufacturing industry report receiving any type of public assistance.

**Figure 6 - Wages vs NY Average 2001 - 2015**

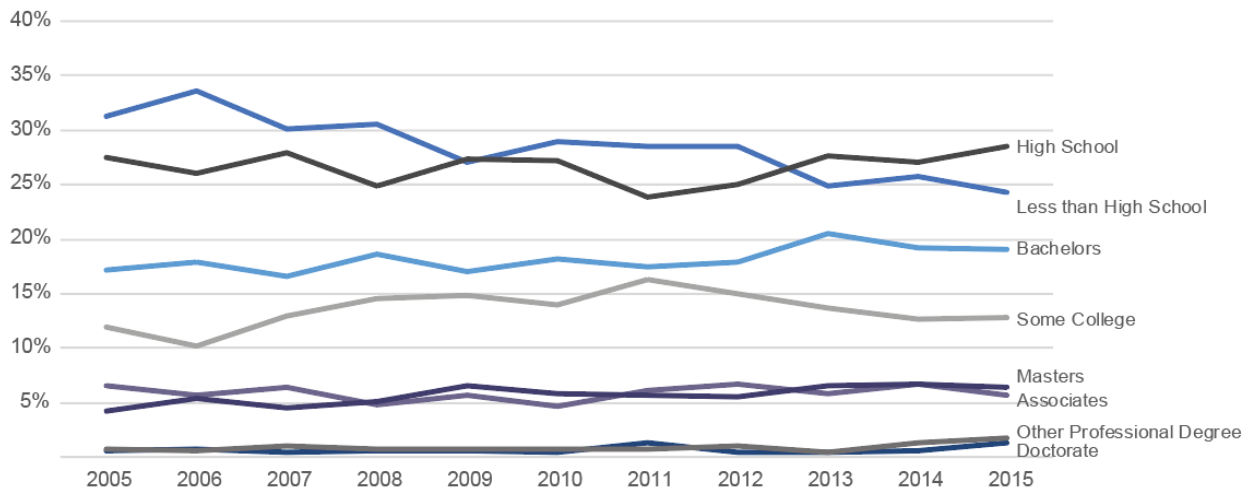


*Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2001 - 2015*

### *Educational Attainment*

In 2015, 36% of the population over 25 had a college degree or higher and about 20% of the population had educational attainment of less than high school. For residents of New York City employed in the manufacturing industry, education levels are concentrated in the high school to less than high school range. Fewer than 10% of New Yorkers employed in manufacturing have an education beyond a Bachelor's degree.

**Figure 7 - Educational Attainment of Manufacturing Workers Living in NYC 2005 - 2015**



American Community Survey, 5-year estimates 2005-2015 Demographic Data. IPUMS USA.

### Race

From 2005 to 2015, the percentage of manufacturing workers who self-identify as White increased by 17%, the percentage did not change for self-identified Black workers, and the percentage of Asian and Other races decreased 9% and 21%, respectively. “Other” is a term that encompasses both people who self- identify as other and those who report identifying with multiple races. While white representation in the industry hit a high of 47% in 2010, New York City as a whole was about 43% White, a relatively narrow difference.<sup>5</sup>

<sup>5</sup> American Community Survey, 5-year estimates 2005-2015 Demographic Data. IPUMS USA.



### *Age*

85% of the manufacturing industry is currently between the ages of 27 and 65, with most workers between 36 and 50 years of age. The average age has remained within the mid-40 range over the last 10 years, but increasing over all. The median age in New York City went from 35.3 in 2000, just below the median range of manufacturing labor to 37.2 in 2010, just within the range of age for manufacturing labor.<sup>6</sup>

### *Gender*

The gender of manufacturing workers has remained relatively constant, but post 2008 recession employment shows an increase in male employment in the industry and a decrease in female employment in the industry, down to about 25%. By contrast, New York City's entire population is approximately 52.5% female.<sup>7</sup>

---

<sup>6</sup> *American Community Survey, 5-year estimates 2005-2015 Demographic Data. IPUMS USA.*

<sup>7</sup> *Ibid.*

## CHAPTER 6: NYC POLICY

*“To provide sufficient space, in appropriate locations, to meet the needs of the City’s expected future economy for all types of manufacturing and related activities, with due allowance for the need for a choice of sites... To provide, as far as possible, that such space will be available for use for manufacturing and related activities... To promote the stability of manufacturing and related development, to strengthen the economic base of the City, to protect the character of the district and its peculiar suitability for particular uses, to conserve the value of land and buildings, and to protect the City’s tax revenues.”*

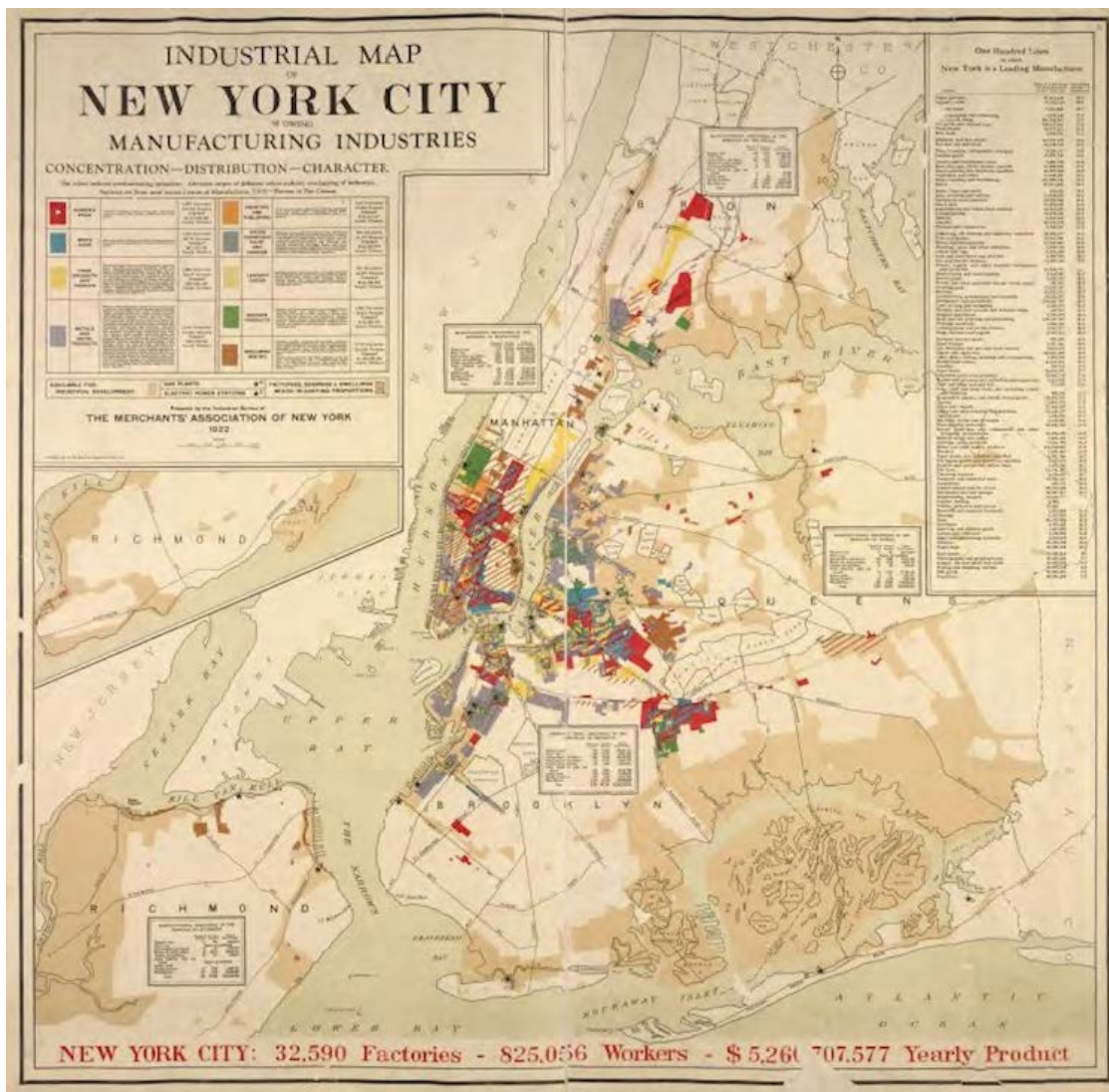
- *New York City 1961 Zoning Resolution*

Over the last 100 years the manufacturing industry has gone from the City’s largest employer and dominant land use to less than 2% of jobs and 3.5% of the city’s total land area (New York City Council 2014). While global and national patterns and economics have played a key role, the extent to which local policies has shaped the current landscape is crucial to understanding the industry and which policies, if any, are appropriate for the future. The following is a brief overview of the New York City policies aimed at affecting the manufacturing industry.

### **Land Use and Zoning Laws**

The first zoning resolution of 1916 was intended to protect certain areas from the encroachment of industrial processes and what were considered noxious uses. Figure 8 shows manufacturing’s dominance over land use in lower Manhattan shortly after the zoning resolution was enacted and how the zoning resolution relegated its expansion away from the city centers to the waterfront of the outer boroughs. The zoning resolution created three types of districts. The Residence District allowed for residences, community facilities and hospitals.

The Business District allowed for businesses so long as their operations were not noxious or offensive; specific industries were completely banned from this district. The third district was termed an “Unrestricted District,” allowing for any and all uses. This zoning resolution established a hierarchy of uses in the city with residential uses taking the priority and industrial uses seen as requiring restraint. And, it encouraged the migration of manufacturing to the outer boroughs (Landers et al. 2004, NY City Council 2014).



**Figure 8 - 1922 Merchant’s Association Map of Manufacturing Industry in New York and Land Open for Development.** Source: New York City Council Engines of Opportunity Report 2014

In 1961, a new understanding of zoning, the modernization of living standards coupled with an increase in activism, and an environmental backlash against industrial uses led to the development of a new zoning resolution. As summarized in Tables 4 and 5, the 1961 zoning resolution renamed the unrestricted districts to Manufacturing Districts and established detailed use groups and many types of sub-districts within each of the three districts created in 1916. While the 1961 resolution created far more detail and incorporated a more nuanced and focused plan for the City, the basic tenets of the original resolution remain: a clear separation of uses with residential uses receiving priority and the most protection and segregation from other uses and industrial uses relegated to areas where they must compete with other uses (New York City Council 2014).

**Table 4**

**1961 ZONING RESOLUTION**

Residential Districts	10 types of districts, reflecting various densities: R1 - R10 Only residences and community facilities allowed
Commercial Districts	8 types of districts, reflecting various densities and use types: C1 - C8 Residential and community facilities permitted as-of-right in C1 - C6 Some types of light industrial uses permitted in C5, C6, C8
Manufacturing Districts	3 types of districts, reflecting various levels of industrial performance standards (emissions, noise etc.) Most community facilities and commercial uses, including hotels, permitted as-of-right in M1 No hotels permitted in M2 - M3 Highly hazardous/noxious industrial uses restricted to M3

Source: New York City Council Engines of Opportunity Report 2014

**Table 5**

**MANUFACTURING ZONES - PERMITTED USES**

	Certain types of community facilities such as hospitals and non-profit institutions.
	Hotels
	Most retail, supermarkets limited to 10,000 SF
	Restaurants, bars, entertainment venues
<b>M1</b>	Athletic facilities
	Office buildings
	Wholesalers and storage facilities
	High-performance industrial and manufacturing (non noxious emissions or safety hazards)
	Heavy industrial activities allowed if performance standards are met
	8 types of districts, reflecting various densities and use types: C1 - C8
<b>M2</b>	Residential and community facilities permitted as-of-right in C1 - C6
	Some types of light industrial uses permitted in C5, C6, C8
	3 types of districts, reflecting various levels of industrial performance standards (emissions, noise etc.)
<b>M3</b>	Most community facilities and commercial uses, including hotels, permitted as-of-right in M1
	No hotels permitted in M2 - M3
	Highly hazardous/noxious industrial uses restricted to M3

Since 1961 there have been numerous additions and edits of the zoning resolution to address issues related to land use, public health, the economy, and society. However, the basic categories and their structure has not changed, especially as it pertains to the M-zoned districts.

### **Protecting Manufacturing**

The activist planning sentiments of the 1960s also produced plans to modernize and plan regionally and city wide for economic development and actively monetize the City's assets. In 1966 The New York City Public Development Corporation (PDC) was established to retain and create jobs and generate revenue for the City by facilitating the sale and lease of City-owned property for industrial uses at "competitive rates". PDC also took on the role of overseeing some of city-owned industrial assets to further policy priorities. (New York City Public Development Corporation 1970). In 1969, City-owned industrial assets like the Brooklyn Navy Yard were reopened as industrial parks run by non-profit organizations funded through local discretionary funds and debt (Brooklyn Navy Yard Development Corporation 2016).

Two years after PDC was established, Governor Nelson Rockefeller created the New York State Urban Development Corporation (NY UDC) to "address unemployment and underemployment exacerbated by the loss of industrial manufacturing and commercial facilities." UDC was granted unique statutory powers, including the power to exercise eminent domain, to invest in property at below-market interest rates, issue both tax-exempt and non-tax-exempt bonds, exempt development projects from taxes and local codes of all kinds, and

establish subsidiary development corporations called Local Development Corporations (LDCs) (Empire State Development 2016).

By 1970, ongoing changes in technology had precipitated large changes in the economy and land use. Structural changes were first observed after New York's finger pier infrastructure was replaced by modern piers in New Jersey. These modern ports could accommodate modern shipping containers and barges and caused most of the city's port based businesses to relocate to New Jersey. Changes in transportation technology reduced both the reliance on railroad infrastructure and concentration of transportation and industrial planning on roadways. Advancements in communication technology meant that manufacturers no longer had to locate all of their operations in one place. Furthermore, migration patterns out of the city and the establishment of suburbs created a ready labor force for manufacturers. These changes may have gone unnoticed had they occurred more gradually, but the sharp decline in the industry which had dominated New York City's economy necessitated action. Still there was little urgency from city leadership, who believed that the City's economic future lay in being an administrative commercial center (Von Hoffman 2003).

Specific policies targeting the decline of the manufacturing sector in the city were developed and enacted largely in an attempt to protect and retain manufacturing rather than to grow the industry as a whole. Protection to manufacturers came in the form of land use regulation, tax expenditures, and grants.

In 1974, the City, in a more aggressive and proactive effort, targeted defunct industrial assets like Bush Terminal for upgrade and repositioning. And recognizing the encroachment of

competing uses on M-zoned land, created a special permit designed to restrict uses on M-zoned land including for retailers of over 10,000 SF (New York City Council 2014). Soon after, major environmental issues arose on City owned property, all of which were located next to major bodies of water. Environmental regulations and the cost to remediate the issues was deemed too onerous and projects were halted.

Contemporaneously, zoning regulations were also changed to allow for the repurposing of industrial areas where both legal and illegal residential and commercial uses had become common. From 1974 to 1976, special mixed use district designations were established to allow a mix of residential and manufacturing uses through a permitting process in Dumbo, Brooklyn, Williamsburg, Brooklyn, and a 62 block-industrial area in Manhattan now known as Tribeca. Manufacturing uses in the districts have since decreased and residential uses have flourished. (New York City Council 2014)

The underlying zoning in the Tribeca district was formally revised in 1997 and again in 2010 from manufacturing to commercial zoning with specific contextual controls on the size and shape of buildings to maintain the physical shape and aesthetic of the district, which ironically was a product of its industrial past. Special provisions in the zoning text also limit the size of retail and the development of hotels within the district. (New York Department of City Planning 2016).

Boundaries were drawn around the remaining clusters of concentrated and undisturbed manufacturing zoned land and designated as In-Place Industrial Parks (IPIPs). The 8 IPIPs are listed in Table 6. These areas were meant to formalize the industrial nature of the area and



encourage continued use of the space for manufacturing and industrial purposes. These industrial parks were then marketed by UDC to businesses throughout New York City and the surrounding region, offering tax incentives and business support services through the LDCs for the creation or relocation of a business within an IPIP. (New York City Economic Development Corporation 2013) City assets that are still in operation like the Brooklyn Navy Yard are also run as industrial office parks. (Brooklyn Navy Yard Development Corporation 2017)

Throughout the 1980s, the City and State continued to create public development corporations to oversee development and economic expansion. These public development corporations have access to the resources of the City and State and the ability to issue debt without the oversight and reporting requirements of the local government. Public development corporations play a large role in the future of the City’s industrial assets, for example, the Brooklyn Navy Yard Development Corporation (NBYDC) is established in 1981 to take over

**Table 6**  
**IN-PLACE INDUSTRIAL PARKS (IPIPs)**

Brooklyn	East New York
	East Williamsburg
	Sunset Park
Bronx	Bathgate
	Port Morris
	Hunts Point
Queens	Long Island City
	Jamaica

*Source: New York City Council Engines of Opportunity Report*

management of the Brooklyn Navy Yard one of the city's largest industrial assets, from its previous not-for-profit operator.

Most notably, the City and State consolidated their economic development and financing operations under single entities. In 1991, PDC and The Financial Services Corporation of New York (FSC) were merged under one entity to create the New York City Economic Development Corporation (NYC EDC). FSC had been created 12 years earlier to promote citywide business expansion by administering finance programs, like low cost financing and oversee industrial development and business expansion programs. The merging of the two entities brought the City's real estate development and management and financing mechanisms under one operation (New York City Economic Development Corporation, 2017).

In 1995, NY UDC merged with three other entities to be overseen by the Empire State Development Corporation (ESDC). The ESDC now works through nine subsidiary development corporations throughout New York. The organization has been consistently criticized for its lack of reporting and transparency (New York State Office of Budget and Policy Analysis 2015).

During this same time period, economic development philosophy began to change and in 1993 The Department of City Planning published a "Citywide Industry Study" in which it posited that manufacturing was on an inevitable decline that could not be reversed and recommended existing manufacturing land be rezoned. This change in thinking fueled a movement for rezoning of manufacturing zoned land (Wolf-Powers 2005).

In 1997, new Mixed-Use Districts were written into the Zoning Resolution to allow for mixed use communities within districts previously zoned for manufacturing. These districts

allow most M-1 manufacturing as-of right and highly restrict any other types of manufacturing. Over the next 15 years, under the Rudy Giuliani and Michael Bloomberg administrations, 14 Mixed-Use districts were created (see Table 7, below). Each of these districts have since been regarded as a de-facto residential rezoning because of the dominance of residential uses there.

**Table 7**

**MIXED USE REZONINGS (MX DISTRICTS)**

12/1997	Port Morris, Bronx
05/2001	Flushing/Bedford, Brooklyn
01/2002	Red Hook, Brooklyn
08/2003	Morrisania, Bronx
09/2004	Greenpoint- Williamsburg, Brooklyn
09/2006	Northern Hunters Point Waterfront, Queens
10/2007	Atlantic and Howard Avenues, Brooklyn
07/2008	Hudson Square, Manhattan
03/2009	Gowanus, Brooklyn
06/2009	Lower Concourse, Bronx
07/2009	DUMBO, Brooklyn
10/2010	Third Avenue/Tremont Avenue, Bronx
10/2010	Borough Park, Brooklyn
11/2012	West Harlem, Manhattan

*Source: New York City Planning*

While the City Planning Department continued to support the rezoning of manufacturing land, legislatively the City moved towards supporting manufacturers by enacting supportive tax expenditure legislature written into the State legislature in 2000. This support came in the form of tax cuts for manufacturing companies, Clean Energy Tech Funds, and a

Brownfield Redevelopment Fund under the belief that New York is too expensive for manufacturers to survive.

The City Administration continued to pursue its vision from 2001 to 2004, rezoning Long Island City, West Chelsea, and Williamsburg-Greenpoint to permit residential uses. These three areas had previously been identified as the most job-intensive manufacturing districts in the city by the Manufacturing Land Use and Zoning Initiative (New York City Council 2013).

Facing political pressures as a result of dwindling manufacturing zoned land and the loss of manufacturing businesses, in 2005, the Bloomberg Administration released a white paper on New York City Industrial Policy entitled “Protecting and Growing New York City’s Industrial Job Base.” In the report, the task force identified the overall availability of land for industrial uses as a concern. The high cost of operations in New York City and an unfriendly business environment was putting the City at a high risk of loss of more of the city’s industrial employers. The report outlined four broad initiatives to address these issues.

The first aimed at retaining industrial employers by redrawing the IPIP boundaries to better represent the areas that could support industrial business uses and naming them Industrial Business Zones (IBZs). Each of the IBZs is located outside of Manhattan and listed in Table 8. Planning studies were commissioned for each IBZ to better provide for future businesses and infrastructure needs. A commitment was made to reinvest in incentive programs specifically for businesses that relocate within New York City to an IBZ and marketing campaigns were released for businesses outside of New York City. The administration further guaranteed not to rezone land within IBZs to allow residential uses. This was not a legislative action, but a “promise” by the administration.

To protect and stimulate the supply of industrial space, the city pledged to enhance any existing business expansion programs and create new programs to assist in leasing services and financing. The City also pledged funds to reopen,

**Table 8**

<b>INDUSTRIAL BUSINESS ZONES (IBZs)</b>	
Brooklyn	East New York
	Flatlands/Fairfield
	Greenpoint-Williamsburg
	North Brooklyn
	Southwest Brooklyn
	Brooklyn Navy Yard*
Bronx	Bathgate/Eastchester
	Zerega
	Port Morris
	Hunts Point
Queens	Jamaica
	JFK Airport
	Long Island City
	Steinway
	Maspeth
	Ridgewood*
	Woodside*
Staten Island	North Shore*
	West Shore*
	Rossville*

*\*Designated in later years*

*Source: New York City Council Engines of Opportunity Report*

strengthen, and/or expand its existing industrial assets like the Brooklyn Navy Yard and Bush Terminal.

Lastly, with the goal of creating a “supportive, business-friendly environment,” commercial expansion and incentive programs for existing tenants were created and NYC Business Solution Centers were established in or near IBZs. For mixed use areas, outside of IBZs, an Industrial Ombudsman was appointed to provide “on-the-ground” business support services. The incentives and programs for each initiative were tasked to specific entities within City government including the NYC EDC, The Department of Small Business Services, and the Department of City Planning.

Despite these initiatives and a promise not to rezone industrial land, the following years saw a surge in the real estate development and land value that the Administration was reluctant to restrain. In 2006, The City Council introduced a Resolution to create “Industrial Employment Districts.” These districts were formal zoning text overlays that protect manufacturing zoned areas like IBZs by requiring special permits for non-industrial uses. Bloomberg vetoed the Resolution for its restrictive nature on real estate development. Further bending to real estate pressures, by 2007, the Bloomberg Administration had rezoned 9 manufacturing areas, 1,800 acres or 15% of all manufacturing-zoned land.

After the Great Recession of 2008, the 2009 executive budget slashed funding for IBZ administration positions. The remaining responsibilities were handed over to the industrial desk at EDC which subsequently focused only on city-owned assets.

In 2014, the City Council released its “Engines of Opportunity Report,” proposing a plan for “Reinvigorating New York City’s Manufacturing Zones for the 21st Century.” In the plan, the City Council recommends restricting non-industrial uses on manufacturing zoned land, re-thinking bulk regulations for M-zoned land to allow for more density, reducing parking requirements for M-Zoned land, and re-evaluating use groups and performance standards. Overall, the report pushes for the re-evaluation and implementation of mixed use zoning districts.

Following the release of the “Engines of Opportunity Report”, Mayor de Blasio in conjunction with the City Council released his “Industrial Action Plan” to create and preserve industrial jobs. At the fore-front of the conversation is the need to protect industrially zoned land which has fallen to only 14% of the City’s land more than half of which is used for city infrastructure like airports and other non-industrial uses. Many of the initiatives are repurposed programs from the abandoned Bloomberg plan.

The Industrial Action Plan is centered around three main policy points, 1) “Protecting and Strengthening Core Industrial Areas,” 2) “Investing in Long-Term Development of Industrial and Manufacturing Business,” and 3) Preparing New Yorkers for the Industrial and Manufacturing Jobs of the Future.” The entire Industrial Action Plan is available as part of Appendix B.

To “Protect and Strengthen Core Industrial Areas,” Mayor de Blasio has pledged \$442M for the expansion of existing city-owned industrial properties and a recommitment of protecting manufacturing zoned land by not supporting application for residential uses in IBZs

and limiting the development of new hotels and personal storage facilities in IBZs through the creation of a special permit. In addressing mixed use districts, the plan commits to working with stakeholders to develop a framework for innovation districts and new mixed-use districts that includes the use of incentives and zoning requirements.

To invest in the “Long-term Development of Industrial and Manufacturing Businesses,” an industrial and manufacturing development fund for non-profit developers was established, and previously created initiatives like the Brownfield CleanUp Program and the Industrial Business Solutions Network (IBSPs) were re-established or expanded. Most ambitiously, the plan calls for the creation of “Futureworks NYC,” an advanced manufacturing network to provide resources for startups and the buildings of Advanced Manufacturing Center, a 40,000 sf shared workspace with modern equipment.

The third policy point focuses on workforce development to create a ready workforce for employers through the creation of career centers within IBZ (Workforce1 Centers) that offer direct job placement and a career pathways initiative aimed at creating a real-time feedback loop for workforce training and incentive programs for businesses (New York City Industrial Action Plan 2016).

Today, Mayor de Blasio’s administration has begun to perform on the action plan, most recently by introducing the special permit process for hotel and self-storage development within IBZs. However no large, comprehensive, or transformative changes have been enacted and the special permit process has yet to be tested.



[Page Intentionally left blank]

## CHAPTER 7: INTERVIEWS

Developing recommendations for future policy requires an inventory of the current actors and their experiences. To this end, interviews were conducted with representatives of organizations that are key players in New York City's manufacturing Industry. The interviews were conducted with the intention of 1) understanding the current landscape and dialogue around manufacturing policy in New York, 2) understanding the issues facing the manufacturing industry and 3) establishing the obstacles the industry is currently facing in its attempt to proliferate the industrial manufacturing industry in the interest of economic development. Interviewees were placed into one of four groups, Advocates, Government Entities, Non-Profit Developers, and Researchers. A description of each of the interviewees is provided in Appendix B.

Four major subjects emerged as issues in the industry: manufacturing land, the competitive pressures for the land and the regulation of its use; development of the local workforce, equity in the outcomes of protection and expansion of the industry, and future policy development in supporting and growing the industry.

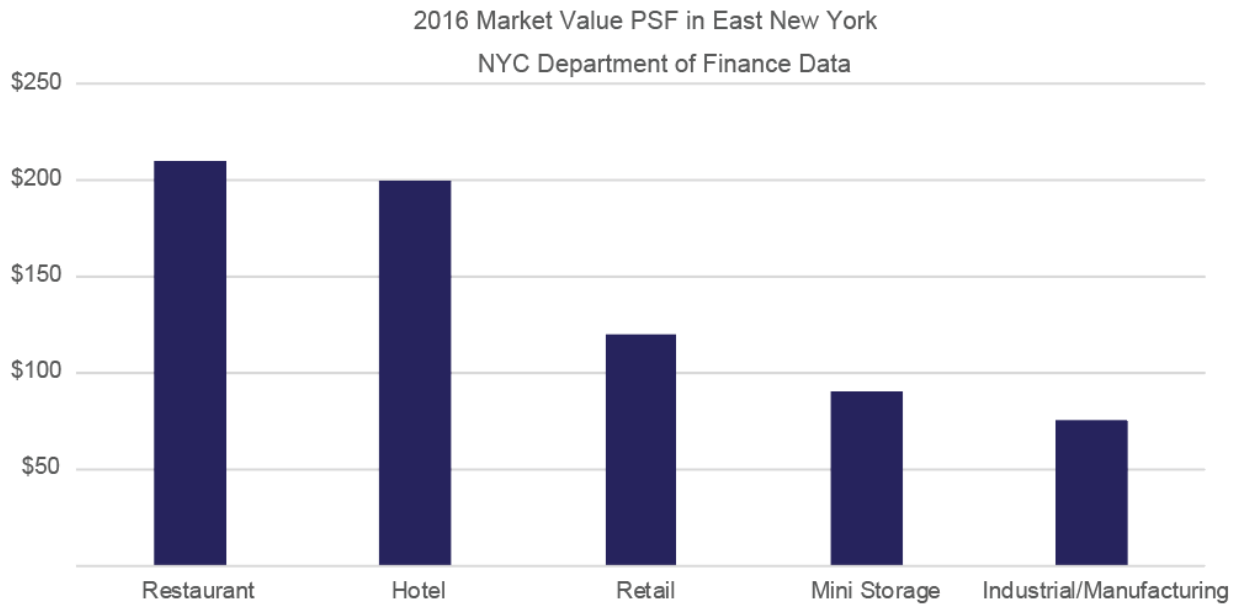
### **Manufacturing Land**

#### *Competing Land Interests*

The encroachment of non-manufacturing uses onto already scarce manufacturing areas is an issue at the forefront of the policy discussion. In general, the largest driving factor for this encroachment is the real estate market and the relative value of land for non-manufacturing uses. (See Figure 9). Land is valued for the revenues it can produce and in New York,

manufacturing uses are not competitive with commercial and residential uses in terms of the potential income from a property, and they generally cannot survive in New York without government assistance.

**Figure 9 - Market Value of Non-Residential Uses**



Source: *The Pratt Institute*

The development of big box stores, hotels, self-storage facilities, and general land speculation take up land that could be used for manufacturing purposes and increases the real estate pressures to rezone or sell manufacturing land. The zoning resolution is seen as especially porous and lacking nuance in manufacturing zones (Smith, C. 2017, March 3. Phone Interview; Meade, D. 2017, February 28. Phone Interview) where many uses are allowed as of right and no zoning text has been developed to differentiate manufacturing facilities and uses from non-manufacturing facilities. For example, there is no differentiation between self-storage establishments and the storage required for actual manufacturing uses (Meade, D. 2017,

February 28. Phone Interview; Wellington, L. 2017, February 24. Phone Interview).

Furthermore, land use in IBZs is extremely flexible and not integrated into the City's zoning text or a priority for the Department of City Planning (Wellington, L. 2017, February 24. Phone Interview).

Frustrated by the lack of commitment to protecting manufacturing zoned land or restricting market forces by the last several administrations and the lack of urgency in instituting the special permit process promised in the current Industrial Action Plan, there is a general skepticism about the administration's commitment to protecting manufacturing zoned land from developers, advocates, and academics (Wellington, L. 2017, February 24. Phone Interview; Meade, D. 2017, February 28. Phone Interview; Friedman, A. 2017, February 24. Phone Interview; Smith, C. 2017, March 3. Phone Interview; Wolf-Power, L. 2017, March 7. Phone Interview).

### *Zoning*

The conversation on the future of zoning for the industry is currently dominated by the development of zoning that encourages manufacturing and related industries and allows them to live harmoniously among or even within other property types. The MX districts established by the Giuliani and Bloomberg administrations are seen as failures from a manufacturing perspective. High end residential uses have flourished while manufacturing uses have sharply declined within those districts (Wellington, L. 2017, February 24. Phone Interview; Meade, D. 2017, February 28. Phone Interview).

The mixed-use district is now under high scrutiny and several initiatives are attempting to redefine mixed-use zoning through different means. The Gowanus neighborhood is undergoing a community based planning initiative to re-zone its land which was once a densely populated industrial area that was rezoned to MX in 2009. Gowanus has become a very popular residential neighborhood but has managed to keep many of its more traditional manufacturing establishments while also gaining office space and space for high tech and artisan manufacturing. (Wellington, L. 2017, February 24. Phone Interview; Meade, D. 2017, February 28. Phone Interview). To plan for the future of Gowanus, local representatives established a neighborhood based initiative called “Bridging Gowanus” to form specific recommendations for City Planning. Similar Community Boards exist in to-be rezoned areas with concentrations of manufacturing land like Community Board 4 in Bushwick, Brooklyn. A handful of Community Boards have also taken on the task of creating 431-a documents, which outline the community’s demands in response to a request for the approval of any land use actions (Meade, D. 2017, February 28. Phone Interview).

In response to pressures by developers to re-zone a large portion of Greenpoint for commercial office, an incentive based special permit was in development by City Planning in 2016. The special permit was developed especially for a development at 25 Kent Avenue. In exchange for the City’s “Desired Use” of manufacturing on the first two floors of the building, the developer will be allowed to build enough of the “Incentive Use” to make the project feasible, in this case 6-7 floors of Class A commercial office. (See Figure 10).



*Figure 10: Rendering of Planned Development: 25 Kent Ave, Greenpoint, Brooklyn.  
Source: [www.YIMBY.com](http://www.YIMBY.com)*

The Department of City planning has led a neighborhood-wide effort to re-plan and re-zone the area encompassed by the North Brooklyn IBZ. Rather than a traditional rezoning, the area will be the city's first attempt at an Innovation District which will reimagine the entire neighborhood to focus on certain research and development industry and plan and provide for a comprehensive community to support them.

Each of these three initiatives is fairly new and has yet to be enacted. The novelty of these approaches in New York and their incompatibility with certain portions of the

manufacturing industry have created trepidation and skepticism of the mixed-use zoning's ability to protect manufacturing uses and whether the uses that will result can actually be considered manufacturing (Wellington, L. 2017, February 24. Phone Interview; Smith, C. 2017, March 3. Phone Interview).

What developers and tenants fear is that the focus on mixed use zoning lacks a holistic view of the manufacturing industry and will not provide for the needs of all manufacturing tenants. While some manufacturing uses are compatible with any uses, most require very specific environments and buildings in which they operate. Many manufacturing processes have operational restraints, ventilation requirements, and infrastructure needs that can keep operations from co-locating within the same building, the same block, or even the same neighborhood as a residential or commercial office use. Developers like the Greenpoint Manufacturing and Design Center have tried several times to develop mixed use buildings but have found that there is no way to avoid conflicts between uses (Smith, C. 2017, March 3. Phone Interview).

In many cases, manufacturing operations don't fit the definitions and measuring tools provided by modern zoning. Most cannot be supported within vertical buildings and others don't even rely on space within a building, such is the case for automotive and bus facilities and depots which require large amounts of open space (Smith, C. 2017, March 3. Phone Interview). When the conversation is focused on mixed-use, a large part of the industry is excluded.

The existing approach to manufacturing and creating mixed-use districts has focused and relied heavily on design solutions to deal with these issues (Stein, J. 2017, February 24.

Phone Interview, Smith, C. 2017, March 3. Phone Interview) Whether a design solution can be created or not, the reality is that the cost associated with designing and building a building to support multiple uses and minimize competing issues is cost prohibitive and not supportable with income from manufacturing operations (Smith, C. 2017, March 3. Phone Interview).

### **Workforce Development**

Part of sustaining the manufacturing industry is making sure there is a ready workforce. Manufacturers and advocates in New York City are concerned that a large portion of the existing workforce is aging and the younger workforce has yet to be prepared through education or apprenticeship (Wellington, L. 2017, February 24. Phone Interview; Stein, J. 2017, February 24. Phone Interview). As a result, a majority of the city and the industry's financial efforts have been concentrated in reintroducing the manufacturing sector as a viable career, developing the specialized skills needed in some industries, and connecting the labor pipeline to employers (Wellington, L. 2017, February 24. Phone Interview; Stein, J. 2017, February 24. Phone Interview, Meade, D. 2017, February 28. Phone Interview). In this regard, advocates like the Urban Manufacturing Alliance (UMA) and the Pratt Center for Community Development (Pratt) have established programs to collaborate with educational institutions to create specialized programs in high schools and develop advanced curriculums in community colleges meant to address the skills gap (Wellington, L. 2017, February 24. Phone Interview; Kumar, T. 2017, March 1. Phone Interview; Meade, D. 2017, February 28. Phone Interview).

As the LDC and operator of the Workforce1 Center for South Brooklyn, the South Brooklyn Industrial Development Corporation (SBIDC) is tasked with providing workforce



development and hiring assistance to companies within the IBZs in accordance with the Mayor's new plan. The Workforce1 Centers are designed to directly connect manufacturers with the labor market through training and job placement services. In addition to funding and associated directives from the City, SBIDC pieces together funding from State, local discretionary funds, and private foundations. Each of these stream of funds is targeted to a specific initiative and outcomes and varying levels of reporting. At any time, SBIDC may be managing 13-14 different funding sources of funds at once (Meade, D. 2017, February 28. Phone Interview; Wellington, L. 2017, February 24. Phone Interview). While the reintroduction of the Workforce1 centers is a start, LDCs report needing more funding for all programs they offer (Meade, D. 2017, February 28. Phone Interview).

## **Equity**

Investing public funds and political resources in sustaining the manufacturing industry in any form begs the question of equity. The early involvement of activists and city planners is an opportunity to target resources where they are most needed and to assure that the benefits are distributed equally among the population.

### *Access to employment opportunities*

Fundamental changes in the industry have changed what we call manufacturing and what we call manufacturing jobs. While rhetoric around manufacturing is focused on low barrier to entry jobs, the actual jobs that are created through policy can have a relatively high barrier to entry (Wolf-Power, L. 2017, March 7. Phone Interview). Many of the jobs in New York City and in urban manufacturing processes are based on designed or engineering skills or

require a high level of education. When growth is concentrated in residential or creative office areas, the jobs created are likely high barrier-to-entry jobs and the neighborhoods they reside in are not accessible to all socio-economic groups (Wolf-Power, L. 2017, March 7. Phone Interview).

To plan for this, advocates are now focused on making the higher barrier-to-entry jobs accessible to the existing and future workforce through outreach and educational programs in disadvantaged or underrepresented communities (Kumar, T. 2017, March 1. Phone Interview). Additionally, city funding requires by law that city-owned or city-funded projects utilize the HireNYC program which directly connects local New Yorkers utilizing the City's workforce development services (Stein, J. 2017, February 24. Phone Interview). Developers also take an active role in creating equity. Through the leasing decisions on their limited space, developers and property owners are often tasked with making the subjective decision on what types of uses and jobs will be best for the community (Stein, J. 2017, February 24. Phone Interview, Smith, C. 2017, March 3. Phone Interview).

Community based planning efforts are also being promoted by advocacy organizations and some non-profit developers. The economic planning process focuses on jobs rather than zoning, through education on the types of jobs and uses that will be created through land use actions and economic development planning, allowing a community to decide what types of industries and jobs it wants to support. The concern is whether the community planning process can adequately represent or plan the needs of manufacturers and whether

manufacturers deserve a seat at the table to begin with (Kumar, T. 2017, March 1. Phone Interview).

### *Manufacturer's "Right to the City"*

The high cost of land in New York City and development pressures from residential and office uses has caused rents to surge far beyond what is affordable to manufacturing tenants. Non-profit developers like GMDC are dedicated to providing manufacturing space at rents that are supportable by traditional manufacturing operations. Despite high overall cost of operations, space in GMDC properties are in high demand and GMDC must be very selective in the tenancing process. While many of the manufacturers coming to GMDC have been priced out of multiple neighborhoods, they continue to resist displacement and want to remain in New York City. Despite the hostile environment, GMDC has found that affordability is not the only factor in maintaining operations. Manufacturers want to be in the City because, like any other business, it gives them access to suppliers, customers, employees, and the efficiencies and synergies inherent in an urban environment. In the end, both the owners and workers in manufacturing businesses want to live and work in the city and access the resources a city offers (Smith, C. 2017, March 3. Phone Interview).

### **Future Policy and Industry Needs**

The following Initiatives were identified as solutions to obstacles currently facing manufacturing. These ideas are mostly borrowed from the current practices within the affordable housing eco-system, which is robust in terms of the number of actors and funding

sources available for both new development and preservation and enjoys the commitment of support and resources from all city agencies (Friedman, A. 2017, February 24. Phone Interview).

### *Availability and form of funding*

Manufacturing uses struggle to compete mainly due to the cost of land. The City's Non-Profit Development Fund helps to provide some capital for these purposes and the State's Brownfield Tax Credit Program provides equity for projects in need of environmental remediation. Despite the existence of these program, developers and City agencies report needing more grants, subsidies, and low cost loans for rehabilitation and capital improvement projects (Meade, D. 2017, February 28. Phone Interview; Smith, C. 2017, March 3. Phone Interview).

### *The role of developers*

In order to create more manufacturing space, developers will need to take a more active role in working with government agencies to build and manage more space. Many industry advocates however, warn against the over-involvement of for-profit developers. The non-profit sector has grown from grassroots organizing to protect manufacturing facilities or has been established by a government agency and are mission-driven organizations. Leasing to certain types of tenants to further policy goals and advocating to the City for services and equal treatment are only actions that can be taken up by non-profit mission-driven developer no matter the use restrictions placed on land. For example, the City often installs bike lanes in areas it deems appropriate and the action is sometimes at the behest of the public. Bike lanes in front of manufacturing establishment can be dangerous for bikers and can interrupt the

operations of the manufacturer (Friedman, A. 2017, February 24. Phone Interview, Smith, C. 2017, March 3. Phone Interview; Meade, D. 2017, February 28. Phone Interview).

Similarly, City agencies that oversee community or citywide planning efforts, like EDC, can have a conflict of interest when representing the needs of manufacturing tenants. When other uses are planned around manufacturing and space is made for pedestrians or public infrastructure, compromises must be made by the agency overseeing the projects. The needs of the manufacturing industry and individual tenants will necessarily be compromised without a developer that can act as direct advocate for only their use (Friedman, A. 2017, February 24. Phone Interview).

An impediment in the emergence of the non-profit developer as the leader in the industry is the non-profit developer's general lack of funds, credit, and experience in using complex financial instruments like New Market Tax Credits. Banks and even the City are weary to issue bonds in order to lend to an organization with little track record in development or the ability to make personal guarantees for the projects. (Smith, C. 2017, March 3. Phone Interview; Meade, D. 2017, February 28. Phone Interview). In some cities, for-profit developers have been able to partner with non-profit developers to successfully build and manage a project (Kumar, T. 2017, March 1. Phone Interview). However, there is skepticism of the ability or commitment of the City administration to prioritize the operations and activism of the non-profit developer over the financial return of the for-profit developer (Wolf-Power, L. 2017, March 7. Phone Interview).

### *Clarity in land use*

The lack of clarity in the “rules of the game” for M-zoned land is seen as fueling land speculation within manufacturing districts and the development of non-manufacturing uses that compete for both land and resources. The de Blasio Administration has made a few pronouncements on its intentions but no concrete policy changes have been made. Even the advent of the special permit requirement for hotel and self-storage uses still leaves room for ambiguity as the special permit is given at the discretion of the Board of Standards and Appeals (BSA). The BSA is known for having little oversight and whether it will strictly enforce the special permit requirements or easily approve them remains to be seen. The consensus among interview subjects is that the clarity of land use is an urgent matter and the only real way to clarify the “rules of the game” is to incorporate the rules into the zoning text (Friedman, A. 2017, February 24. Phone Interview; Wellington, L. 2017, February 24. Phone Interview; Kumar, T. 2017, March 1. Phone Interview; Meade, D. 2017, February 28. Phone Interview).

### *Enforcement mechanisms*

In addition to incorporating rules for uses within M-zoned districts and IBZs, an enforcement mechanism must be put in place that can police the use construction and use of buildings according to requirements. This requires the coordination of various City departments, namely the Department of Buildings, and a commitment by the administration to prioritize these specific types of violations (Meade, D. 2017, February 28. Phone Interview). This can become more complicated, however, when the definition of what constitutes an industrial use or a manufacturing process and creative office is blurred. Left unchecked, space will naturally go to higher paying uses. Also in this regard, the non-profit developer is seen as a

possible self-enforcement mechanism that will prioritize the intent of the space and the zoning over that of the market (Friedman, A. 2017, February 24. Phone Interview, Meade, D. 2017, February 28. Phone Interview).

*More data*

The industry in general is lacking in data to support its claims or make solid policy recommendations. Workforce development centers and individual developers have taken it upon themselves to collect data from their tenants to better understand and plan for their needs. This information is also frequently used as evidence to lobby for policy and funding. These groups generally agree that more data specific to labor and individual manufacturing processes and especially to economic output and revenue generation is needed to measure the impacts of the industry (Smith, C. 2017, March 3. Phone Interview; Meade, D. 2017, February 28. Phone Interview; Kumar, T. 2017, March 1. Phone Interview)

## CHAPTER 8: FINDINGS

The consensus among stakeholder groups that participated in this study is that competing land uses are encroaching on and threatening the viability of existing manufacturing businesses and zoning for manufacturing is incomplete and inadequate. My research shows a few patterns that offer explanations for the current state of manufacturing policy that can offer some insight into recommendations to address these issues.

### **Industrial land use is inconsistent**

There is a lack of consistency in land use and the form that manufacturing processes take across the industry. Depending on the type of manufacturing process and the stage of the manufacturing process being housed, physical needs range from empty lots to modern Class A office buildings. Each type of physical manifestation requires different types of infrastructure, support systems, and amenities. These needs can include wide roads, high speed data, uninterrupted loading zones, waste disposal, etc.

New York City zoning in contrast is highly regulated and relies on consistency in form to stipulate what is buildable “as-of-right” on every city lot. The zoning text is primarily concerned with form controls and how buildings relate to one another. Additionally, it prioritizes residential uses and the protection of residential uses from the negative aspects of industrial operations by requiring buffers between industrial uses and residential uses.

What current zoning does acknowledge, which the research proved to be important, is that segregation of uses is required for some forms of manufacturing. The infrastructure and operating needs of some types of manufacturers are incompatible with residential or



commercial office uses. Any design interventions to help the two uses co-exist compromises the needs of one use for the other or is exceedingly cost prohibitive.

What has been established, however is that there is a wide range of processes that are considered manufacturing with different physical needs. Within this spectrum are manufacturing uses, namely the more modern “high tech/high touch” processes and the design and engineering professions for manufacturing, can exist near and often within commercial office and residential areas and uses.

Incorporating manufacturing requires special planning at the community level to figure out what kind of businesses can be supported with the existing arrangement and what the community is willing to live near. This is the basis for the multiple planning efforts around the city to plan mixed use neighborhoods, mixed-use buildings, and innovation districts. These conversations are largely focused on how zoning works and how the rules can be applied to plan for the neighborhood. Discussions on economics or the types of employment that are generated by these plans and who will have access to the jobs are sorely missing from these conversations.

### **Modern zoning and policy is driven by the real estate market**

Properties in New York are sold for residential or commercial development on a per square foot basis according to the number of square feet that is allowed to be built pursuant to the zoning assigned to the land by City Planning. A 10,000 SF lot with 2.0 FAR and a residential value of \$200 per square foot based on what the “highest and best use” will generate in

revenue for the property, will sell for \$4,000,000. In this way the value of a property is driven by the zoning designation and zoned square feet are monetized. This monetization is a tool for furthering desired priorities and encouraging certain uses. For example, the principle behind inclusionary housing or City Planning's Fresh Program is that developers will include affordable housing or grocery stores on their properties in order to monetize additional square feet of buildable area. These incentives are provided as-of-right in designated areas. The market and what is ultimately built in New York is driven by a property's total building potential and the associated revenue generating potential.

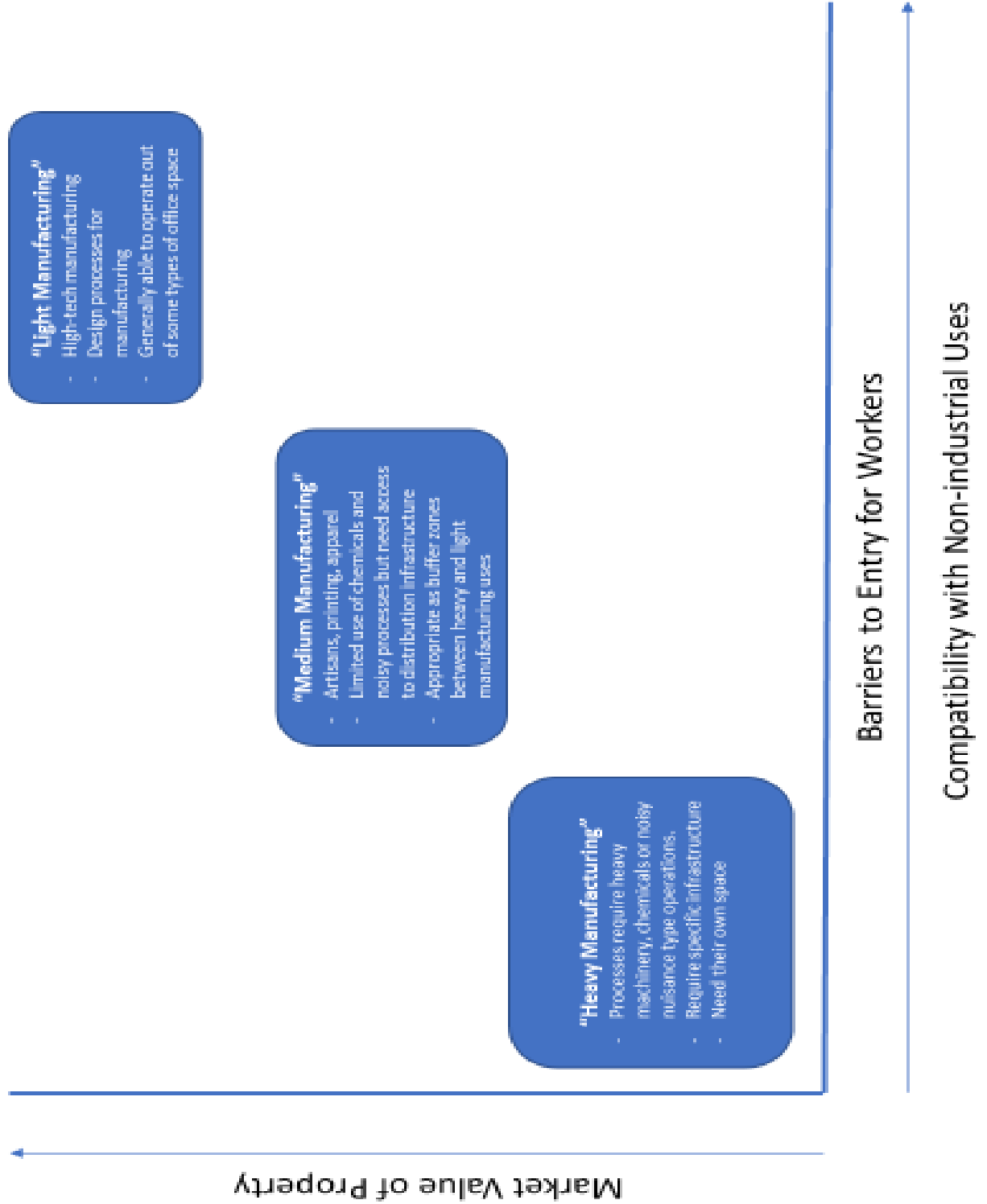
This market-driven scheme for development and the championing of highest and best use development is fundamentally inconsistent with manufacturing uses. The margins associated with manufacturing businesses cannot compete with the rents paid by residential and other commercial uses. Manufacturing is also physically incompatible with these financial concepts. While the zoning may allow for 2.0 FAR, a manufacturer may not need more than a floor area ratio of 1 for its operations and cannot operate within a vertical building. Manufacturing zoned land that is not completely built to the allowed FAR is therefore seen in the market as inefficient for not utilizing another floor or two of floor area that its operations can't support and market pressures threaten their existence.

**Without further intervention, the jobs created will not be low barrier to entry jobs**

The current market cannot support any manufacturing uses that are consistent with mixed used zoning or that cannot be supported by basic office infrastructure. As long as policy makers remain committed to market led development the only types of uses that will be able

to survive in these areas are the high barrier to entry, technology jobs in the innovation or artisan economies.

**Figure 11 - Finding: Types of Manufacturers**



In general, the jobs with lower barriers to entry, have lower property value and are less compatible with other uses. Figure 11, shows a generalization of the relationship between a manufacturer's ability to exist with other uses and the types of jobs created and the market value of a property.

### **The Government is unwilling to pursue policies that restrain the real estate market**

The original impetus for modern day zoning was the overwhelming of market forces on the public interest. Industry had to be restrained to protect the quality of life of New Yorkers and their residences. Today those same market forces are driving up the cost of living beyond what is affordable.

Despite political rhetoric, what is clear from current policy is that the Administration and legislature are extremely averse to restraining market forces, no matter the negative effects on the economy or quality of life of New Yorkers. The City and State continue to focus resources on housing by supporting the real estate development-driven approaches. Addressing the income gap that is creating the need for affordable housing creating jobs that are accessible to all New Yorkers is not a priority. Creating quality jobs that the market does not naturally create is not seen as a legitimate and worthwhile endeavor despite the fact that a family earning more income needs less housing subsidy to survive. New York clearly has the labor market, the businesses, and the resources to have a diverse and robust manufacturing sector, it is simply lacking the political will.

## **CHAPTER 9: RECOMMENDATIONS**

The primary economic argument behind the retention of manufacturing land in the outer boroughs is centered around the job potential rather than the earnings potential of the land. Current policy, however, does not focus on employment. Continuing the pattern of rezoning, establishment of special mixed-use districts and relying on the market to produce manufacturing uses will only produce uses valued by the real estate market which are more likely to produce high barrier-to-entry jobs.

### **Making Jobs and Income a Priority**

New York City as a whole has to evaluate what it's economic development goals are and whether policy should be supporting certain industries or certain people. If creating low barrier-to-entry jobs is worthwhile, then regulations and resources must to be committed to protecting, expanding, regulating, and subsidizing the amount of land used for manufacturing and the Administration must fundamentally re-think its timid approach to regulating the real estate market.

### **Planning and Zoning for Industry**

Access to land and land use regulations are key factors in supporting the manufacturing industry. Manufacturers need areas that are unencumbered by residences and the needs of pedestrians. They need areas that have access to appropriate infrastructure and are in proximity to suppliers, distributors, and important networks. Creating districts for specific types of manufacturing based on the types of resources and support systems those businesses need will realize efficiencies for businesses and for the City and assure that the needs of the

manufacturing tenants are not compromised. These can be modelled after successful properties like the Greenpoint Manufacturing and Design Center and the Brooklyn Navy Yard, which are stewarded by organizations committed to creating environments where manufacturing tenants can thrive.

### **Using Current Practices as Case Studies**

New York has an incredibly sophisticated public development and finance system as well as various forms and levels of government and local representation. Despite economic and political changes, New York has been able to create and support successful model industries. The successes and failures of these industries can mold the appropriate framework for New York City. For example, New York City has an incredibly well developed eco-system of affordable housing advocates, developers, investors, and countless city agencies dedicated to developing and preserving affordable housing at a large scale. The following are some preliminary observations of best practices from affordable housing that can be applied to develop a framework for manufacturing and developing policy targeted to producing jobs:

1. Sophisticated understanding of the demand for and supply of housing that is used to create tools and standards i.e.. income, family size, affordability, special needs populations, etc.
2. Clear and consistently enforced zoning and use.
3. Clear rules of the game for all involved that are constantly being reviewed and updated to respond to funding sources and the market.

4. Sophisticated legislation, regulatory agreements, and regulatory framework to hold agencies, developers, and property owners accountable.
5. Equity and access in housing is a topic that is actively discussed at all levels of the industry and addressed in policy.

### **More Data**

The overall absence of data at the local level hinders the ability of policy makers to make decisions and arguments for their decisions. Economic development and the performance of industry is based on many regional and local level. Information that captures economic activity, the size of the labor market, and the needs of both industry and labor at the census tract level will help communities make informed decisions about how they use their community's resources and make it possible for the City to set goals and make plans as well as ongoing policy decisions.

## **APPENDIXES**

- A. Interview Subjects**
- B. Interview Schedule**



## **APPENDIX A**

### **INTERVIEW SUBJECTS**

#### Advocates

1. Tanu Kumar – Senior Planner for Economic Development, The Pratt Center for Community Development Pratt)

Previously with MadeInNYC supports New York City's manufacturing sector by providing connections and networks for local small and medium sized manufacturers. MadeInNYC offers access to design and manufacturing expertise, suppliers, contractors, new supply chains, and consumers.

2. Lee Wellington – Executive Director, Urban Manufacturing Alliance

The Urban Manufacturing Alliance (UMA) is a coalition formed in 2011 working towards sustaining and growing manufacturing in cities. UMA brings practitioners together to develop best practices and values and promote the creation of jobs in the manufacturing sector.

#### Non-profit Developers

3. Cassandra Smith – Project Director, Greenpoint Manufacturing and Design Center

the Greenpoint Manufacturing and Design Center (GMDC) is a non-profit industrial developer established in Brooklyn in 1992. Over the last 25 years, GMDC has rehabilitated seven manufacturing buildings for small and medium-sized manufacturers. In addition to acquiring, rehabilitating, and managing neglected industrial properties,

GMDC takes an active role as an advocate for the industry and in influencing industrial development policy.

4. Adam Friedman – Board of Directors, Brooklyn Navy Yard Development Corporation

The Brooklyn Navy Yard Development Corporation (BNYDC) is a semi-public, not-for-profit corporation established by the New York City Economic Development Corporation to redevelop, reposition, and manage the 300 acre Brooklyn Navy Yard as a premier industrial manufacturing center.

#### Government Entities

5. Julie Stein – Asset Management, New York City Economic Development Corporation

The New York City Economic Development Corporation (NYC EDC) was formed in 1991 through State Legislation to consolidate the Public Development Corporation and the Financial Services Corporation to oversee New York City's assets to drive growth, create jobs, and broadly improve the quality of life in New York City. NYC EDC plays an instrumental part in implementing economic development policy.

6. David Meade, Executive Director, South Brooklyn Industrial Development Corporation (SBIDC)

SBIDC is the Local Development Corporation of Southwest Brooklyn, tasked with supporting economic development by serving businesses and residents of the neighborhoods of Sunset Park, Red Hook, and Gowanus in Brooklyn. SBIDC is under contract with the City of New York to operate the newly reopened Workforce1 Center in the Southwest Brooklyn IBZ.

## Researchers

### 7. Anna Laura Wolf-Powers , Associate Professor, Columbia University GSAPP

Dr. Wolf-Powers is a visiting Research Scholar at the Center for Urban Research at the City University of New York Graduate Center and Adjunct Associate Professor at Columbia University's Graduate School of Architecture, Planning, and Preservation. She is the editorial director of *Metropolitics*, an editorially peer-reviewed online journal that publishes short form work about cities and urban politics.

## **APPENDIX B**

### **INTERVIEW SCHEDULE**

#### **Columbia University**

The Graduate School of Architecture, Planning, and Preservation

Study Conducted By: Melissa Loomis Bindra  
Title: Candidate for Masters in Urban Planning, 2017  
Phone: (646) 653-4573  
Email: Melissa.loomis@columbia.edu

The Study: Efficacy of Manufacturing Policy in New York City.

The purpose of this study is to understand which economic development policies related to manufacturing in New York City are successful in furthering economic goals and priorities. As part of this study, first person accounts of the experience of professionals will be collected through in person interviews.

You are being asked to participate in this study because of your role and experience in creating, implementing, or working with policy in New York.

All of the questions in the study will be related to your professional experience and there are no personal risks or benefits involved in participating in this study.

The interview is meant to be an open conversation about your specific experience and opinions on manufacturing policy. The following questions are designed to simply guide the conversation and understand your professional perspective on policy. These questions are not meant to limit your responses.

#### **1. Goals**

- What is your specific role/how do you see your role in changing or working with policy?
- Who do you represent?
- Has your role changed over time?

#### **2. Experience**

- What are some specific projects/policy you have worked on that involved manufacturing?
- What were the circumstances surrounding the project/policy?
- What were the outcomes (actual and perceived)?
- What are the difficulties associated with retaining or creating manufacturing businesses in NYC?
- How have you addressed these difficulties or how have you seen others address them?
- Has this been effective or do you think it will be especially effective (if recent)?

### **3. Perceived/experienced efficacy in policy**

- What is the state of manufacturing in New York City today in your opinion?
- What has the city done to support or hinder manufacturing?
- What specific policies or changes in policies related to manufacturing have affected your projects/work?
- What programs have been successful?
- What has made them successful?
- What programs have not been successful?
- What has made them unsuccessful?

### **4. NYC Industrial Action Plan (an overview of the 10-point plan is attached)**

- Will the proposed initiatives help you and your organization fulfill its goals?
- Do you think they address the current needs of the manufacturing sector?

### **5. Future Policy**

- What hasn't been done that should be?
- What is keeping this from materializing?
- How would these policies change your practice?

## Attachment I

*Excerpt from the joint press release dated November 3, 2015*

### NYC INDUSTRIAL ACTION PLAN

The 10 Point Industrial Action Plan will help achieve three major goals, all of which are essential to a vibrant and growing industrial economy:

#### **Protecting and Strengthening Core Industrial Areas**

To protect the kinds of industrial and manufacturing activities that are a critical component of a strong economy, the Mayor and Council reaffirm the City's commitment to strengthening and investing in the city's core industrial areas, while limiting residential development and other non-industrial uses.

**1. Invest in City-Owned Industrial Assets:** As part of the 10-Year Capital Plan, the City will invest a total of \$442 million in City-owned industrial properties. That amount includes:

- Brooklyn Army Terminal: \$115 million to develop 500,000 square feet of space
- Brooklyn Navy Yard: \$140 million to develop 1 million square feet of space
- Sunset Park: A \$37 million infrastructure investment to support thousands of new and existing jobs
- Hunts Point: \$150 million to protect 3,225,000 square feet of space

**2. Limit New Hotels and Personal Storage in Core Industrial Areas to Reduce Use Conflicts and Support Diverse Economic Growth:** As part of this commitment to strengthening core industrial areas, the City will enact new safeguards against the influx of tourist hotels and personal mini-storage facilities to preserve opportunities for industrial and manufacturing businesses. Specifically, the Administration will work with the City Council to create a new special permit that will be required for any hotel developments in M1 districts within IBZs (with the exception of a portion of the area around JFK, where hotels serve airport-related businesses). Additionally, it will implement restrictions on personal mini-storage and household goods storage facilities in IBZs through appropriate land use controls. Such storage facilities do not create a high number of jobs and thus do not align with the Mayor and Council's vision for economic development in core industrial areas.

**3. Create New Models for Flexible Workspace and Innovation Districts:** In response to the evolving needs of the industrial and manufacturing economy, the Administration will work with the City Council, business groups, neighborhood associations, and other key stakeholders to develop a framework for Innovation Districts in New York City. This framework will help determine the best ways to bring a mix of light industrial, commercial, and limited residential development to appropriate locations in a way that supports 21st century businesses and 21st century jobs. The City will begin developing the framework for these re-imagined Mixed Used districts with the North Brooklyn IBZ study currently underway. Developments would be facilitated through incentives and/or zoning requirements that encourage a mix of uses, with specific requirements assessed on a neighborhood-by-neighborhood basis.

**4. Strengthen Core Industrial Areas:** Mayor de Blasio and the City Council made a strong commitment to ensuring that space in our core industrial areas remains available for industrial and manufacturing businesses that create a density of quality, middle class jobs for all New Yorkers. No residential uses are currently permitted in IBZs, except by rezoning. The Administration and the Council have agreed to further strengthen that prohibition to curb speculation. Going forward, no private applications for residential uses in IBZs will be supported by the Council or Administration.

### **Investing in the Long-Term Development of Industrial and Manufacturing Businesses**

The City will target investments to create and rehabilitate affordable, modern industrial space, while also providing key support services that these businesses need to start, grow, and thrive in the five boroughs.

**5. Create an Industrial and Manufacturing Fund to Spur Development:** For the first time ever, the City will create an industrial and manufacturing fund to stimulate the creation of new industrial and manufacturing space by non-profit and mission-driven developers. The fund will provide \$64 million in City loans and grants, which will in turn leverage an additional \$86 million dollars in private investment. This fund is expected to fuel the creation of approximately 400,000 square feet of space and approximately 1,200 new jobs.

**6. Launch Advanced Manufacturing Network “Futureworks NYC”, including Creation of New Advanced Manufacturing Center:** NYCEDC will leverage up to \$10 million in both public and private resources for the creation of an Advanced Manufacturing Center, which will provide as much as 40,000 square feet of shared workspaces and equipment, such as 3D printers and robotics, for both new entrepreneurs and established manufacturers looking to modernize their

operations. The Center will serve as the cornerstone of a new \$3 million Advanced Manufacturing Network called “Futureworks NYC”, bringing together industry and community stakeholders to drive new services and investments to better support 21st century manufacturing jobs. It will feature a network of citywide resources that includes grants to advanced manufacturing start-ups, virtual incubator services to connect emerging firms to support programs, business extension services to help mature firms adopt new technologies, and workforce training programs. Futureworks NYC and the Advanced Manufacturing Center will directly support over 3,000 jobs.

**7. Expand Brownfields Jumpstart Program to Industrial Properties:** The Mayor announced a \$500,000 expansion of the City’s Brownfield Jumpstart Program, which will help businesses enroll in the New York State Brownfield Cleanup Program (NYS BCP) and provide grants to industrial and manufacturing businesses for site investigation and cleanup efforts. The program will unlock critical space that can be used to create 200 good jobs for New Yorkers and promote clean, sustainable neighborhoods. These projects can receive tax credits of up to 20 percent through the NYS BCP.

**8. Re-launch Industrial Business Solutions Providers Network:** The de Blasio Administration is providing \$1.5 million per year in baselined funding to relaunch the City’s Industrial Business Solutions Providers (IBSPs) network. This program, operated by the Department of Small Business Services (SBS), will provide critical support services to 400 unique businesses in 21 IBZs citywide. Participants will receive business education, financing assistance, recruitment and training support, and help navigating government and accessing public incentives. As the City’s eyes and ears on the ground, the IBSP network will also collect real-time data on industrial and manufacturing businesses, enabling the City to refine policies and better respond to the evolving needs of industrial and manufacturing businesses.

### **Preparing New Yorkers for the Industrial and Manufacturing Jobs of the Future**

To meet the growing demand for high-skilled labor, the City will invest significant resources to train New Yorkers for 21st century jobs in the industrial and manufacturing sector.

**9. Create Industry Partnerships to Bolster Workforce Development:** The City will provide \$750,000 in funding to launch a *Career Pathways* initiative for the industrial and manufacturing sector. Led by the Office of Workforce Development, SBS and NYCEDC, this partnership will convene business leaders, service providers, and other stakeholders to create a real-time



feedback loop for workforce training, align workforce and incentives programs, and secure placement commitments from businesses seeking public benefits.

**10. Establish Career Centers in IBZs:** Building on the success of the existing Workforce1 Industrial and Transportation Career Center in Jamaica, SBS will create up to 5 additional satellite centers in select IBZs with high job density. Each center will have the ability to serve 500 local businesses and 1,000 residents every year, providing training and job placement services in the construction, manufacturing, transportation, utilities, and wholesale distribution sub-sectors.

The 10-Point Industrial Action Plan is designed to spur the growth of industrial and manufacturing businesses across a number of sub-sectors, ranging from food and fashion manufacturing to metal fabrication and film production. It will also support infrastructure and services that are critical to the City's larger economy, such as transportation and distribution, wholesale trading, construction, telecommunications, utilities, and waste management.

## BIBLIOGRAPHY

Adkisson, Richard V. and Ricketts, Comfort F. Exploring the Redistribution of Manufacturing Employment Among the American States in the Face of Overall Declines in Employment. *Economic Development Quarterly*, August 2016; vol. 30, 3: pp. 215-231., first published on March 3, 2016

Appelbaum, Binyamin. "Why Are Politicians so Obsessed with Manufacturing?" *The New York Times*. October 4, 2016

Armstrong, Regina. (2005). *Up from the Ruins Why Rezoning New York City's Manufacturing, Areas for Housing Makes Sense*. Rethinking Development Report No. 2

Atkins, Patricia Blumenthal, Pamela, Edisis, Adrienne, Alex Friedhoff, Curran, Alex, Lowry, Lisa, St. Clair, Travis, Wial, Howard, Wolman, Harold (2011). Responding to Manufacturing Job Loss: What Can Economic Development Policy Do?, Metropolitan Policy Program at Brookings.

Bartik, Timothy J. (1991). *Who Benefits from State and Local Economic Policies?* Kalamazoo, MI: W.E. Upjohn Institute.

Bacheller, John M. Commentary on State-Level Economic Development in New York: A Strategy to Enhance Effectiveness. *Economic Development Quarterly*, February 2000; vol. 14, 1: pp. 5-10.

Benería, Lourdes and Santiago, Luis E. The Impact of Industrial Relocation on Displaced Workers: A Case Study of Cortland, New York. *Economic Development Quarterly*, February 2001; vol. 15, 1: pp. 78-89.

Beauregard, R. A. (1999, February). The employment fulcrum: Evaluating local economic performance. *Economic Development Quarterly*, 13, 8-18.

Blair, J. P., & Reese, L. A. (1999). *Approaches to economic development*. Thousand Oaks, CA: Sage.

Campbell, Noel D., Heriot, Kirk C., and Jauregui, Andres. State Regulatory Spending: Boon or Brake for New Enterprise Creation and Income? *Economic Development Quarterly*, August 2010; vol. 24, 3: pp. 243-250., first published on May 12, 2010

Clarke, Susan E. Well, Maybe...: Taking Context Seriously in Analyzing Local Economic Development. *Economic Development Quarterly*, November 2001; vol. 15, 4: pp. 320-322.

Chapple, Karen. The Highest and Best Use? Urban Industrial Land and Job Creation *Economic Development Quarterly*, November 2014; vol. 28, 4: pp. 300-313., first published on August 4, 2014

Congressional Budget Office. (2001). *What Accounts for Unemployment?* Economics and Budget Issue Brief.

Dinc, Mustafa and Haynes, Kingsley E. Regional Efficiency in the Manufacturing Sector: Integrated Shift-Share and Data Envelopment Analysis. *Economic Development Quarterly, May 1999; vol. 13, 2: pp. 183-199*

Donaldson, Caitlin Cullen and O'Keefe, Suzanne. The Effects of Manufacturing on Educational Attainment and Real Income. *Economic Development Quarterly, November 2013; vol. 27, 4: pp. 316-324., first published on June 4, 2013*

Duffy, N. E. (1994). The determinants of state manufacturing growth rates: A two-digit-level analysis. *Journal of Regional Science, 34, 137-162.*

Feldman, Maryann, Theodora Hadjimichael and Lauren Lanahan. The logic of economic development: a definition and model for investment Environment and Planning C: Government and Policy 2016, volume 34, pages 5 – 21

Flynn, Erin, Farrant, Robert. *The Manufacturing Modernization Process: Mediating Institutions and the Facilitation of Firm-Level Change.* *Economic Development Quarterly May 1997; vol. 11, 2: pp. 146-165.*

Friedman, Adam. (2010). *Transforming the City's Manufacturing Landscape. From Disaster to Recovery: What's Next for New York City's Economy?* Drum Major Institute for Public Policy.

FTI Consulting (2016). The Economic Benefits of a Continued U.S. Manufacturing Renaissance.

Green, G. P., & Fleischmann, A. (1991). Promoting economic development: A comparison of central cities, suburbs, and nonmetropolitan communities. *Urban Affairs Quarterly, 27, 145-154.*

Hills, Roderick M. Jr., Schleicher, David. (2010). *The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing.* *University of Chicago Law Review Vol 77 Issue 1.*

Hum, Tarry. Mapping Global Production in New York City's Garment Industry: The Role of Sunset Park, Brooklyn's Immigrant Economy. *Economic Development Quarterly, August 2003; vol. 17, 3: pp. 294-309.*

Kliesen, K. L., & Tatom, J. A. (2013). U.S. manufacturing and the importance of international trade: It's not what you think. *Federal Reserve Bank of St. Louis Review, January, 27-50.*

Landers, Brad and Wolf-Powers, Laura (2004). *Remaking New York City: Can Prosperity be Shared and Sustainable?.* Brooklyn, New York, Pratt Institute.

Levine, Linda. (1992). *The Changing Skill Requirements of Manufacturing Jobs*. Congressional Research Service, The Library of Congress.

Lowe, Nichola J. Beyond the Deal: Using Industrial Recruitment as a Strategic Tool for Manufacturing Development. *Economic Development Quarterly*, November 2014; vol. 28, 4: pp. 287-299., first published on November 29, 2012

Lowe, Nichola J., Wolf-Powers, Laura (2017). Who Works in a Working Region? Inclusive Innovation in the New Manufacturing Economy. *Regional Studies*. January 20, 2017

McCormack, Richard. (2009). *Manufacturing a Better Future for America*.

Mistry, Nisha, Byron, Joan (2011). The Federal Role in Supporting Urban Manufacturing. What Works Collaborative.

New York City (January 2005). New York City Industrial Policy: Protecting and Growing New York City's Industrial Job Base.

New York City Public Development Corporation (1970). New York: No. 1 Industrial City. Avery Classics Seymour Durst Collection.

New York State Office of Budget and Policy Analysis (2015). Public Authorities by the Numbers: Empire State Development Corporation. New York State Comptroller, Thomas P. DiNapoli.

Porter, Michael P. Inner-City Economic Development: Learnings From 20 Years of Research and Practice. *Economic Development Quarterly* 2016, Vol. 30(2) 105–116

Pratt Center for Community Development (2016). Issue Brief: Building a Vibrant Manufacturing Sector: A Blueprint for New York City.

Pratt Center for Community Development (2008). Issue Brief: Protecting New York's Threatened Manufacturing Space.

Pratt Center for Community Development, New York Industrial Retention Network (2012). Green Job Creation Potential in New York City's Manufacturing Sector, A report to the New York City Workforce Development Fund.

Pratt Center for Community and Environmental Development for the Municipal Art Society of New York (2001). Making it In New York: The Manufacturing Land Use and Zoning Initiative.

Reese, Laura A. and Rosenfeld, Raymond A. Yes, But...: Questioning the Conventional Wisdom about Economic Development. *Economic Development Quarterly*, November 2001; vol. 15, 4: pp. 299-312.

Reese, Laura A. If All You Have Is A Hammer: Finding Economic Development Policies That Matter *The American Review of Public Administration* November 2014 vol. 44 no. 6 627-655

Rowthorn, R., & Coutts, K. (2004). *De-industrialisation and the balance of payments in advanced economies*. Cambridge Journal of Economics, 28, 767-790.

Rubin, H. J. (1988). Shoot anything that flies; claim anything that falls: Conversations with economic development practitioners. *Economic Development Quarterly*, 3, 236-251.

Russo, John, Lee, Sherry. (2008). *The Social Costs of Deindustrialization*. Youngstown University

Sadd, James L., Pastor, Jr., Manuel, Boer, J. Thomas, and Snyder, Lori D. Response to Comments by William M. Bowen. *Economic Development Quarterly*, May 1999; vol. 13, 2: pp. 135-140.

Sassen, Saskia. (2006). *Urban Manufacturing: Economy, Space and Politics in Today's Cities*.

Savitch, H.V.. (1988). *Post Industrial cities – politics and planning in New York, Paris, and London*. Princeton University Press

Schoenberger, Chana R. "Manufacturing is Making it Again in New York City" *The Wall Street Journal*. June 7, 2016.

Sugrue, Thomas. (2005). *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit*. Princeton: Princeton University Press

The New York City Council (November 2014). Engines of Opportunity: Reinvigorating New York City's Manufacturing Zones for the 21<sup>st</sup> Century.

Theodore, Nik and Weber, Rachel. Changing Work Organization in Small Manufacturers: Challenges for Economic Development. *Economic Development Quarterly*, November 2001; vol. 15, 4: pp. 367-379.

Von Hoffman, Alexander. (2003). *House by House, Block by Block: the Rebirth of America's Urban Neighborhoods*. Oxford University Press.

Will, Renee and MacPherson, Alan. The Impact of the North American Free Trade Agreement on the Economy of Western New York. *Economic Development Quarterly*, November 2001; vol. 15, 4: pp. 340-349.

Wilson, William. (1997). *When work disappears: the world of the new urban poor*. New York : Vintage Books.

Wolf-Powers, Laura. Up-Zoning New York City's Mixed-Use Neighborhoods: Property-Led Economic Development and the Anatomy of a Planning Dilemma. *Journal of Planning Education and Research*, Jun 1, 2005; Issue 24, pp. 379–393.

Wolman, Harold, Stokan, Eric, and Wial, Howard. Manufacturing Job Loss in U.S. Deindustrialized Regions—Its Consequences and Implications for the Future: Examining the Conventional Wisdom. *Economic Development Quarterly*, May 2015; vol. 29, 2: pp. 102-112., first published on January 21, 2015

Wolman, Harold, Wial, Howard, and Hill, Edward. Introduction to Focus Issue on Deindustrialization, Manufacturing Job Loss, and Economic Development Policy. *Economic Development Quarterly*, May 2015; vol. 29, 2: pp. 99-101., first published on January 21, 2015