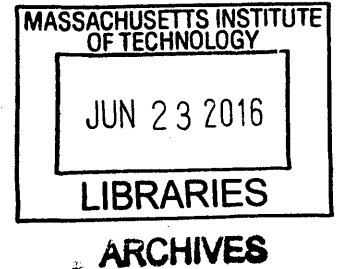


Zoning for Industry in a Post-Industrial Era: The Legacy and Potential of Chicago's Downtown Planned Manufacturing Districts

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Submitted to the Department of Urban Studies and Planning
in partial fulfillment of the requirements for the degree of

Master in City Planning at the
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2016

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Abstract

In 1988, Chicago established a unique zoning mechanism intended to preserve manufacturing space in its downtown: the planned manufacturing district (PMD), which protects production-oriented land use in gentrifying neighborhoods where industrial buildings are at risk of conversion to housing or commercial space. The PMDs were rooted in an effort to retain manufacturing business, and the employment they supported, amidst structural deindustrialization and downtown gentrification. In the 28 years since, Chicago's downtown development pattern has followed a decidedly post-industrial trajectory: the City has pursued an economic development strategy focused on service-sector growth, and industrial employment in the Loop has declined precipitously. Fifteen PMDs continue to exist, however, and half are concentrated in the neighborhoods that ring the downtown.

In 2014, Chicago's second-oldest steel mill, Finkl Steel, relocated its production facility from Lincoln Park, a high-income residential neighborhood north of the Loop, leaving a 40-acre parcel vacant and creating the largest downtown redevelopment opportunity in 30 years. The opening of the Finkl Steel site, coupled with a thriving tech sector eager to convert industrial space to office use, has sparked renewed debate over the value and purpose of industrial areas in downtown Chicago. This spring, the City launched a public review process intended to explore potential mixed-use development in its downtown PMDs.

Chicago's downtown PMDs have not yet been examined to understand how, or whether, they continue to hold the high-value industrial work they were intended to preserve. This thesis uses business and employment data, coupled with a series of in-person stakeholder interviews, to illustrate the economic and employment dynamics of three downtown PMDs between 2005 and 2013. Though the districts have lost industrial employment more rapidly than the City of Chicago, they are swiftly adding work in non-industrial sectors. This thesis contends that the flexible structure of Chicago's PMDs has allowed them to serve as spaces for employment growth; however, as a land use tool, industrial zoning does not have the capacity or teeth to ensure that emerging opportunities for work are high-value.

"It is becoming a recognized fact that the power, growth, and advancement of a city is limited only by the measure of united civic interest of its people. The stronger and more vital the community spirit, the greater and more influential a city. It is this spirit which gives Chicago its great world distinction."

Wacker's Manual of the Plan for Chicago, 1916

"The antimony of neighborhood versus downtown – a long-standing, urban grass-roots metaphor – was transformed in Chicago and elsewhere in the 1980s to portray a new set of development choices: manufacturing versus the service economy; blue-collar jobs versus low-wage McJobs; job generation versus real estate development; industrial expansion versus downtown growth; credit-starved neighborhoods versus the growth of the finance industry; targeted local hiring versus regional business climate; and minority / female businesses versus efficiency."

"Spatial Change and Social Justice: Alternative Economic Development in Chicago," Robert Giloth & Robert Mier

"At a time when jobs and economic opportunity are desperately needed across all neighborhoods, it pays to shine a bright light on the planned manufacturing district and the city's industrial retention policies and plans, and to ultimately ask the question of who benefits from these industrial land use decisions."

"Pull the plug? No way. Let's power up the Clybourn industrial corridor," Mike Holzer

Acknowledgements

I originally became acquainted with and interested in Chicago's planned manufacturing districts because they represented the long-time efforts of so many in the City to preserve space and opportunity for high-value, accessible employment. This thesis is an acknowledgement of that effort, and I am thankful for the thoughtfulness and input of those in Chicago that I had the chance to learn from throughout this process. I hope that my own work will reflect your commitment, savvy, and introspection.

A special thanks to my advising team, for sharing my interest in this work, bringing your own perspective and expertise to the topic, and for guiding me through the research process. I am grateful to Karl Seidman, my advisor on this thesis and throughout my time at DUSP, for offering your depth of knowledge, bringing careful attention to many drafts, and always calling on me to question the details. Many thanks to Liz Reynolds for sharing a sense of the importance of this topic today, offering mentorship along the way, and for giving thoughtful feedback throughout the process. And thanks to the many informal advisors who have shaped my perspective on planning, and on the many faces of this thesis topic.

A big thanks to all the folks at DUSP: I've learned so much from you. To my friends and family: for your inspiration, your wisdom, and your support.

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CHAPTER 1: Introduction

1.1 / Context and Introduction

In mid-2014, a landmark relocation signaled the possibility of change in the zoning legislation that governs the City of Chicago's industrial land use patterns: Finkl Steel, the City's second oldest steel mill, and 100-year occupant of a 28-acre parcel of land between residential Lincoln Park and the Chicago River, moved its operations to an industrial park in the southeast Calumet Heights neighborhood. In Chicago's early 20th century industrial heyday, neighborhoods ringing the central business district, or the Loop, were hubs for manufacturing firms, who were attracted to the neighborhoods for their transportation nodes, accessibility to employees, and proximity to clusters of purchasers and suppliers. Beginning in the 1970s, however, the impetus to relocate production to less expensive geographies of land and labor spurred the beginnings of an exodus of industrial business from Chicago's downtown. Patterns of deindustrialization, coupled with growing gentrification in the adjacent residential neighborhood of Lincoln Park and an city-led economic development strategy that sought to revitalize Chicago's downtown, placed pressure on industrial firms to convert space toward higher-value residential and commercial uses.

In the late 1980s, however, Chicago's City Council passed an ordinance that provided unique land use shelter to industrial firms like Finkl Steel: the planned manufacturing district (PMD), a zoning designation that preserves land for uses compatible with manufacturing. The establishment of the PMDs followed a lengthy land use battle over the industrial area in which the Finkl Steel site sits, the Clybourn Corridor, led by a coalition comprised of community-based organizations, manufacturing firms, and local labor. Ultimately, the PMD was justified to a City Council otherwise favoring a service-based economic development strategy for its ability to retain the middle-class industrial employment that Chicago was losing. Because of their place-based and sector-specific focus, PMDs are designated individually, generally through a community-led planning process, and protect historically industrial land. Today, the City of Chicago has established and preserved fifteen PMDs, half of which protect industrial areas close to the City's downtown, or the Loop.¹ A map of the City's existing PMDs and stock of industrial land is depicted in Figure 1.

¹ Second City Zoning. "PMD: Planned Manufacturing Districts." *Second City Zoning*. Open City App by Derek Elder. Accessed March 2016.



Figure 1. City of Chicago Industrially Zoned Land & Planned Manufacturing Districts
 Data Source: Chicago Data Portal



Figure 2. Former site of Finkl Steel, Clybourn Corridor Planned Manufacturing District
Source: Flickr, YoChicago



Figure 3. Clybourn Corridor & Goose Island Planned Manufacturing Districts
Source: Market Urbanism

Over the past half decade, debate over the purpose and value of downtown Chicago's PMDs has been reinvigorated. For industry, pressure to relocate production facilities remains strong, particularly as firms adopt new technology that renders older buildings outmoded. With the window between production and purchase only narrowing, proximity to flexible transportation networks is all the more necessary; but increasingly challenging to access in a densifying downtown. A growing market for the use of former industrial space by firms in Chicago's tech and start-up economy, coupled with renewed residential gentrification processes, has placed pressure once more to release protected land to new uses. Arguments for redevelopment in Chicago's downtown PMDs are not unfounded: following long-term industrial decline that is steeper in CBD PMDs than citywide, the districts can no longer wholly be characterized as industrial areas. Across PMDs adjacent to the Loop, manufacturing firms now employ just 9% of local workers, down from 30% in 2005.² Manufacturing firms have generally shuttered, relocated to larger and more flexible parcels on the City's periphery, or moved to sites outside of Chicago.

From an economic development perspective, the question of whether to release or retain protected industrial land leaves the City of Chicago without a clear or strong policy option. Following the Recession, the City's recovery has been weak in comparison with peer cities; unlike the majority of global metropolitan areas, it has still not returned to its pre-recession levels of GDP per capita or employment, and its employment growth rates are the lowest across United States cities.³ In contrast, employment in the City's tech and start-up economy is growing at a rate of 7% annually, faster than other sectors citywide. On the one hand, removing industrial land use protections opens space for a growth sector; on the other hand, it may threaten existing employment-oriented uses of land.

² Longitudinal Employee-Household Dynamics Survey: 2005 & 2013. Author's analysis.

³ Parilla, Joseph, Jesus Leal Trujillo, Alan Berube, and Tao Ran. "Global Metro Monitor: An Uncertain Recovery." *Brookings Institution*. Web. 2014. P. 10.



Figure 4. Former Fulton Market Cold Storage building, adjacent to Kinzie Corridor PMD, 2013
Source: *Architecture Chicago*



Figure 5. Fulton Market Cold Storage, redeveloped as Google's Chicago headquarters, 2015
Source: *Sterling Bay*

1.2 / Research Question and Hypothesis

Given renewed redevelopment pressure, Chicago's downtown PMDs are under a political spotlight. In April of 2016, Chicago's mayoral administration announced the launch of a public review process of the City's industrial land intended to "focus on modernizing restrictive zoning...and benefiting the entire city with new opportunities for investment, neighborhood jobs, and economic development."⁴ The process will review the land use patterns associated with the manufacturing sector citywide, but will focus highly on PMDs adjacent to the Loop through an assessment of "existing and potential land uses to accommodate market demand for potential technology, commercial, residential or retail development."⁵ The goal of this thesis is to suggest that the economic performance of the City's center-city PMDs be reviewed with particular attention to the employment opportunities and sectors that the spaces currently support. In light of the original intent of the PMD policy to both retain manufacturing firms and protect the living wage work that those firms offered, this thesis poses the question: can Chicago's downtown PMDs continue to be characterized as industrial areas that support high-value work? What are the economic and employment dynamics of Chicago's PMDs today?

This thesis examines these questions through an analysis of the dynamics of employment growth, sector prevalence, and wage movement between 2005 and 2013 in three of Chicago's downtown PMDs – the Clybourn Corridor, Goose Island, and the Kinzie Corridor – relative to the City of Chicago over that period. I argue that though the PMDs are no longer spaces where manufacturing prevails, they continue to support employment that is accessible to low-to-middle skilled employees. The sectors that have grown as manufacturing has declined – primarily employment in temporary staffing, trade, and warehousing – may not present opportunities for career mobility that parallel those previously provided by the manufacturing sector. However, the growth of those sectors is both reflective of the City's economic health and a signal of need for greater dedication toward the creation of accessible economic opportunity. In short, debate over the PMDs ought to no longer position industrial space in opposition to development interests; rather, the potential for redevelopment in downtown PMDs represents an opportunity to re-focus economic development strategy toward the needs of low-to-middle skilled workers today.

1.3 / Methodology

This thesis takes a mixed-methods approach to understanding the industry and employment dynamics of Chicago's Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs in relation to those of the metropolitan Chicago area. Quantitative analysis intended to evaluate the performance of the City's PMDs employs quantitative data from three primary sources: the Longitudinal Employer-Household Dynamics (LEHD) data set, the County Business Patterns (CBP) survey, and the Quarterly Census of Employment and Wages (QCEW). Together, the three sources comprehensively illustrate the dynamics of district-wide employment, sector and sub-sector prevalence,

⁴ Mayor's Press Office, City of Chicago. (4 April 2016) *Mayor Emanuel announces plan to modernize industrial corridors* [Press release]. April 4, 2016. Retrieved from http://www.cityofchicago.org/city/en/depts/mayor/press_room/press_releases/2016/march/Mayor-Announces-Modernize-Industrial-Corridors.html

⁵ Mayor's Press Office. 4 April 2016.

and wage levels at two points in time. A brief description of the role played by each data source is given below, and further methodological detail can be found in Appendix C.

Longitudinal Employee-Household Dynamics (LEHD)

The LEHD data set, accessed and extracted using the OnTheMap web application, provides data on wages, demographics, and sectors of employment at the worker level. Within the context of this thesis, data from the LEHD for the years 2005 and 2013 is used to illustrate changes in aggregate and sector-specific employment, wage levels, and sector prevalence over time.

County Business Patterns & Quarterly Census of Employment and Wages

Together, data from the County Business Patterns (CBP) survey and Quarterly Census of Employment and Wages (QCEW) demonstrate how sub-sectors of the manufacturing industry have entered or exited each planned manufacturing district over time, and what implications that movement has for the average annual wage levels likely seen in each district.

In-Person & Phone Interviews

To better understand the history and contemporary context of Chicago's planned manufacturing districts, a series of interviews were conducted in-person and by phone. These interviews sought to integrate the perspectives of community-based organizations, manufacturers, city planners and policymakers, real estate developers, academic researchers, and economic development consultants.

Literature Review

The histories of economic development policy, economic change, and industrial retention policy rely on a literature review inclusive of primary and secondary sources.

1.4 / Chapter Organization

Chapter Two provides a review of the theoretical rationale for the implementation of protective industrial land use policies. It also presents a history of the passage of Chicago's planned manufacturing districts, with a particular focus on the politics that led to the unique implementation of land use policy with an employment justification. Lastly, it surveys current empirical assessments of protective industrial land use policies and provides support for a methodology centered on quality of work.

Chapter Three reviews the process and impacts of structural deindustrialization since the establishment of Chicago's planned manufacturing districts, highlighting the concentrated impacts on the City's local labor force, policymaking efforts to ameliorate industrial decline, and particular sectors of focus.

Chapter Four moves to the contemporary context and reviews the recent attention afforded to the manufacturing industry within planning, policymaking, and research communities. The chapter argues that renewed focus on manufacturing stems from the industry's transition from labor-intensive to technology- and capital-intensive. In light of

the sector's transformation, planning emphasizing the need for a better-matched workforce and a more conducive built environment has taken place at the County and City levels within the Chicago metropolitan area.

Chapter Five provides an in-depth review of the industry and employment dynamics of Chicago's Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs between 2005 and 2013. It traces district-level changes by sector, employment counts, and wage levels, and places the outcomes of analysis within the ongoing debate over the relevance of downtown industrial areas.

Chapter Six reflects on the legacy of industrial planning in Chicago and the City's current industrial debate: whether to retain or release its PMDs. In light of the data analysis performed as part of Chapters 3 and 4, the chapter provides recommendations for the City's anticipated land use decision-making with respect to both process and outcome.

CHAPTER 2: Chicago's Planned Manufacturing Districts: Theory and History

2.1 / Introduction

Though the past half-decade has seen a reemergence of debate within Chicago over the value of preserving of urban industrial space for manufacturing use, this conversation is not new, nor is it unique to Chicago. The majority of American cities, particularly those with deep roots in the manufacturing sector, use zoning to varying degrees to retain land for long-term production-oriented use. The broad based and persistent decline of manufacturing across the United States, and the restructuring of city economies toward a greater reliance on service sectors, has created pressure in many urban markets for land to open legacy industrial space to mixed-use development.⁶ With that market pressure has come a series of policy questions: should conversion be supported or resisted? How much industrial land is optimal, and where should it be located? Are industrial zoning policies effective tools for retaining manufacturing business and the high-quality employment it generates? Should those two questions be assessed together, or separately?

This chapter reviews the historical and theoretical origins of industrial zoning policy intended to preserve urban manufacturing, which United States cities began to implement in the 1980s. Chicago was one of the first to do so, and this chapter argues that the City's planned manufacturing districts (PMDs) were the result of uniquely neighborhood-oriented coalition building that sought to reroute the trajectory of economic development planning taking place in City Hall. By illuminating the hyper-local impacts of industrial gentrification, advocates for the PMD portrayed the zoning policy as an effort to retain high-value employment accessible to Chicagoans from all neighborhoods, a strategy that proved palatable across City Council and has been the force driving the retention of PMDs over past 30 years.⁷ In the current post-industrial period, however, many United States cities are in the process of taking stock of industrial land and considering opportunities for introducing new uses, particularly when manufacturing areas sit close to downtown. Policy assessments of the value of industrial space have commonly focused on the presence of vacancy, whether manufacturing firms have been retained, and the opportunities afforded by mixed-use development.⁸ This chapter concludes by arguing for an approach to the assessment of industrial land that examines the quality and types of work supported in industrial districts today.

2.2 / Planned Manufacturing Districts: A Flexible, Production-Oriented Zoning Tool

⁶ Lester, Thomas W., Nikhil Kaza, and Sarah Kirk. "Making Room for Manufacturing: Understanding Industrial Land Conversion in Cities." *Journal of the American Planning Association*. Vol. 79 (No. 4): Autumn 2013.

⁷ Ducharme, Donna. "How a Community Initiative Became City Policy." In *Harold Washington and the Neighborhoods*. Pierre Clavel and Wim Wiewel, eds. New Brunswick: Rutgers University Press. 1991.

⁸ Dempwolf, C. Scott. "An evaluation of recent industrial land use studies: Do theory and history make better practice?" School of Architecture, Planning and Preservation: University of Maryland, College Park. 10 August 2010.

Chicago's planned manufacturing districts were developed originally to prevent the conversion of industrial space housing otherwise healthy manufacturing firms to non-industrial uses. By designating contiguous parcels as industrial areas and mandating that any amendment to the districts be approved by Chicago's City Council, PMDs limit land use speculation on a district-wide basis, depress land and property values to a level ideally more affordable for industrial firms, and prevent the ad hoc approval of parcel-by-parcel conversions. The institutionalization of designated industrial areas also allows for district-wide infrastructure planning and investment that explicitly responds to the specific needs of manufacturing firms. Per the City's Zoning Ordinance, each PMD is intended to serve the following purposes:⁹

- Foster the City's industrial base
- Maintain the City's diversified economy for the general welfare of its citizens
- Strengthen existing manufacturing areas that are suitable in size, location, and character and which the City Council deems may benefit from designation as a PMD
- Encourage industrial investment, modernization, and expansion by providing for stable and predictable industrial environments
- Help plan and direct programs and initiatives to promote growth and development of the City's industrial employment base

An important characteristic of the PMD structure is the flexibility in allowable uses, both by in how uses are defined and how they vary across districts. The "planned manufacturing district" title is perhaps a misnomer; manufacturing, even, is defined relatively flexibly. Across all districts, manufacturing is loosely termed as "any production processing, cleaning, servicing, testing, repair, or storage of materials, goods, products or information."¹⁰ The original architects of the PMDs recognized that production could take on a range of forms – and that it could coexist with a range of other uses. Table 1, below, demonstrates the uses that can be accommodated within the Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs as of right, and those that require a special permit (accessible through approval from the Zoning Board of Appeals).

Notably, housing – given the potential for conflict between the needs of residential communities and those of industrial or related firms – is the only use explicitly prohibited within the PMDs. Across all PMDs, planned developments, which encompass new development inclusive of a use not designated as permitted within the original PMD ordinance, are allowed, but must follow a two-stage review process.¹¹ Planned developments are relatively common within PMDs, particularly those containing large parcels that offer the capacity for mixed-use development, like Goose Island. However, no planned development to date have incorporated housing; generally, planned developments include campuses, educational institutions, or office spaces.

⁹ City of Chicago. "Chicago Zoning Ordinance." P. 6-6

¹⁰ References ordinances establishing Clybourn Corridor, Goose Island, & Kinzie Corridor planned manufacturing districts (City of Chicago).

¹¹ City of Chicago. "Planned Development Designations."

http://www.cityofchicago.org/city/en/depts/dcd/provdrs/planning_and_policydivision/svcs/planned_developmentdesignations.html

A second important characteristic is the place-based nature of decision-making around the PMDs. Though Chicago's City Council approves the establishment or refinement of each PMD, the districts were originally intended to be responsive to the unique industrial needs of each neighborhood in which they are situated. Ducharme, original architect of the PMD, describes their flexible and place-based nature: "[the PMDs] were also designed as a flexible zoning tool. Each PMD will specify what types of land use changes, if any, will be allowed, where, and under what circumstances. These rules assure manufacturers in the district that new development will be compatible with their operations...Additional districts will be constructed to address the unique land use questions facing that area."¹² The origination of PMDs has rarely been top-down; rather, since the implementation of the Clybourn Corridor PMD, they have been the result of neighborhood-level coalition building between community-based organizations, manufacturers, and residents. Each PMD is structurally distinct from the others with respect to allowable uses, though all PMDs prohibit residential development. As an example, the Clybourn Corridor – the first PMD to be implemented – is characterized by a “core” industrial area intended for use by heavy industry and a “buffer” area that mixes light manufacturing with retail.

Though applications to designate a geographic area as a PMD may be filed by a variety of stakeholders – the mayor, property owners of land within the PMD, or the alderman of the ward in which the PMD is situated – the final decision to establish a PMD is made through City Council vote.¹³ Once a PMD has been approved, amendments must also receive approval from the City Council. The decision-making processes that govern the PMD is informed by those governing the majority of zoning in Chicago. Uniquely, zoning decisions fall within the purview of aldermen, and are made at the ward level. Elevating PMD governance to a citywide level operates as a second means of preventing parcel-by-parcel land use conversion. To date, a PMD has not been repealed; however, the Chicago Plan Commission is tasked with monitoring the performance of the districts and recommending land use revisions to the City Council, if necessary.¹⁴

¹² Ducharme (1991) 222

¹³ Rast, Joel. "Curbing Industrial Decline or Thwarting Redevelopment? An Evaluation of Chicago's Clybourn Corridor, Goose Island, and Elston Corridor Planned Manufacturing Districts." University of Wisconsin-Milwaukee Center for Economic Development. November 2005. P. 9

¹⁴ Rast 9

Table 2.1. Allowable Uses by Planned Manufacturing District		
Clybourn Corridor (Core)	Goose Island	Kinzie Corridor
<i>Prohibited</i>		
Dwelling units	Dwelling units	Dwelling units
<i>Permitted</i>		
Production*	Production*	Production*
Auto laundries	Cartage/express facilities	Auto laundries
Auto service stations	Contractor offices	Auto service stations
Building material sales	Earth station antennas	Blue-printing
Contractor offices	Fuel & ice sales	Building material sales
Fuel & ice sales	Garage & parking lots	Community centers
Garage & parking lots	Occupational health clinics	Contractor offices
Greenhouses	Offices (business & professional)	Earth station antenna
Public utility/public service uses	Public utility/public service uses	Fuel & ice sales
Restaurants	Recycling facilities	Garages/parking lots
Storage/warehousing	Retail sales rooms for goods that are manufactured onsite	Greenhouses
Wholesale establishments	Storage/warehousing	Industrial services establishments
Accessory uses	Wholesale establishments	Linen/towel supply services
Railroad & water freight terminals	Storage of flammable liquids	Machinery sales
		Mail order houses
		Newspaper distribution
		Offices (business & professional)
		Packing & crating
		Parcel delivery stations
		Police & fire stations
		Printing
		Public utility/public service uses
		Retail sales & service
		Recycling
		Trade schools
		Storage & warehousing
		Wholesale establishments
<i>Special Uses</i>		
Medical/dental clinics	Extraction of sand/gravel	Art galleries/studios
Recycling facilities	Incinerators	Cartage & express facilities
Slaughtering houses	Junkyards	Day care centers
Junkyards	Liquid waste handling facilities	Junkyards
Extraction of sand/gravel	Radio/TV broadcasting	Liquid waste handling facilities
Liquid waste handling facilities	Railroad/water freight terminals	Radio/TV broadcasting
Incinerators	Sanitary landfills	Recording studios
Transfer stations	Slaughtering houses	Recycling facilities
	Transfer stations	Resource recovery facilities
		Retail sales/services
		Slaughtering houses
* Production defined across all PMDs as "any production, processing, cleaning, servicing, testing, repair, or storage of materials, goods, products or information."		
Source: Ordinances establishing Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs, City of Chicago.		

2.3 / Industrial Retention Policy: A Local Response to Gentrification

The majority of protective urban industrial land use legislation originated in the mid-1980s, when United States cities began to grapple directly with the economic and employment impacts of structural deindustrialization through policy focused on the retention of local firms.¹⁵ For much of the 20th century, industrial location decision-making had been market-driven with a relative preference for urban sites in cities in the Northeast and Midwest on basis of proximity to consumers, transportation networks, and sector-specific clusters of firms.¹⁶ Benefiting from the presence of industrial firms, city planning efforts had generally sought to support location decision-making, rather than shape it.¹⁷ As industrial firms relocated away from cities *en masse*, resulting in the widespread economic dislocation of urban workers, cities began to question how they might prevent manufacturing firms from relocating. For many cities, zoning emerged as a means of both protecting industrial areas from encroaching incompatible uses and signaling a firm commitment to supporting manufacturing firms.

Generally, industrial zoning policy was implemented in cities or urban areas with competitive markets for land in which, without protection, industrial space would likely be converted to residential or commercial use. In lower density geographies with fewer competitors for land use, industrial zoning functions as a Euclidean organizational tool through which infrastructure and citywide planning decisions can be made.¹⁸ In more contested markets, however, industrial zoning elevates industry to the “highest and best use” when, from a development perspective, residential or commercial would typically preempt.

2.3.1 / Mechanisms of Impact: How Zoning Preserves Space for Production

Industrial zoning elevates the use value of manufacturing through four primary conduits. A number of cities employ protective industrial zoning policies that structurally mirror Chicago's, and these four conduits are applicable across metropolitan area; however, illustrative examples are drawn from the Chicago case:

First, it creates a firm legislative backbone that prevents the conversion of space away from industrial use, or the development of potentially conflicting non-industrial uses, without a significant approval process. In Chicago, as an example, zoning decisions sit under the purview of aldermen (a ward representative, or city councilmember; in Chicago, there are 50 wards and aldermanic representatives). Any amendment to a PMD, however, must be approved at a higher political level through majority vote by City Council. A majority of aldermen must approve the creation of PMDs, so each district, by the time it is established, has generated significant citywide political buy-in. A number of interviewees mentioned that the unique approval process is what has kept the PMDs intact since their original designation in 1988. Planned developments that include uses not allowable under the governing PMD ordinances are common, but they too must generate buy-in, and generally are larger-scale projects with perceived civic

¹⁵ Hunt, D. Bradford and Jon B. DeVries. *Planning Chicago*. American Planning Association: Chicago, IL. 2013. P. 168.

¹⁶ Dempwolf 8.

¹⁷ Dempwolf 5

¹⁸ See *Village of Euclid vs. Ambler Realty Co.*, 1926.

or broad-based employment benefits; as an example, the introduction of candy manufacturer Wrigley's global R&D hub on Goose Island.

Secondly, by designating district-wide industrial areas, rather than zoning individual parcels for manufacturing, industrial zoning policies limit real estate speculation and in doing so, keep the value of land artificially low. Land value may still fluctuate in accordance with other characteristics of the district; as an example, Ducharme noted in an interview that the value of land in downtown PMDs exceeds that of peripheral PMDs, perhaps given their proximity to other high-value districts.¹⁹ However, the limitations placed on local speculation may keep the value of land closer to that of competitor suburban or peripheral urban sites.

Third, the districted nature of protected industrial areas allows them to function as a means of organizing use-specific infrastructure planning, the allocation of technical assistance, and the provision of public investment toward site or neighborhood upgrades. As an example, Chicago maintains a second designation for its industrial land stock, industrial corridors, of which there are 24, which include manufacturing space outside PMDs but still represent contiguous districts. The industrial corridor does not have zoning "teeth," but rather serves as an organizational tool around which infrastructure and land use planning takes place.²⁰ Industrial corridors commonly dovetail with tax-increment financing districts, allowing them to serve as a spatial means of coordinating public investment toward particular projects or infrastructure.

Last, protective industrial zoning plays a Euclidean organizational role, in that it separates potentially conflicting land uses. Zoning as a spatial organization tool allows city planning decisions around infrastructure to be made in a manner that supports the intended use on-site. As an example, infrastructure planning within the planned manufacturing districts emphasizes the importance of multi-modal transportation and urban streets that are able to accommodate the trucks used to transport goods.

2.3.2 / A Defensive Mechanism: When Protective Industrial Zoning is Most Useful

In Chicago, planned manufacturing districts did not emerge purely as a means of distinguishing industrial space from non-industrial; rather, they were a means of preventing the encroachment of higher-value uses within areas of the City where historically industrial space touched hot markets for real estate. As the following section will detail, the coalition that established the first PMD, the Clybourn Corridor, evolved through an effort to preserve industry that sat along the Chicago River, adjacent to gentrifying Lincoln Park. In short, PMDs were a means of reducing the likelihood of economic gentrification.

As early as the 1980s, when Chicago and other cities were beginning to use zoning as a means of industrial retention, policymakers and theorists began to assess when, and where, such a tool would be most useful. Zoning, it was commonly determined, was not

¹⁹ Ducharme. In-person interview by author.

²⁰ City of Chicago. "Resources: Industrial Corridors." Excerpted from *CSI: A Business Plan for Manufacturing*. Pp. 20 – 30.

a tool that could mitigate the impacts of structural deindustrialization, felt acutely at that point in time. Simply preserving space for industry arbitrarily across urban geography would not mean that firms feeling an incentive to relocate production to less expensive sites would not choose to do so. Protective industrial zoning could, however, ameliorate the hyper-local pressures associated with dynamic markets for real estate by leaving space for otherwise healthy manufacturing firms.

Writing in 1986, Heikkila and Hutton provided an early assessment of the value of protective industrial zoning, what they refer to as “exclusionary zoning”, and when it should be used. They justify the protection of industrial space for its ability to contribute toward a diversified economy, in terms of both establishments and employees. For the authors, three scenarios exist under which protective industrial zoning is a viable policy option: 1) when industry is healthy but encouraged through local real estate pressure to convert space toward residential or commercial uses; 2) when industry is relatively healthy and structural unemployment might be best addressed through a land use support for manufacturing; and 3) when the nuisance (noise, vibration, traffic) generated by industry is substantial enough to warrant the implementation of an industrial district. The first scenario is the one in which Chicago found itself in in the late 1980s: though it was deindustrializing substantially, firms still saw benefit in locating near the transportation assets or consumer bases of the metropolitan area. As real estate pressures out-competed otherwise healthy firms, protective industrial zoning policy proved to be an option that could keep those companies in place. The following section provides a history of the evolution of protective industrial zoning policy in Chicago and demonstrates the roots of the City’s PMDs as efforts to protect industrial areas from the encroachment of incompatible uses.

2.4 / History of Protective Industrial Zoning Policy in Chicago

As a city, Chicago developed with manufacturing as its backbone, and industry has been integral to the content and politics of its spatial planning since the 1940s. The city’s orientation to Lake Michigan allowed it to facilitate, from the beginnings of its growth in the 19th century, transportation and trade between the eastern and western sides of the United States. As new modes of transportation were created, they were established within Chicago to reinforce geographic assets and trade networks that were already in place. As the authors of the City’s 1942 *Industrial and Commercial Background for Planning Chicago* write, “the development of the Erie and Illinois-Michigan canals, together with lake commerce and railroad construction, made possible the easy importation of workmen and raw materials and the export of finished products. Lastly, no one of the 38 railroads entering the city passed through it. Since these railroads represent nearly one-half of the total railway mileage of the United States, no other city in the world was in as close and daily contact with as large an area as was Chicago.²¹” Until the mid-20th century, manufacturing sat at the heart of Chicago’s economy, and the city’s planning commission sought to support a healthy and place-based industry that employed or impacted a majority of Chicagoans.

²¹ Chicago Plan Commission. *Industrial and Commercial Background for Planning Chicago*. 1942.

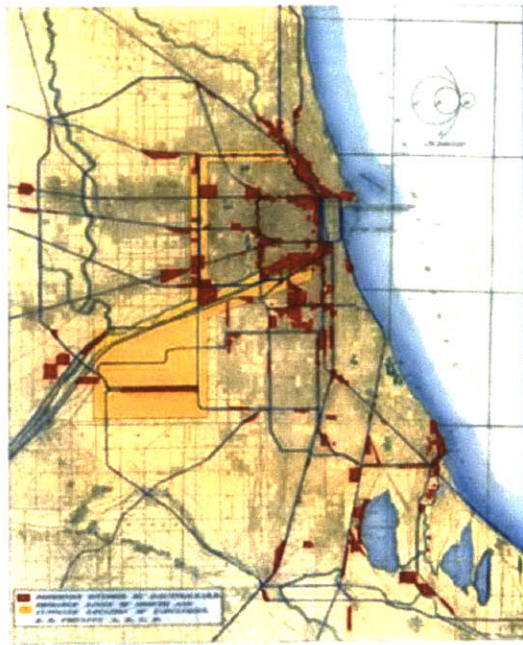


Fig. 2.1. Industrial Land Use, 1909
 Source: *CSI: A Business Plan for Manufacturing*

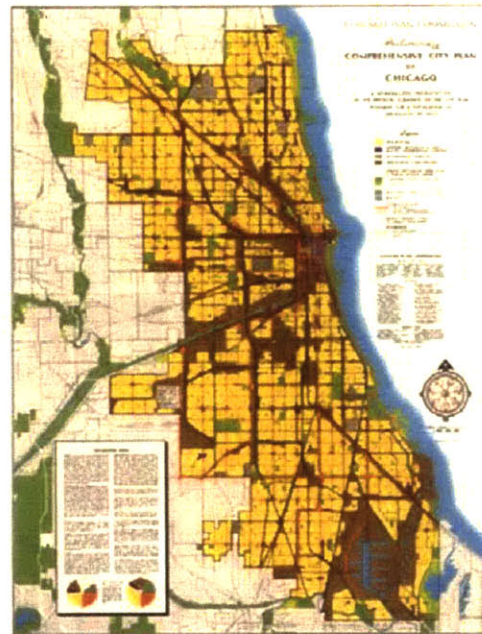


Fig. 2.2. Industrial Land Use, 1946
 Source: *CSI: A Business Plan for Manufacturing*

2.4.1 / Spatial Restructuring of Urban Industry in the Post-War Era

After World War II, however, the structure of urban economies in America began to shift. As Joel Rast, historian of Chicago's industrial policymaking, writes, "manufacturers began moving out of central cities, taking well-paying blue-collar jobs with them. During the following decades, cities increasingly became producers of services rather than goods."²² Before the mid-20th century, the City's dominant industries had been meat-packing, men's clothing, and furniture, all goods produced for consumption by residents of Chicago.²³ New technology, a globalizing market, and the relative strength of the post-war American economy allowed firms to begin scaling for a purchasing pool broader than the Chicagoland area. Proximity to consumers lessened in importance for firms producing for a dispersed consumer base, and certain firms began to exit the City for suburban greenfield sites, or less expensive locations in the Sunbelt, in order to facilitate growth.

With that exodus, firms producing for consumers located within Chicago's central business district (CBD) came to dominate the manufacturing sector. More specifically, intermediary firms that produced for businesses located in the Loop – firms in the printing and apparel industries that produced for service-sector businesses or department stores, even steel and concrete plants that supplied city government – continued to locate in neighborhoods adjacent to the CBD, and along transportation

²² Rast, Joel. *Remaking Chicago: The Political Origins of Urban Industrial Change*. Northern Illinois University. 1999. P. 4.

²³ Chicago Plan Commission 1942.

corridors. Printing House Row remained in the South Loop, buoyed by its proximity to the expanding finance, insurance, and real estate (FIRE) sectors with new and significant printing needs. Apparel and food producers concentrated on the Near West Side to benefit from industry colocation and proximity to restaurants, distributors, and retail sales in downtown neighborhoods.²⁴ Though heavy industry largely dispersed, a number of large-scale anchor firms, primarily those with deep roots in Chicago, continued to concentrate along the Chicago River on the Near North Side. There, they benefited from neighborhood-scale infrastructure that had developed for industrial use, access to north-south rail lines and the I-90/I-94 expressway, and proximity to the bulk of its workforce, which lived in blue-collar residential neighborhoods north of the Loop.

2.4.2 / 1942 to 1958: The Changing Politics of City Planning

At first, city planning in Chicago responded to the spatial decentralization of urban industry by reinforcing a strategy that sought to support firms as they moved, rather than retain them. The Chicago Plan Commission's 1942 plan, *Industrial and Commercial Background for Planning Chicago*, represented the first attention paid to the relocation of certain elements of the City's manufacturing sector to sites outside of the City. Within 15 years, however, the objectives of Chicago's city planning strategy changed drastically: attention to industry was dramatically reduced in favor of efforts to catalyze downtown development. Chicago's 1958 *Development Plan for the Central Area of Chicago*, its first comprehensive plan for the downtown and last until 2003, exemplified this shift. The contrasting goals of the two large-scale planning efforts reflect a marked shift in the early 1950s from a strategy that prioritized manufacturing to one that pushed the City to cultivate a service-based economy.

Chicago's 1942 planning effort acknowledged the decentralization of consumer-oriented manufacturing as the primary challenge faced by the City's manufacturing sector. In 1940, 26.1% of the value of goods produced in America represented manufacturing taking place in cities with populations greater than 500,000, and production in Chicago accounted for 19.1% of the value of that urban industry, second only to New York.²⁵ The city's productive position with respect to other comparable urban areas was strong. Its share of the value of goods produced nationally, however, was shrinking, from 6% in 1919 to 5% in 1939.²⁶ The City's 1942 planning effort

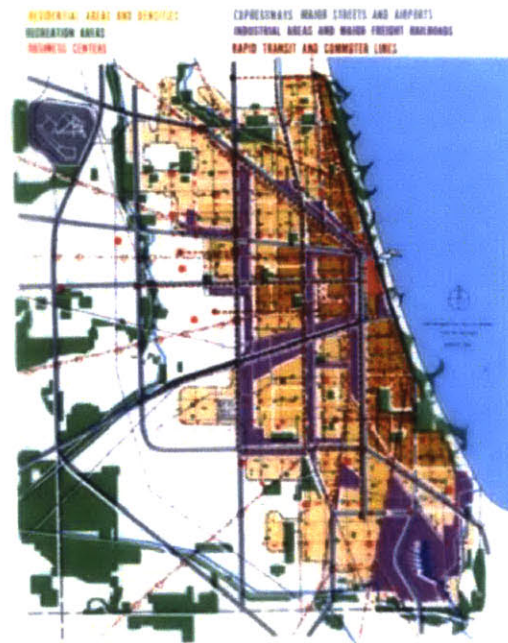


Fig. 2.3. Industrial Land Use, 1966
Source: CSI: A Business Plan for Manufacturing

²⁴ Rast. *Remaking Chicago: The Political Origins of Urban Industrial Change*. See Chapter 3: Rethinking Industrial Decline.

²⁵ Chicago Plan Commission 1942. P. 37.

²⁶ Chicago Plan Commission 1942. P. 39.

provided few strategic or policy recommendations, but did recognize a structural economic shift that would only intensify with time.

A decade later, two sets of planning efforts, the first focused on industry and the second, on commercial growth, signaled a significant shift in the City's political and planning strategy from one uplifting industry as an economic backbone toward a firm focus on development oriented toward the CBD. The 1952 *Chicago Industrial Study* produced by the Chicago Plan Commission took a more optimistic perspective than its 1942 predecessor by framing the challenge of physical development in the City's CBD as its primary industrial challenge, rather than the decentralization of industry. Despite strong demand, the Commission argued, "obsolete buildings, inadequate space, congested streets, and surrounding blight" hampered opportunities for healthy industry in downtown Chicago.²⁷ The *Chicago Industrial Study* advocated for the retention of 6,604 acres of land in and around the CBD for industrial use.²⁸ Redevelopment and assemblage efforts were recommended to create the conditions in which industry could thrive.

The objectives outlined in the 1958 *Development Plan for the Central Area of Chicago*, issued just six years later and reliant on research efforts that informed the prior *Industrial Study*, demonstrated a marked strategic shift. The stated mission of the *Development Plan* was to "give to all the people the best there is of urban living in providing for convenience, recreation, culture, entertainment, religious participation, and the unlimited opportunity for a rich and varied life that only a great city can give."²⁹ With respect to industrial land use in the Central Area, the plan proposed the redevelopment of "many blighted industrial and commercial areas surrounding the Central Area and in their place create residential uses."³⁰ Though the plan cursorily speaks to the retention of industrial users that ringed the CBD, it fails to outline policymaking that might support that goal. In his *The Third City*, Bennett argues that the *Development Plan* marked a transition toward planning with an "unambiguously postindustrial vision" that redrew Chicago as a center of commerce, high-value services, and residential revitalization.³¹

Underlying the strategic shift in Chicago's industrial and commercial planning efforts was a turnover in the City's political administration and its relationship to city planning. In 1955, in the midst of the City's comprehensive planning efforts, Richard J. Daley defeated incumbent Martin Kennelly in the mayoral election. Rast argues that the Daley administration marked a transition toward a growth-oriented planning strategy and policymaking characterized by regime politics³². Prior to the Daley administration, the Chicago Plan Commission – established to implement Burnham's 1909 Plan of Chicago – had served as a quasi-public independent body providing planning recommendations to the public sector. Shortly following his election, Daley consolidated city planning under the umbrella of City Hall, establishing the first Department of City Planning. Its goal was to envision and implement the array of public

²⁷ Chicago Plan Commission. "Chicago Industrial Study: Summary Report." Chicago Plan Commission. 1952. P. 6.

²⁸ See Chicago Plan Commission 1952.

²⁹ City of Chicago. "Development Plan for the Central Area of Chicago." City of Chicago: Department of Planning and Development. 1958. P. 1

³⁰ City of Chicago. "Development Plan for the Central Area of Chicago." P. 8

³¹ Bennett, Larry. *The Third City: Chicago and American Urbanism*. University of Chicago Press, Chicago. 2010. P. 40.

³² Rast 29.

works projects outlined in the *Development Plan* that would contribute toward the revitalization of downtown Chicago.³³

Rast argues that the shift in political prioritization from support for Chicago's industrial sectors toward investment in downtown development shaped the City's evolution in a manner that ultimately facilitated the economic pressures necessary to warrant the establishment of PMDs. In the early years of the administration, large-scale redevelopment projects – including the John Hancock Tower and Sears Tower – were quickly facilitated, drawing new investment to the downtown.³⁴ Between 1962 and 1977, the Loop's stock of office space grew by 32 million square feet, and iconic mixed-use residential projects, like Marina City, began to appear along the downtown riverfront.³⁵ Though city-led redevelopment efforts faced political hurdles, the investment in the CBD drew corporate-center demand, and a professional workforce followed. The influx of residents with an appetite for urban living, who planned to work in the Loop's growing office sector, not the industrial areas that bounded it, set the stage for the gentrification pressures that would bring debate over industrial zoning to a head.

2.4.3 / 1980s Deindustrialization and the Gentrification of Downtown Chicago

The momentum to establish Chicago's industrial retention initiatives that emerged in the mid-1980s responded to three concurrent pressures: the continued decentralization of Chicago's manufacturing industry, a revitalization of the downtown that had spurred demand for urban living in neighborhoods proximate to legacy industrial areas, and perception among industrial advocates that city policy favored the interests of the latter over the former. Though the use of zoning policy as an effort to stymie deindustrialization at the local level was not unique to Chicago, within the City, its passage was the result of a specific confluence of economic and political forces. By the time that the PMDs were established, they represented a vested policy interest in the protection of working-class employment, and furthermore, the retention of industry as a citywide cultural value.

Economically, by the mid-1980s, the employment losses accompanying the relocation of industry were felt acutely in Chicago. The nation generally had suffered job losses in manufacturing of 10.2% between 1979 and 1986, and the "East North Central" group of Midwestern states, had seen an average reduction of 19.3%.³⁶ Chicago itself lost 36% of its manufacturing employment in the decade between 1979 and 1989.³⁷ In the immediate post-World War II years, firms had sought to decentralize production outside of the center-city to suburban sites; by the 1970s, decentralization was augmented by an additional incentive to reduce cost by globalizing production to less expensive regions, largely in the southern Sunbelt states or internationally.³⁸ The 1981 – 1982 recession only intensified the macroeconomic pressure placed on industry.

³³ Bennett 41.

³⁴ Hunt & Devries 58.

³⁵ Rast 30.

³⁶ Clavel, Pierre and Robert Giloth. "Planning for Manufacturing: Chicago after 1983." *Journal of Planning History*. Vol. 14 (No. 1). P. 5

³⁷ Markusen, A.R. and V. Carlson. "Deindustrialization in the American Midwest: Causes and Responses," in *Deindustrialization and Regional Economic Transformation: the Experiences of the United States*. Ed. Lloyd Rodwin and Hidekiko Sasanami. Unwin Hyman (Boston, MA). P. 239 – 59.

³⁸ Bluestone, Barry and Bennett Harrison. *The Deindustrialization of America*. New York: Basic Books. 1982. P. 25 – 48.

Castells, Manuel. "High Technology, Economic Restructuring, and the Urban-Regional Process in the United States," in *High Technology, Space, and Society*, ed. Manuel Castells. London: Sage. 1985.

Within the boundaries of Chicago, remaining manufacturing firms, particularly those situated in locations proximate to the growing CBD, faced an additional threat: growing development speculation and interest in the conversion of industrial space toward residential and commercial uses. Between 1977 and 1984, an estimated seven thousand manufacturing jobs were lost in the City's River North neighborhood, adjacent to the Loop, as a result of the conversion of industrial loft space to residential apartments.³⁹ By the early 1980s, industrially zoned buildings in the City's North River Corridor, in which the Clybourn Corridor and Goose Island are situated today, were seeing residential conversion on an ad hoc basis as developers reoriented their attention toward new opportunities.

³⁹ Giloth, Robert and John Betancur. "Where Downtown Meets Neighborhood: Industrial Displacement in Chicago, 1978 – 1987." *Journal of the American Planning Association*. Vol. 54. 1988. P. 284.

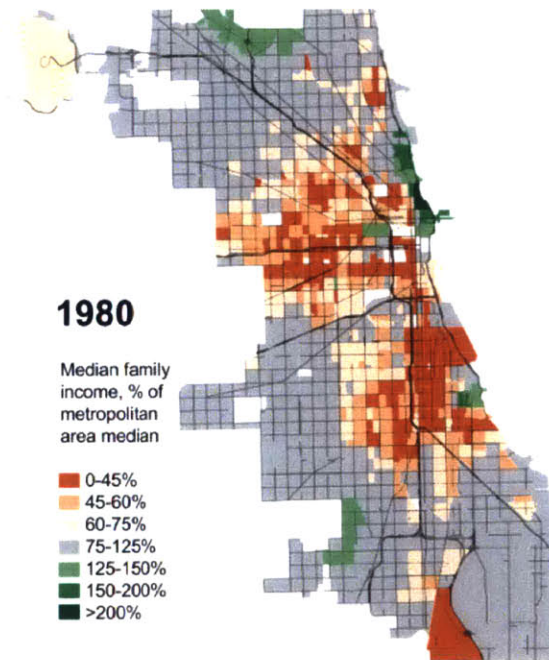
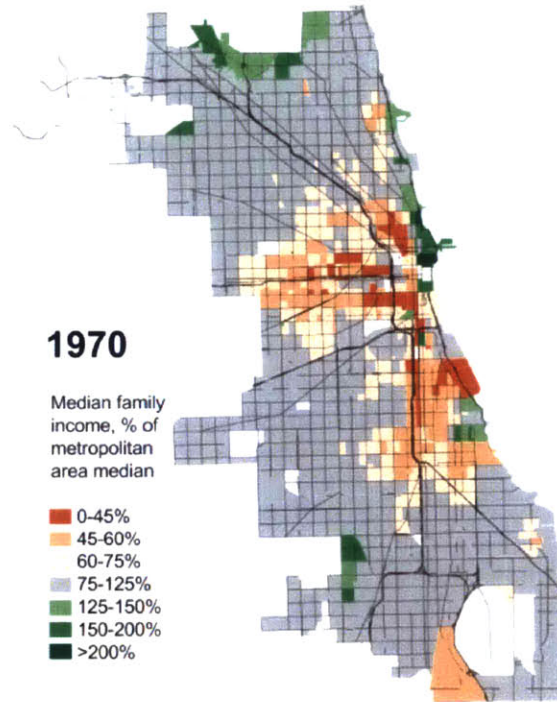


Figure 2.4. The changing geography of wealth in Chicago and gentrification of the Near North Side: Median family income as a % of the metropolitan area median
 Source: Daniel Kay Hertz

2.5 / “Jobs not Real Estate:” The Case for Chicago’s Planned Manufacturing Districts

A transition in leadership at the mayoral level in Chicago created space for new political dialogues. Harold Washington’s campaign for mayor, centered around politics from the ground-up and responding to a long-term pattern of top-down planning, allowed for the elevation of neighborhood-based economic development planning strategies that led to the establishment of the PMD.

2.5.1 / Post-Daley: Toward a Neighborhood-led Planning Strategy

As macroeconomic and neighborhood-level forces encouraged the relocation of industry outside of Chicago, politically, the City was in an extended transitional period. Mayor Richard J. Daley, who had held office for an unprecedented six terms, and who had aggressively pursued a corporate-center economic development strategy characterized by a focus on downtown revitalization, had passed away in 1976. Mayor Daley’s successors, Michael Bilandic (1976 – 1979) and Jane Byrne (1979 – 1983) upheld the prior administration’s downtown development efforts, despite growing complaint that the strategy simultaneously promoted neighborhood-level disinvestment and did little to curb the growing exodus of industry and the employment it provided.⁴⁰ Since 1956, the interests of the City’s business elite had been coalesced within the Chicago Central Area Committee (CCAC), and the alliance had advised the development and implementation of a variety of plans established by the City’s Planning Department. Clavel and Giloth excerpt *Chicago: Race, Class, and the Response to Urban Decline*, a 1987 critique of the City’s community and economic development policymaking patterns, terming the City’s planning strategy through the Byrne administration as “strikingly post-industrial” and “given over exclusively to physical planning considerations... [with a] vision of the future Chicago originated in the city’s private sector.”⁴¹ During a period of economic upheaval, many argued that the City’s leadership had diverted resources away from the working-class base most impacted by change over the course of a series of administrations.

During the Byrne administration, rising political dissatisfaction and spatial pressure on the City’s remaining CBD manufacturing firms led to the emergence of local industrial retention strategies and the formation of a series of industrial development organizations (IDOs).⁴² It is valuable to note that locally led strategies took three forms, for that tripartite organizational tactic continues to inform the nature of industrial retention efforts in the City today. Industrial business incubators, including the Industrial Council of Northwest Chicago (ICNC), which today advocates for firms in the Kinzie Corridor, offered low-cost rent and small business support. Collaborations between co-located manufacturing firms led to the establishment of sector-specific advocacy organizations. The Jane Addams Resource Corporation (JARC) is an example of a non-profit organization focused on metalworking that initially sought to cement relationships between local members of the supply chain, and today has grown to primarily provide workforce development support, in light of the current skills gap. Place-based coalitions

⁴⁰ Clavel and Giloth 20.

⁴¹ Clavel and Giloth, 20. Excerpting Squires, Gregory, Larry Bennett, Kathleen McCourt, and Philip Nyden. *Chicago: Race, Class, and the Response to Urban Decline*. Philadelphia, PA: Temple University Press. 1987.

⁴² Rast 91.

sought to preserve manufacturing within legacy industrial neighborhoods, particularly those facing residential or commercial encroachment. The Local Economic and Employment Development (LEED) Council, which initially focused tightly on encouraging the employment of residents of the Cabrini-Green public housing developments within industrial firms in the North River Corridor⁴³, is a primary example. As the Byrne administration came to a close, the LEED Council proved fundamental in advocating for an industrial retention strategy that was both locally led and institutionalized within citywide policy.⁴⁴

In 1983, incumbent Jane Byrne sought a bid for mayoral reelection within a climate of fomenting political conflict over the City's economic development trajectory. Rast situates the campaign within the context of oppositional politics developing in cities across the country that responded to longstanding pro-growth policymaking with advocacy for decision-making that benefited urban residents at the neighborhood level. The case of Chicago is unique however, he argues, in that emerging coalitions were not as much oppositional as they were "in favor of an alternative set of economic development priorities to those being advanced by the city's traditional growth coalition of business, labor, and government leaders."⁴⁵ Rast terms the new approach a "local-producer strategy," one that emphasized employment within the city for the benefit of its residents. Led by two advocacy organizations, the Chicago Association of Neighborhood Development Organizations (CANDO) and the Community Workshop on Economic Development (CWED), the coalition united place-based IDOs and community development corporations (CDCs) with sector-specific IDOs, the coalition under a campaign that spotlighted the need for working-class jobs. The focus on employment allowed advocates to develop a framework that rested on a memorable binary argument: "jobs not real estate."⁴⁶ Rast quotes Robert Giloth and Robert Mier's succinct summary of why emerging rhetoric proved impactful:

"The antimony of neighborhood versus downtown – a long-standing, urban grass-roots metaphor – was transformed in Chicago and elsewhere in the 1980s to portray a new set of development choices: manufacturing versus the service economy; blue-collar jobs versus low-wage McJobs; job generation versus real estate development; industrial expansion versus downtown growth; credit-starved neighborhoods versus the growth of the finance industry; targeted local hiring versus regional business climate; and minority / female businesses versus efficiency."⁴⁷

⁴³ Donna Ducharme. In-person interview by author.

⁴⁴ Rast 93.

⁴⁵ Rast 85.

⁴⁶ Clavel and Giloth 23.

⁴⁷ Rast 95. Excerpting Giloth, Robert and Robert Mier. "Spatial Change and Social Justice: Alternative Economic Development in Chicago." In *Economic Restructuring and Political Response*. Ed. Robert E. Beauregard. London: Sage. 1989.

Jane Byrne's opponent in the mayoral race, U.S. Representative Harold Washington, chose to run at the urging of CANDO and the CWED, and entered the campaign with the *Washington Papers*, an agenda that rested heavily on locally led economic development policymaking and the shifting of land use decision-making processes to favor the interests of working-class Chicago residents. Washington won the election narrowly, with a victory resting on unprecedentedly strong voter turnout within the City's black and Latino communities. His election marked an opportunity to continue to push a neighborhood-oriented economic development strategy toward implementation.



Mayor Washington tours Finkl Steel in the Clybourn Corridor in November, 1987, and announces his support for "Protected Manufacturing Districts," advocated by the LEED Council.

Figure 2.5. Mayoral support for the Clybourn Corridor Planned Manufacturing District, 1987
Source: North Branch Works

2.5.2 / Research, Advocacy, and Coalition-Building: Passage of the PMDs

Under the Washington administration, a political orientation toward neighborhood-level planning – now with the potential to be institutionalized through policy – and ongoing community-led efforts to mitigate industrial displacement coalesced to set the stage for the establishment of Chicago's planned manufacturing districts. Though the *Washington Papers* articulated a range of economic development principles and tactics⁴⁸, place-based conflict on the Near North Side quickly elevated industrial land use and zoning to the forefront of policy conversation.

Though ad hoc industrial-to-residential conversion had transformed River North⁴⁹, just north of the Loop, and was progressing into the North River Corridor, a seemingly inconsequential land use decision sparked broad political debate over the value of industry in the CBD. In 1983, a development team requested a zoning variance to allow for the conversion of a vacant piano factory on Clybourn Avenue into condominiums.⁵⁰ In Chicago, zoning choices are made at the ward level; that decision-making requires aldermanic approval makes the politics of zoning in Chicago particularly local. The LEED Council, a growing advocate for industrial retention on the Near North Side, organized a coalition of local manufacturing firms to oppose the change. Though the Council ultimately lost its campaign, and Alderman Martin Oberman approved the rezoning, the fight paved the way for an ongoing focus on the users of industrial buildings between Clybourn Avenue and the Chicago River. As commercial and residential development in adjacent Lincoln Park boomed, rising property values and nuisance complaints contributed to growing tension between neighborhood residents and manufacturing firms, and placed pressure on industrial users to involuntarily relocate.⁵¹

In the midst of heightened conversation about the presence of industry in densifying residential neighborhoods, the LEED Council elected to facilitate two advocacy processes, the first research-driven and the second, centered on coalition-building. The Council was led by Donna Ducharme, a former city planning student at MIT whose master's thesis had introduced a place-based protective zoning concept similar to the PMD. In partnership with the Department of Economic Development, chaired by former Near South Side CDC director Robert Giloth,⁵² the Council undertook a research effort that quantified employment losses of over 7,000 as a result of industrial-to-residential conversion in nearby River North between 1978 and 1985.⁵³ The research team argued for the presence of parallel pressures on the Near North Side, and an ongoing tendency to convert zoning incrementally, rather than retain. Simultaneously, the research team undertook a second survey examining the Near North Side's workforce. As Ducharme describes it, "We got 5 companies to give us their employee lists and then we looked at where their employees came from. I think it was about 70% from the City, and they came from all 50 wards. There was a concentration within a couple of

⁴⁸ The Research and Issues Committee, Washington for Mayor Campaign. *The Washington Papers*. 1982.

⁴⁹ Rast 113.

⁵⁰ Amer, Robin. "Manufacturing Consent: Chicago's Oldest Steel Mill Will Soon Be Demolished. What Will Replace it When its Gone?" *Beltmag*. 20 January 2015. <http://beltmag.com/manufacturing-consent-chicagos-oldest-steel-mill-will-soon-demolished-will-replace-gone/>

⁵¹ Ducharme 1991

⁵² Rast 115

⁵³ Rast 115. Excerpting Ducharme, Donna, Robert Giloth, and Lynn McCormick. *Business Loss or Balanced Growth: Industrial Displacement in Chicago*. City of Chicago: Department of Economic Development. 1986.

miles, but it really was a situation where the entire City was benefiting from these jobs.⁵⁴

The research team argued that ending speculation, and therefore protecting local, middle-class work, would require the establishment of a district-wide zoning designation, decisions about which would be made at the City Council level, rather than by individual aldermen. By framing the issue of residential encroachment in terms of employment, the LEED Council team positioned the place-based dynamics of industrial space on the Near North Side squarely within Washington's policy agenda and its emphasis on neighborhood-driven growth that benefited the working-class. Politically, the issue's framing obligated the administration to play an active role; looking forward, it set a precedent for linking land use decision-making with employment policy that would hold for decades to come.

In the summer of 1988, an ordinance that would establish a PMD in the Clybourn Corridor – from Clybourn Avenue westward to the Chicago River, and from North Avenue northward to Webster – was introduced into City Council, after three years of advocacy and public debate. The publication of the LEED Council and DED's co-authored *Business Loss or Balanced Growth*, had generated support for a protective measure like the PMD from Alderman Oberman, who originally had held a pro-growth stance, who had seen a turnover in the population of his ward from a working-class German community to middle-class professionals as Lincoln Park gentrified in the 1970s. Oberman began hosting a task force focused on industrial displacement that brought together Near North Side manufacturers with the goal of advancing the PMD concept. Successful coalition-building rested on the relationships built through that task force, and the buy-in cultivated through repeated collaboration between firms; it also benefited from the amicable partnerships many industry-oriented community-based organizations had cultivated during the Washington campaign.

Gaining the support of the City proved most challenging, and the debate waged within City Hall then influenced the rhetoric now shaping the ongoing iteration of the PMD debate. Despite a political agenda that upheld employment protections for the working-class, Washington held silent on the PMD debate as it played out, likely understanding that assuming a side could fracture tenuous relationships with either the City's strong network of community-based organizations or a downtown business community already opposed to much of the administration's approach.⁵⁵ As an advocacy campaign waged between 1986 and 1987, rezoning requests that would have previously been reviewed without substantial attention were drawn into the debate. A market for big-box retail at North and Clybourn, on the southeastern tip of the proposed PMD and immediately to the west of Lincoln Park, was building, and two development proposals sought to convert industrial parcels toward commercial and residential use. In the eyes of both the mounting pro-industrial coalition and many of the City's planners, the proposals directly pitted manufacturing uses against commercial growth. One, a seventeen-acre proposal for a shopping center at the northern end of the Clybourn Corridor, particularly drew the argument into public eye.⁵⁶ In the words of Deputy Planning Commissioner David Mosen:

⁵⁴ Ducharme. In-person interview by author.

⁵⁵ Rast 121.

⁵⁶ Rast 122.

“It’s a great site, good for industrial, but prime land for retail. In fact, it’s because its such a great retail site – near a growing yuppie market – that whatever we choose to do, it will really give off a clear message that will have an effect on the marketplace in that area...The stakes are high – real money stands to be lost. *Everyone is watching to see what happens.* Whichever message comes out of this decision, it will be the most powerful message yet from the City.⁵⁷”

The proposal ultimately received the go-ahead, but in an effort to limit real estate speculation and “give off a clear message” to industrial users in the Near North Side, Washington followed the approval with an indication of support for the PMD ordinance. Three weeks after his endorsement of the ordinance, however, Washington passed away unexpectedly of a heart attack, leaving the City to question how the PMD ordinance, and more generally, an unprecedentedly equity-driven economic development platform, would unfold.

The following year saw a series incremental rezoning opportunities, both on the fringes of and in the center of the proposed PMD, and amid political upheaval, the pro-industry campaign had the potential to fracture. Under acting Mayor Eugene Sawyer, former alderman of the South Side 6th Ward, who retained the majority of Washington’s policy staff but supported approval of conversion proposals within the PMD boundaries, support for protective industrial zoning as a response to a perceived political threat mounted. In mid-1988, half a year after Washington’s death, the PMD ordinance was finally introduced into City Council.

In the months before its passage, a series of research efforts furthered the employment argument, and its linkage to land use policy, on which the success of the PMD concept ultimately rested. Three studies, undertaken collaboratively by the Department of Economic Development, the Mayor’s Office of Employment and Training, and an academic team based at Northwestern University,⁵⁸ sought to quantify the impact of manufacturing employment relative to the service-sector positions that might replace it. The outcomes of each assessment stood on the side of industry: employment multiplier effects for manufacturing labor were shown to support twice as many jobs as positions in the retail sector, and industrial firms were shown to provide more in wages, taxes, and employment than their non-industrial counterparts.⁵⁹ The positive outcomes of localized research only bolstered support for the establishment of the Clybourn Corridor PMD, and meant that developers faced a stiffer challenge in advocating for the viability of non-industrial proposals in the area.

In October of 1988, after two months of public hearings and a 7-0 vote in favor by the City’s Plan Commission, the ordinance to establish the City’s first PMD in the Clybourn Corridor was approved by City Council. The ordinance designated a unique zoning structure that included a forty-one acre “core” zone ringed by a seventy-four acre “buffer” zone.⁶⁰ Though the title of districts suggests purely manufacturing use within, core district accommodated a range of uses related to production: “any production, processing, cleaning, servicing, testing, repair, or storage of materials, goods or

⁵⁷ Rast 123. Excerpting a 1987 memorandum sent from Deputy Planning Commissioner Mosena to Department of Economic Development Commissioner Robert Mier and Planning Commissioner Elizabeth Hollander.

⁵⁸ Rast 127.

⁵⁹ Rast 129. Excerpting Department of Economic Development. *Clybourn Corridor Planned Manufacturing District*. Chicago: Department of Economic Development. 1988.

⁶⁰ Rast 129.

products,” as well as material and fuel sales, public service uses, storage and warehousing, rail and freight terminals, and construction offices. The buffer zone, intended to front onto streets on which commercial and residential uses already dominated, permitted industrial uses as well as the integration of other uses with potential compatibility (clinics, educational facilities, limited retail, and office space).⁶¹

It is valuable to note that the flexibility of uses within the buffer zone set a precedent for potential future development conflict, and the visibility of the Clybourn Corridor PMD within a largely residential area meant that the viability of the district would be a subject of debate for decades to come. A *Chicago Tribune* article published shortly after the establishment of the Clybourn Corridor PMD illustrates the multidimensionality of the PMD’s implications well. Tem Horwitz, a developer initially opposed, expressed, “It really was democracy at work. There wasn’t one group that dominated, and the city didn’t have the power to force a resolution on any of the parties. The evolution over a period of three or four years was pretty rational, pretty fair, and to my mind, a wonderfully impressive process... The ongoing experience of the street, at this point, is more dictated by the markets than by the politics – the demand for space or lack of demand for space.” In contrast, developer David ‘Buzz’ Ruttenberg commented, “It’s inappropriate to save jobs by preserving buildings for use as manufacturing...Somebody like Finkl, who wants to stay, should be protected and maybe have a buffer zone of 200 or 250 feet around him, but I don’t think you should be forced to do that. It raises a really interesting constitutional question.” Speaking to the character of the neighborhood, Michael Beyard with the Urban Land Institute noted, “The difficult question is compatibility in a gentrifying area. Conceivably, there is land that the city owns that’s not suitable for residential development and far more suitable for industrial development. Perhaps that might be something to consider rather than trying to retain industry in a certain area.”⁶² The core elements of the three perspectives raised – the political process through which protective land use decisions are made, the potential performance and implications of industrial zoning, and the challenge of preserving industry adjacent to a neighborhood considered high-value – remain primary to the conversation around urban industry in Chicago, and the PMDs more specifically, today.

⁶¹ City of Chicago. (1988). *Clybourn Corridor Planned Manufacturing District Ordinance*. City of Chicago.

⁶² Laueran, Connie. “The Clybourn experiment: the fit may not be perfect, but the goal is to gentrify an urban wasteland without losing its industrial muscle.” *Chicago Tribune*. 18 February 1990. http://articles.chicagotribune.com/1990-02-18/features/9001140462_1_wasteland-real-estate-industrial-muscle

The Clybourn Experiment

The fit may not be perfect, but the goal is to gentrify an urban wasteland without losing its industrial muscle



Michael Laird and Rhonda Shane enjoy cocktails on his

By CONNIE LAUERMAN
PHOTOS BY CHARLES CHERNEY

In the early 1980s Clybourn Avenue was a wasteland, a gritty industrial district where few outsiders ventured, save for motorists seeking a faster route to downtown Chicago.

Real estate developer Tom Horwitz was one of them. "I used to drive down Clybourn because there was very little traffic but also because I loved the street," he says. "It was remarkable for its charm. It had a museumlike quality in the sense that you were looking at [the vestiges of] manufacturing techniques from another century—Industrial Revolution sorts of things—and a slightly moribund sense that this really

Connie Lauerman is a Magazine staff writer. Charles Cherney is a Tribune photographer.

was an industrial wasteland. No way was this going to be reasculated as an industrial manufacturing strip."

Horwitz was attracted to a one-time pizza factory at 1872 N. Clybourn Ave. He had visions of loft condominiums. "Since the area was a light-industrial and, to some degree, heavy-manufacturing strip, it seemed like a very compatible use," he says. "Industry was there during the day, and the kinds of people we were marketing to were all people who had careers and were not around during the day but during evenings and weekends, when it was very, very quiet."

Horwitz Matthews Inc. purchased the seven-story, Victorian-era building at a bargain rate of under \$2 a square foot. They gutted it, replacing all the mechanical systems and adding a steel superstructure on its north side and an enclosed parking lot. Then in 1984 they put it up for sale. Most bankers and real estate people thought it was a sure loser.

A former 1960s radical with two degrees in intellectual



Developer Tom Horwitz in front of the piano factory that he converted into a loft condominium.



Efforts by Donna Ducharme (above) and other community leaders have helped A. Find & Sons (background) and other manufacturers stay in the neighborhood.

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shopping malls featuring furniture stores, a video shop, banks, boutiques, an eight-screen movie complex, a Great Ace hardware store, an Omni superstore and, as the upscale *pièce de résistance*, the newest Treasure Island supermarket.

At 1800 Clybourn Ave., Horwitz Matthews transformed a former Turtle Wax factory into a dramatic three-level shopping center, retaining much of its former industrial identity, with some of the original brick foundation walls and wood pillars left intact.

Since it opened last spring, its spaces have been leased to the type of sophisticated retailers—pricy apparel and accessories stores, gift shops—and such services as a travel agency, a nail salon and a family aerobic club that would appeal to the professionals who can afford the real estate just east of Clybourn Avenue, where the average price of a home is about \$250,000 and homes for twice that amount or more are not uncommon.

The shopping center also seeks to be a sort of community center for families. It features lockers at the entrance for stashing packages. Its ramps are, in the words of project manager Will Rogers, "stroller friendly," and it includes two changing rooms for infants. It also publishes a chatty newsletter, 1800 Clybourn, and offers a variety of free entertainment for children called Good Day Saturday.

When the truck traffic ceases and the stench in the air dissipates on Clybourn Avenue, the night life



Interior of the 1800 Clybourn Building, now a multilevel shopping mall.

picks up. In the shopping center, customers can choose among Goose Island Brewery; Metropolis 1800; Per Excellence, an artist-designed miniature golf course; Muddler's Pool Room; and its adjoining espresso bar, Caffè Lupi. Up the street, there's Cocorico, a French-style brasserie that is owned in part by former Sting soccer player Karl-Heinz Granke and his wife, Beate; and Rim King, an airy Thai restaurant. The Hunt Club, however, a bar and grill once owned in part by former Bears safety Gary Penick, now is shuttered.

Despite their worst fears, the manufacturers remain in the Clybourn Corridor, though it took two years of struggling to achieve a compromise that would attempt to serve the conflicting interests of manufacturers, real estate developers and neighborhood residents through the use of zoning.

A task force set up by the late Mayor Harold Washington conducted a study of the Clybourn Corridor and issued a report in 1987 urging the creation of planned manufacturing districts (PMDs) to protect industry from encroachment by commercial and residential developers.

The group was packed with neighborhood activists pushing the city to protect its diminishing industrial base, and one of them, Donna Ducharme, executive director of the LEED Council, an affiliate of the New City YMCA dedicated to economic and employment development in the Clybourn Corridor and Goose Island, emerged as the most visible champion of industry.

"Planned manufacturing districts are a very good tool and very appropriate to some areas of the city," says Ducharme, whose agency also is an affiliate of the city's Department of Economic Development. "It's a very helpful way of moving forward in an area where there are conflicting pressures about what should be happening. The PMD allows you to capture the best of everything instead of just saying: 'We're going to lose these

2.5.3 / After the Clybourn Corridor: The First Wave of PMDs

The story of the Clybourn Corridor PMD is the most critical, for its establishment cultivated a framework of political decision-making and cultural rhetoric that has shaped the creation of the 14 additional districts. Furthermore, fundamental to this thesis is the argument that the creation of the PMD designation rested on an argument for specific employment objectives: namely, the retention of industrial work and more specifically, “head of household” jobs.⁶³ The political battle over land use in the Clybourn Corridor resulted in a rhetorical and institutionalized linkage between zoning, employment, and equity considerations.

The suggestion of the Goose Island and Kinzie Corridor PMDs came in response to similar encroachment pressures to those impacting industry in the Clybourn Corridor, and their passage recalled the political process that shaped the first PMD. After the establishment of the inaugural PMD, the LEED Council moved to designate two additional districts, Goose Island and the Elston Corridor, both in the North Branch River Corridor. Ward-level and citywide politics complicated the success of the Goose Island PMD. Alderman Burton Natarus, initially supportive of the PMD, withdrew support as a long-term industrial tenant, the Chicago Milwaukee Corporation, expressed interest in converting its parcel, at the southern tip of the Island to residential uses.⁶⁴ In City Hall, Richard M. Daley, son of former Mayor Richard J. Daley, defeated Eugene Sawyer in the race for mayor in 1989. His election ignited speculation that the neighborhood-led policymaking of the Washington Era would be replaced by downtown-oriented economic development strategy.

Initially, Daley appeared firmly opposed to land use policymaking that preserved industry adjacent to residential neighborhoods. Quoted in the *Chicago Reader*, Dan Carlson of the CWED noted:

“His understanding of manufacturing is that it’s all going to the suburbs, so why try to retain it? It’s silly to try, he said, because of unionization, global pressures, and the facilities and reduced taxes that suburbs offer. He had very little interest in retention efforts, whether incentives or zoning, most particularly PMDs. He said, ‘I grew up next to the stockyards, and I don’t want to live next to a factory, and nobody does.’⁶⁵”

As in the case of the Clybourn Corridor, advocacy efforts and studies conducted by the LEED Council demonstrating the employment, multiplier, and tax impacts of retaining industry on the Island began to sway Daley’s view, particularly against a backdrop of strong industrial real estate markets.⁶⁶ Particularly salient was a 1990 LEED Council study, *Keeping Jobs for Chicago’s Future*, which estimated that an industrial Goose Island could grow by an additional 4,200 jobs, \$326 million in wages, and \$40 million in taxes per year.⁶⁷ In 1991, as a result of research efforts and strong local-level coalition building, Goose Island was designated as a 145-acre PMD. Unlike the Clybourn

⁶³ Mike Holzer. In-person interview by author.

⁶⁴ Kaplan, Joel. “Alderman alters Goose Island view.” *Chicago Tribune*. 17 May 1989. http://articles.chicagotribune.com/1989-05-17/news/8902010757_1_buffer-zone-property-owners-planning-department

⁶⁵ Moberg, David. “Daley on development. Economic policy: Like father, like son?” *Chicago Reader*. 23 February 1989. <http://www.chicagoreader.com/chicago/daley-on-development/Content?oid=873426>

⁶⁶ Rast 141.

⁶⁷ Hunt & DeVries.

Corridor PMD, the entirety of Goose Island was designated as a “core” zone; however, greater flexibility was allotted to the allowable uses within the district.⁶⁸ Importantly, whereas office space is only permitted within the Clybourn Corridor’s “buffer” zone, the entirety of the Goose Island PMD is available for R&D and office uses. As the PMDs evolved, the differing nature of flexibility of use would influence each PMD’s ability to adapt to changes in the nature of manufacturing.

As Daley’s tenure progressed through the 1990s, protective industrial zoning became a preferred economic development policy mechanism. Excerpted in Hunt & DeVries’ *Planning Chicago*, industrial planner Kathleen Nelson is quoted remarking, “Daley wanted all the corridors to be PMDs, and was excited by individual projects and individual deals.⁶⁹” Strong support for PMDs within City Hall, and ongoing advocacy for their passage at the neighborhood level, kept the zoning tool in use. In 1998, City Council passed an ordinance establishing the Kinzie Corridor as the City’s fourth PMD, prompted by the gentrification of the City’s Near West Side as an attractive and less costly alternative to now established Lincoln Park.⁷⁰ Though the district abutted the CBD, it faced little of the political controversy that characterized the passage of the Clybourn Corridor and Goose Island PMDs. Public debate primarily centered on the preservation of asset value for users in the district, for while some owners hoped to pass industrial firms to the coming generation, others wanted the ability to recoup value on their property through sale. Irving Wein, chairman of a legacy watchmaking firm, was quoted in the *Chicago Tribune*:

“I want it for my grandchildren. We’ve talked to the mayor, the planning department, the alderman, and everyone in sight; they think that by carving out areas they can prevent residential encroachment. But our little area is composed of older buildings and small businesses not suitable for the kind of development they hope to get.⁷¹”

Characterized by smaller buildings and light industry, and well-represented by the Industrial Council of Northwest Chicago, the Kinzie Corridor was a site of active industry with growing pressure from non-industrial encroachment on its eastern end, but the potential for diminished viability as an industrial district as the City evolved.

2.5.4 / The Daley Years: Broadening Industrial Land Use Planning

Since the establishment of the Kinzie Corridor, eleven additional PMDs have been established, all under the Daley administration. The bulk were designated between 2004 and 2007, and sit on Chicago’s south and southwest sides. New PMDs have generally dovetailed with industrial corridors, a land use framework established during the City’s early 1990s wave of industrial planning under DPD Commissioner Valerie Jarrett. The corridors, which typically align with the boundaries of TIF districts, have served as an organizing structure for the city as it has analyzed clusters of manufacturing use, facilitated infrastructure and transportation improvements, and

⁶⁸ City of Chicago. (1991). *Goose Island Planned Manufacturing District Ordinance*. City of Chicago.

⁶⁹ Hunt & DeVries 177.

⁷⁰ Chanen, Jill Schachner. “A gritty part of Chicago gets new sparkle.” *Chicago Tribune*. 20 April 1997. <http://www.nytimes.com/1997/04/20/realestate/a-gritty-part-of-chicago-gets-a-new-sparkle.html>

⁷¹ Garza, Melita Marie. “Kinzie Industrial District Plan Has Its Foes.” *Chicago Tribune*. 09 October 1997. http://articles.chicagotribune.com/1997-10-09/news/9710090170_1_hubbard-street-industrial-council-property-owners

assessed development potential.⁷² Today, Chicago's 26 industrial corridors represent 16% of land within the City, though the health of manufacturing uses within them varies widely.⁷³

The second round of PMD establishment has received mixed reviews. PMDs were originally a tool to prevent the encroachment of competing residential and commercial uses in space historically used for and shaped by manufacturing firms. Sites within newer PMDs have anecdotally seen less competition for competing uses, and some have argued that they do not warrant the PMD designation.⁷⁴

However, under the current climate, establishing a series of new PMDs, even in areas where the market for non-industrial real estate is weak, may have been a strong decision. Chicago's industrial brokers and planning communities perceive the strongest markets for industrial growth not within the city-center, but along transportation corridors on the City's south and southwest sides.⁷⁵ At a time when competition for downtown space by residential and office users, coupled with the outmoding of downtown industrial sites, may be pushing center-city industrial firms to seek new space, the presence of PMDs in other areas of the City may help to direct new industrial development.

2.5.5 / The Political and Economic Development Legacy of PMDs

Examining the political and economic justifications for Chicago's planned manufacturing districts at a fine grain is important because the legacy and culture of industrial planning continues to inform land use decision-making processes today. PMD planning has historically been highly political, and driven by the competing interests of community-based coalitions and commercial real estate. Three primary elements of the original PMD planning process are vital to note for their relevance to potential redevelopment planning today:

At their core, the PMDs were designed to be flexible, place-based zoning tools that would be adaptable to neighborhood-level conditions, in place and over time.

The PMDs were not intended to be a "one size fits all" policy solution. They grew up as a place-based, coalition-driven effort, and through that process, their architects recognized that the characteristics of one industrial neighborhood might not match those of another. The definition of production conveyed in each PMD's governing ordinance is flexible and the allowable uses vary district by district. Though the retention of manufacturing was at the core of the PMD establishment process, the districts were intended for adaptability.

The PMDs integrated land use planning with equity-driven economic development planning.

Fundamental to this thesis is the understanding that Chicago's planned manufacturing districts represent both a land use and an equity-focused economic development

⁷² Hunt & DeVries 177.

⁷³ City of Chicago. "Chicago Sustainable Industries: a Business Plan for Manufacturing." Chicago Department of Housing and Economic Development. November 2013. P. 7

⁷⁴ Ducharme & Holzer. In-person interviews by author.

⁷⁵ Norman and Dickhut. In-person interviews by author. Citing Colliers industrial market report, Q4 2014.

policy. Looking to the origins of the zoning decision in the late 1980s, one can trace the roots of the PMDs to Chicago's moment of equity planning. As the City looks forward with respect to industrial decision-making, unlike other cities that did not explicitly integrate the two policy goals, it will have to rationalize any land use changes in terms of impact on employment in manufacturing and ancillary industries.

The PMDs have created, or sustained, a culture of industry within Chicago's planning infrastructure and established an industrial land use system that is neighborhood-based, but citywide.

The cultural imprint that the PMDs have left on Chicago continues to hold today. In 1987, Deputy Planning Commissioner David Mosena noted that "whatever we choose to do," regarding the Clybourn Corridor PMD area, "will really give off a clear message that will have an effect on the marketplace in that area."⁷⁶ In a 2016 interview, current Deputy Planning Commissioner Kathy Dickhut noted that, "if you make these changes, you have to talk about them as a whole [system], because people will perceive that getting rid of the PMDs means manufacturing isn't important, which isn't the case – manufacturing is important. The question is, where is it best to be located?"⁷⁷ The City's PMDs are intertwined with its history as a City committed to the health of the manufacturing industry; new policymaking must acknowledge that legacy.

An analysis of PMD planning must acknowledge shifting stakeholder relationships, and the power dynamics that govern the decision-making process.

Community-based coalition-building spurred the origination of the PMDs in the mid-1980s, but their ultimate implementation required support within City Hall, and a mayoral administration that viewed neighborhood-level organizations and industrial firms as a fundamental component of its constituent base. Decision-making around the PMDs remains highly politicized today, but it is unclear whether the balance of power remains the same. Many argue decision-making under the current mayoral administration mirrors the growth-oriented patterns set by the two Daley administrations. The politics of planning may have reoriented in favor of downtown development over the retention of urban industry.

2.6 / Industrial Land Use Policymaking Today: The National Context

Chicago's current policy question – to retain or release industrial land in its CBD – is not unique. Today, a number of American municipalities are reviewing, or have recently reviewed, their industrial land use policy.⁷⁸ The current wave of industrial land use policy review comes in response to two shifts in urban economies: the long-term replacement of manufacturing employment with service-sector work, and the new potential for a reemergence of urban industrial activity.⁷⁹ Chapter Four describes both of these shifts in greater detail. These two trends create a tension that leaves city planners to decide whether to support industry in hopes that it will remain or grow, or cede industrial space to the service-based economy, given its long-term economic prevalence and low likelihood of decline.

⁷⁶ Rast 123.

⁷⁷ Kathy Dickhut. In-person interview by author.

⁷⁸ Demwolf 1.

⁷⁹ Lester, Kaza, and Kirk.

In their investigation of industrial land use dynamics in Cook County, IL and Mecklenburg County, NC, Lester, Kaza, and Kirk succinctly articulate the policy dilemma faced by many cities today that underlies the [current tendency] to take stock of industrial land:

“On the one hand, the potential for growth in manufacturing nationally is attractive. However, it is possible that cities may be at a disadvantage in attracting these relatively high-paying jobs since available industrial land has been shrinking in cities... On the other hand, it is important to remember that urban areas have been losing manufacturing jobs for decades and that some land may not be suitable for the specific industrial sectors that are projected to grow. As...cost-benefit analysis shows, some cities may already have enough industrial land, so redevelopment to other uses may be highly beneficial from a fiscal point of view.⁸⁰”

In short, during this period of economic restructuring, planners and policymakers must decide how much industrial land is sufficient, and whether that land could be put to more productive use.

Theoretical Justifications for Industrial Lands Preservation

Broadly, a range of justifications exist for preserving land for industrial use. Chapple, in her review of literature on industrial land use policymaking and assessments, traces those justifications from Heikkila and Hutton's 1986 analysis to the present. Heikkila and Hutton viewed protective industrial zoning as applicable under three scenarios: when health industrial real estate is threatened by market-based pressures to convert, periods of prolonged structural employment, and to separate incompatible uses from each other.⁸¹ They, among other authors, critiqued protective policy for providing an effective public subsidy that might not generate an equivalent public benefit.⁸²

Heikkila and Hutton's argumentative framework continues to hold today, though new supports for protective industrial land use policy have been added to complement the three scenarios that they describe. Today, a city's industrial land stock is often viewed within the context of a regional economy, and that broader perspective is applied to understand how much industrial land should be retained within an urban economy.⁸³ However, the market for other real estate products that an urban geography supports often frames how a city considers or values its industrial land. Within that regional context, municipalities characterized by stronger markets for land (and the potential for non-industrial redevelopment options), such as San Francisco or Boston, frame the economic benefits of industrial retention in contrast to alternative development options. Cities with weaker markets, such as Rust Belt cities, perceive industrial retention as a means of addressing structural unemployment.

Lastly, today, industrial land use no longer refers purely to space or buildings intended for manufacturing users. The definition of industrial land has widened to include a range of production-oriented uses, including warehousing, transportation and logistics, and even the production of information. Chapple describes the reframing of industrial land well by noting its role as both “a reserve of relatively low-cost land and large buildings

⁸⁰ Lester, Kaza, and Kirk.

⁸¹ Heikkila & Hutton

⁸² Hills, Roderick M. and David Schleicher. “The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing.” *University of Chicago Law Review*. Vol. 77 (No. 249).

⁸³ Dempwolf.

with flexible use: many industrial sites can accommodate not just production but also back-office functions, storage, loading, parking, and even research and development.⁸⁴ When framed more loosely, industrial districts can be seen as space for productive uses that offer a flexibility that may better allow regions to weather macroeconomic transitions.

Do the justifications for industrial land retention in the urban core first advanced by the architects of Chicago's PMDs – the need to mitigate the conversion of space in order to retain high-value employment and business – continue to hold today? Yes, but the story has become more complex. Chicago has always considered its stock of industrial land within the context of a regional, and even global, system,⁸⁵ but today that perspective is even more valuable. Production has largely shifted to Chicago's suburbs. When considering the types of industry that find urban locations like Chicago's downtown valuable, and whether their space merits continued protection, it will be valuable to place those firms in the context of those that have chosen to relocate elsewhere. Furthermore, the growing flexibility of industrial terminology is reflected in the flexibility of Chicago's PMDs. The districts allow for a range of uses – both industrial in the new, flexible manner, and non-industrial – and that malleability must be recognized as a potential justification for the PMD's continued use. It is arguable that industrial zoning provides a means of preserving space for firms that, as the economy evolves, might not have available designated space within the city otherwise.

2.6.1 / Questioning the Impact of Industrial Land Use Policy

As American cities evaluate their stock of industrial land, and the policy strategies that govern them, academic literature has begun to assess the mechanisms through which protective industrial land use policy impacts urban development. Academic research has sought to understand the likelihood of industrial parcels to convert to new uses, how the supply and demand for industrial land can best be matched, and whether industrial land use protections are associated with business retention. A gap in the literature exists, however, with respect to employment: research has yet to examine the relationship between protective industrial zoning and quality of work.

A question driving assessments of industrial zoning policy is whether such districts perform as intended and preserve land for production-oriented use. Lester, Kaza, and Kirk develop a model to predict the likelihood that parcels will convert their use away from industrial. The framework is grounded in five factors, or bundles of individual interrelated variables. Those factors include a parcel's location characteristics (distance from transportation assets and from the CBD); neighborhood real estate dynamics (volatility of land values in adjacent areas); establishment and industry dynamics (competitiveness of firms); industrial protection policies (presence of industrial zoning); and environmental hazards (presence of brownfield sites)⁸⁶. The team's model finds that the presence of industrial zoning protections stands as the single most impactful factor preventing the conversion of a parcel away from industrial use. Parcels with close proximity to the CBD, or in more competitive real estate markets, are most at risk of conversion, while those close to transportation assets are more invulnerable. Within the context of this thesis, which examines PMDs proximate to

⁸⁴ Chapple.

⁸⁵ See the 1942 Chicago Plan Commissions' *Industrial and Commercial Background for Planning Chicago*.

⁸⁶ Lester, Kaza, and Kirk.

the CBD and adjacent to strong real estate markets, it can be inferred from Lester, Kaza, and Kirk's analysis that the examined parcels would likely convert to new uses were industrial zoning designations removed.

Once the effectiveness of protective zoning with respect to retention of industrial land use is understood, a second question underlying the current wave of industrial land use policy is what stock of industrial land a market can bear. The dynamics of industrial land markets vary widely across metropolitan areas, with many legacy cities possessing ample holdings of vacant industrial space,⁸⁷ while denser cities that may have encouraged conversion in the past seeing demand that cannot be met by the current stock. Howland proposes a methodology to grapple with the pressure to rezone by identifying and supporting "locations where industry is healthy and strong."⁸⁸ The study relies on longitudinal data from CoStar documenting the health of local real estate markets in its focus area, Prince George's County, Maryland, alongside establishment-level employment count data drawn from the QCEW. With that data, the team developed five categories delineating the economic health and dynamism of 35 local industrial districts. The established categories are as follows:⁸⁹

- 1) *Districts exhibiting weak or nonexistent industrial demand*: Zoned industrial, but no evidence of industrial building stock.
- 2) *Deindustrializing and abandoned districts*: Legacy of industrial activity, but declining demand use (generally characterized by lower than average rental rates and higher vacancy).
- 3) *Deindustrializing and transitioning districts*: Legacy of industrial activity, but declining demand. Distinct from Category 2 in that adjacent commercial and residential areas are thriving.
- 4) *Districts exhibiting competitive land use succession*: Evidence of healthy industrial use, but encroaching competing commercial or residential uses (characterized by rental rates above average and vacancy below average).
- 5) *Healthy industrial districts*: Thriving industrial space characterized by new building, higher than average rental rates, and lower than average vacancy, as well as limited encroachment from adjacent uses.

Howland's assessment is of value both in the evidence it provides regarding the locational preferences of industrial firms, and for the recommendations it offers to guide industrial land planning processes. Areas presenting the strongest industrial demand – as Lester, Kaza, and Kirk also identify – lie along transportation assets, particularly road. The healthiest industrial districts – those in Howland's fourth and fifth categories – host a mix of uses and a high density of industrial and non-industrial employment. Industrial districts exhibiting weak demand generally encompass substantial land area, but support low levels of industrial employment.

Howland's assessment presents a number of policy conclusions that are relevant to Chicago's planned manufacturing districts. Weak industrial districts, she argues, may reflect surplus industrial land that could be rezoned. Within the context of Prince George's County, rezoning weak industrial areas would open 24.7% of local industrial

⁸⁷ Mass Economics. "Legacy Cities: Land Paradox." *14th Annual New Partners for Smart Growth*. January 2015.

⁸⁸ Howland, Marie. "Planning for Industry in a Post-Industrial World: Assessing Industrial Land in a Suburban Economy." *Journal of the American Planning Association*. Vol. 77 (No. 1). Winter 2011.

⁸⁹ Howland.

land to new uses, but impact just 3.6% of local industrial workers.⁹⁰ Rezoning, in this case, might augment local employment in the long run. In contrast, industrial districts in which both industrial and non-industrial demand are strong present a more complex planning puzzle. Howland advocates for use of zoning to mitigate non-industrial speculation, or the revision of zoning protections to allow for a coexistence of office space and light manufacturing, where appropriate. Howland's paradigm of the strong industrial district is illustrative of the geographic and economic dynamics that led Chicago to establish its planned manufacturing districts; today, it is questionable whether sufficient demand remains to continue to place them within that category.

Lastly, emerging evaluations of industrial land use policy ask a third question: to what degree does protective zoning promote the creation and retention of healthy business and high-value employment? Few studies have posed this question to date, likely given the relative newness of detailed economic data available at small and irregular geographic levels. Chapple uses a relatively new source of data – the National Establishment Time Series (NETS) – to assess how protective industrial zoning impacts firm expansion, closure, and relocation in the San Francisco Bay Area. Her econometric model regresses a variable representing within-firm employment change on a bundle of place-based variables, including the parcel's zoning designation as well as neighborhood and building characteristics.

The study finds that industrial zoning is correlated with individual business growth, which the author attributes to the flexibility of building typologies in industrial districts and the security provided to manufacturing firms by the rigidity of industrial zoning designations. However, it is critical to acknowledge that the presence of industrial zoning designations likely is not a causal factor behind business growth. An array of factors – the city's business climate, effects of industrial clustering, the business cycle – likely influences firm growth. Chapple perhaps illuminates the role played by industrial zoning in facilitating secure, dedicated spaces in which industry can succeed. She also reinforces the qualitative thesis first advanced by Heikkila and Hutton, that industrial zoning policy can serve as an effective tool for preventing the relocation of otherwise healthy firms outside of cities by limiting the real estate pressures associated with constrained urban space.

2.7 / Conclusion

As American cities reevaluate longstanding industrial land use preservation policies – and more specifically, as Chicago moves to decide the fate of its planned manufacturing districts, particularly those proximate to the central business district – emerging academic efforts to assess the impact of industrial zoning are both timely and necessary. As Lester, Kaza, and Kirk note, uncertainty regarding the role that industrial land will play in urban economies in the future, in comparison with the more understandable short-term outcomes of mixed-use redevelopment, particularly for parcels close to a city's downtown, places a challenging and complex decision in front of policymakers. Releasing limited industrial space permanently bars cities from benefiting from production-oriented uses in those areas in the future at a time when demand for space in the downtown from users connected to the industrial supply chain may be on the rise. But, if industrial zoning is relaxed, new parcels are opened up for potential redevelopment toward presumed higher and better uses. Lester, Kaza, and

⁹⁰ Howland.

Kirk argue that, “before enacting policies that preserve industrial land homogeneously, it is critical that planners better understand the factors that lead to conversion and the effectiveness of policies to preserve industrial land.⁹¹” This thesis echoes the call for an assessment of industrial land use that is in-depth and nuanced. Chapter Five tests and explores the types of employment that are supported in Chicago’s downtown PMDs over time, and begins to develop an argument for the mechanism through which industrial zoning designations impact development.

⁹¹ Lester, Kaza, and Kirk.

CHAPTER 3: Structural Deindustrialization in Chicago: 1980 - 2013

As the previous chapter illustrates, the origin of Chicago's PMDs lies at the nexus of macroeconomic dynamics, local development pressures, and the politics of urban planning. At their passage in the 1980s, Chicago was in the throes of structural deindustrialization, but its center-city industrial areas were facing a second source of pressure from burgeoning downtown real estate markets. The coalitions that drove the establishment of the PMDs were responding to the dynamics faced by manufacturing firms, and a legacy of planning oriented toward Chicago's downtown service sectors.

This chapter traces the process and politics of structural deindustrialization in the Chicago metropolitan area against the backdrop of nationwide trends over the past three decades. Since 1980, urban areas, particularly in the Midwest, have experienced long-term, irrecoverable loss of productive businesses and employment; at the same time, they have largely transitioned to be dominated by high- and low-value employment in service-sector industries. Chicago's manufacturing sector has lost 326,000 jobs since 1988, and is now one-third of its size in the year that the Clybourn Corridor PMD was established.⁹² In the meantime, service-sector employment numbers in Chicago surpassed goods producing in the early 1980s, and the trend has not reversed since.

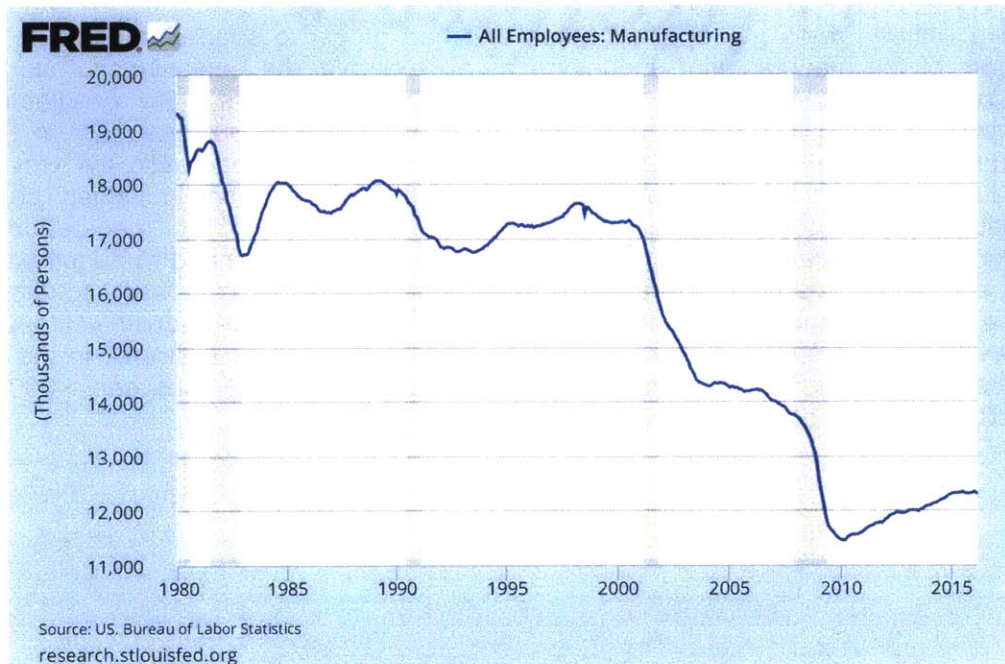


Figure 3.1. United States Manufacturing Employment: 1980 - 2015
Source: Federal Reserve Bank of St. Louis

⁹² County Business Patterns: Cook County, 1988. Author's analysis.

Chicago's planned manufacturing districts were established to combat the pressures of neighborhood-scale gentrification, not stymie structural deindustrialization. But, when examining the performance of Chicago's PMDs in the present day, illuminating the trajectory of the City's manufacturing industry since the 1980s can demonstrate the loss of the manufacturing industry has impacted Chicago. Chapter Three details the loss of traditional industry over the course of the past three decades and its impact on communities and labor in Chicago; Chapter Four follows by describing how the manufacturing sector has restructured to become increasingly advanced, and in doing so, less labor-intensive. Together, these chapters set the stage for an examination of the PMDs in the present day, in a Chicago where manufacturing no longer plays the role that it once did.

3.1 / Industrial Restructuring in Chicago

As Chapter Two describes, by the time that advocacy for the establishment of planned manufacturing districts began in the 1980s, the Chicago region was in the midst of rapid industrial decline. Prior to structural deindustrialization in the 1970s, Chicago had maintained its position as a hub for manufacturing despite a growing incentive to suburbanize for a range of factors related to its built environment: its transportation networks, access to natural resources, and proximity to a variety of U.S. consumer markets.⁹³ The rise of global competition for both production and labor in the 1970s rendered those natural and built advantages less valuable, and Chicago's position as a manufacturing stronghold began to falter.

Unlike United States metropolitan areas that had grown to specialize in niche sub-sectors of the manufacturing industry – as an example, the beginnings of Northern California's computer and telecom cluster – the City's deep roots in the manufacturing sector had made it home to a diverse array of industries, but specialist in none. Chicago's manufacturing sector both served a consumer base within the City and produced for export, but primarily was comprised of firms in core industries: primary metals, fabricated metals, printing, and food processing.⁹⁴ As macroeconomic changes incentivized firms in these sub-sectors – which did not need to be tethered to Chicago, and instead could locate in a range of urban or suburban areas – to relocate, these core industries continued to comprise a similar share of industrial firms and employment, but suffered substantial and rapid decline. As an example, in the mid-1980s, steel factories that remained in Chicago were eliminating between 4,000 and 5,000 jobs per year.⁹⁵

⁹³ Israilevich, Philip and Ramamohan Mahidhara. "Chicago's economy: Twenty years of structural change." *Federal Reserve Bank of Chicago*. March / April 1990. P. 16

⁹⁴ Israilevich and Mahidhara 16

⁹⁵ Hunt & DeVries 171

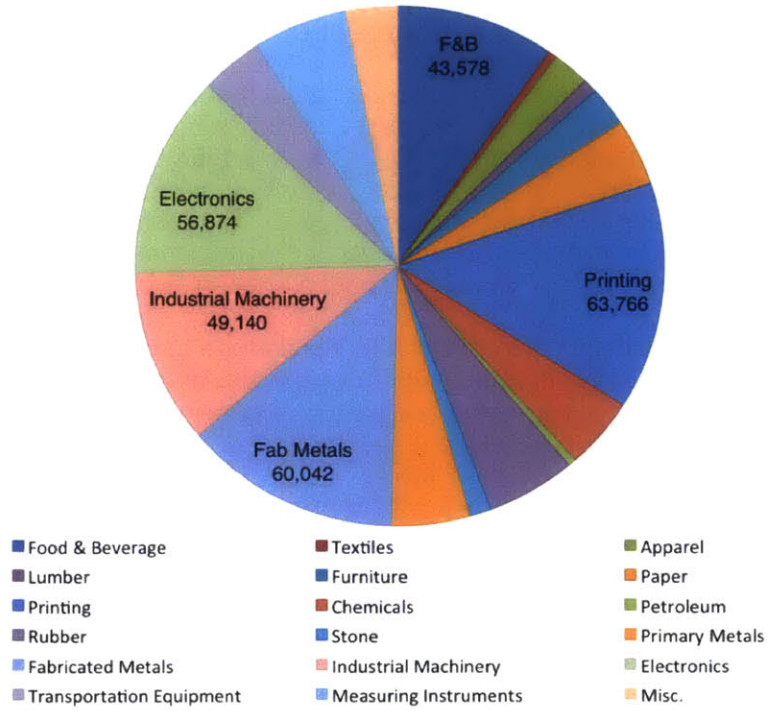


Figure 3.2. Chicago MSA: Sub-Sectors of the Manufacturing Industry by Employment, 1988
 Source: *County Business Patterns*

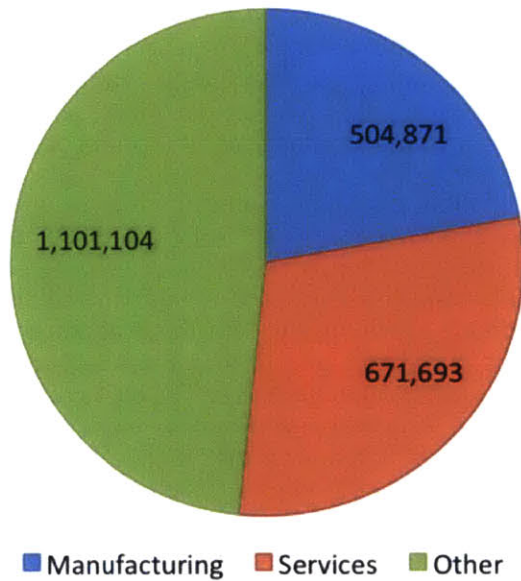


Figure 3.3. Chicago MSA: Employment by Sector, 1988
 Source: *County Business Patterns*

3.1.1 / Industrial Decline at the Passage of the PMDs

Politically, the loss of firms in core sub-sectors – fabricated metals, food processing, and printing, provoked substantial response, particularly as Chicago’s mayoral administration transitioned in the mid-1980s. In 1984, following on the heels of economic development focus of the Washington administration’s campaign,⁹⁶ the City responded to job loss in its core sectors through the creation of city-led Task Forces intended to develop a better understanding of the industries and with that knowledge, cultivate retention strategies. The final report produced by the Mayor’s Task Force on Steel and Southeast Chicago, as an example, advocated for land use, business development, and subsidization policies to support the steel mills that remained. Their recommendations were grounded in an understanding of the relationship between steel production and the City’s economic health, primarily evidenced by its employment and its networked relationships with local producers, suppliers, and purchasers. Though – like a more specialized industry like Northern California’s – steel was not so networked within Chicago that it could not relocate its production, the impact of its relocation on other firms forming a metals cluster was clear. At the time, steel firms employed 324,000 Chicagoans, one-eighth of all jobs in the City.⁹⁷ Furthermore, the task force argued that firms dependent on the presence of the steel industry employed up to 15,000 additional workers in Chicago, and 300,000 in the metropolitan area.⁹⁸ The Task Forces on apparel and printing emerged with similar conclusions: the employment losses that would result from industrial decline were not worth pursuing an alternative strategy grounded in high-technology growth sectors.

However, without funding to implement the policy options advocated by each industrial task force, and within a macroeconomic climate that only furthered deindustrialization in Chicago, the City continued to bleed jobs, particularly in its mature industries. By the close of the 1980s, the largest integrated steel mills, firms like Wisconsin Steel that had served as anchor employers for decades, had closed. Firms in the metals sector that remained continued to automate production and in response reduce workforce needs; it is of note that manufacturing output in 1987 paralleled that of 1970.⁹⁹ Metals and printing remained core to the City’s industrial base, but their presence as employers and contributors to the urban economy steadily shrunk over the coming years.

In 1988, the year that the Clybourn Corridor PMD was established, Chicago’s core sectors were rapidly losing employment, but still constituted the relative majority of industrial jobs. Apparel and textiles had shrunk to representing just 2% of industrial jobs, but printing, fabricated metals, and industrial machinery comprised 13%, 12%, and 10% of employment, respectively. The three sectors were the largest sources of industrial employment at the time, and represented 51% of manufacturing firms in Cook County.¹⁰⁰ Employment in manufacturing continued to support 22% of residents of the County, though positions in warehousing and services were quickly eclipsing industrial work. Figure 3.2, above, demonstrates the relatively even split across sub-sectors of Chicago’s manufacturing industry; Figure 3.3 demonstrates the split between service-sector and industrial employment at the passage of the PMDs in 1988.

⁹⁶ Hunt & DeVries 171. See the Commercial Club of Chicago’s 1984 report.

⁹⁷ Hunt & DeVries 172

⁹⁸ Clavel and Giloth 25

⁹⁹ Israilevich and Mahidhara 18

¹⁰⁰ County Business Patterns: Cook County, 1988. Author’s analysis.

At the same time, employment in the service sectors and trade was on the rise, contributing to an overall restructuring not just of Chicago's industrial sector, but of its economy. Between 1979 and 1984, during the 1981 – 82 Recession, Illinois lost 22.5% of its manufacturing employment, or 286,100 jobs,¹⁰¹ and in 1980, for the first time, employment in service sectors surpassed that of industrial sectors in the City.¹⁰² Specifically, professional, health care, and educational services came to occupy a substantial share of the service-sector economy; the prevalence of wholesale and retail trade also increased.¹⁰³

Israilevich and Mahidhara couch the concurrent decline of industry and rise of the service sectors in Chicago against the dynamics of productivity. Manufacturing, at that point, was beginning to become increasingly productive, and therefore less reliant on the low-to-medium skilled labor that had previously fueled its growth. Firms that chose to remain in the City were those able to reduce cost by shedding labor, therefore contributing to industrial job loss despite firm retention. At the same time, labor-intensive sub-sectors of trade and the service sectors – retail trade, as an example – were experiencing a period of growth accompanying the gentrification of downtown Chicago. Together, these concurrent trends in productivity by sector were illustrative of an urban economy in flux.

3.1.2 / Urban Restructuring and Labor Force Implications

The restructuring of industry, and of Chicago's economy, had implications for the value of work and for the City's labor force that were mirrored in cities across the country, particularly those with heavy industrial bases. Looking backward, the mid-1980s can be seen as a pivotal point in the deindustrialization of American cities. Prior to that point, the domestic manufacturing sector had seen dips in presence and productivity resulting from recessions, but employment had always rebounded as the economy improved.¹⁰⁴ Following the early 1980s recession, however, employment in the manufacturing sector continued to decline, both nationally and in the Midwest. Between 1980 and 2009, the sector lost 7.1 million manufacturing jobs, or 38% of its former manufacturing base.¹⁰⁵ Two-thirds of that job loss was clustered in metropolitan areas that, prior to structural deindustrialization, had specialized in manufacturing.¹⁰⁶

At the national scale, the decline of the manufacturing industry can be traced alongside the rise of service-sector work, both low-wage and high-wage. High-wage service-sector positions, such as in the FIRE sub-sectors (finance, insurance, and real estate), is characterized by employers with ample market power, the ability to levy high prices for services provided, and the consequent capacity to invest heavily in the human capital of employees via wages and training.¹⁰⁷ In contrast, low-wage service-sector roles – as an example, in retail sales – are “characterized by a class of employers

¹⁰¹ Klein, Sarah A. “Rust belt no more: the demise of manufacturing.” *Crain's Chicago Business*. 29 March 2008.

¹⁰² Israilevich and Mahidhara. P. 15

¹⁰³ County Business Patterns: Cook County, 1988. Author's analysis.

¹⁰⁴ The Chicago Council on Global Affairs & HSBC. “Revival in the Heartland: Manufacturing and Trade in Chicago.” 2014. P. 14

¹⁰⁵ Friedhoff, Alec, Howard Wial, and Harold Wolman. “The Consequences of Metropolitan Manufacturing Decline: Testing Conventional Wisdom.” *Brookings*. 2010. P. 2

¹⁰⁶ Friedhoff et al 2

¹⁰⁷ Harrison, Bennett and Andrew Sum. “The Theory of ‘Dual’ or Segmented Labor Markets.” *Journal of Economic Issues*. Vol. 13 (No. 3). September 1979. P. 689

whose labor-intensive technologies and lack of market power restrict their ability (and their need) to pay high wages.¹⁰⁸ Between 1950 and 2000, service-sector industries grew from 60% of total employment to 80%; by 1980, those industries occupied 72% of domestic work.¹⁰⁹

At the regional and metropolitan level, however, the process of long-term deindustrialization, and the likelihood that manufacturing employment will be replaced by service-sector, is more complex. As noted above, Friedhoff et al demonstrate that legacy industry cities bore the brunt of manufacturing job losses; however, the outcomes of economic restructuring today vary on basis of a series of factors: primarily, the prevalence of manufacturing employment prior to deindustrialization and the rate of industrial job loss. From a regional perspective, cities in the Midwest experienced industrial job loss varying from under 20% to over 45% of manufacturing employment; the Chicago metropolitan area, in particular, experienced a 41% decline.¹¹⁰ Across 47 Midwestern cities, employment grew at a rate of 18.4%, in comparison with 42.6% nationwide; wages grew at a rate of 4.5%, in comparison with 28.4%.¹¹¹

Critical to Friedhoff et al's analysis of regional variation in industrial decline is an argument that the rate of replacement of employment in manufacturing with that in service sectors was dependent on the severity of industrial job loss. The authors argue that metropolitan areas experiencing the least industrial job loss simultaneously saw the highest gains in non-manufacturing and advanced services work. The authors argue that non-manufacturing growth is contingent on the presence of industrial clusters, and is a result of the multiplier effect of manufacturing. Midwestern cities experienced manufacturing job losses to varying degrees, and arguably their ability to rebound through the creation of non-manufacturing and service sector positions is a function of the degree of job loss experienced.

3.2 / A Second Era of Industrial Decline: 2005 - 2013

By 2005, Chicago's manufacturing industry, and its workforce, had radically restructured and more fundamentally, continued to decline. In contrast, advanced services – employment in the FIRE sub-sectors – continued to grow. A few brief statistics paint a stark picture: between 1980 and 2005, the Chicago metropolitan area saw a 41% decline in manufacturing employment, a 46% increase in non-manufacturing employment, and a 72% increase in positions in advanced service sub-sectors.¹¹² Since 1988, employment in manufacturing had been reduced by 51%, and the number of industrial firms operating in Cook County had dropped by 31%.¹¹³

Declines in the manufacturing sector were relatively even across industry; by 2005, the composition of the sector by industry had not radically shifted since the 1980s. Metals and print – core to the City's traditional industrial economy – continued to represent a substantial share of firms (45%) and employment (32%). The decline of the City's core industries was slightly more dramatic than that of manufacturing on the whole; between 1988 and 2005, employment in core industries dropped by 55%, and firm presence fell

¹⁰⁸ Harrison & Sum 690

¹⁰⁹ Buera, Francisco J. and Joseph P. Kaboski. "The Rise of the Service Economy." *NBER Working Paper*. 2009. P. 1

¹¹⁰ Friedhoff et al 17

¹¹¹ Friedhoff et al 2

¹¹² Friedhoff et al 17

¹¹³ County Business Patterns: Cook County, 1988 & 2005. Author's analysis.

by 37%.¹¹⁴ As Chapter Four will illustrate, within the City's CBD planned manufacturing districts, firms in these core industries continue to constitute the bulk of employment.

3.2.1 / 2005 – 2013: Industrial Change within Chicago

In the decade following 2005, the pressures and processes of urban deindustrialization shifted: of the 7.1 million industrial jobs that have been lost in the United States between 1980 and 2009, one-third were lost in the four years between 2005 and 2009. Cook County has lost 67,387 jobs between 2005 and 2013, and 1,400 firms.¹¹⁵ Its manufacturing sector, from an employment perspective, is one-third of what it was in 1988. Industrial job loss over the past decade is attributable to three emergent macroeconomic pressures: the rapid rise of high technology processes, the shift toward advanced manufacturing and the Great Recession, and the continued rise of inexpensive production in Asia. These forces, coupled with continued strong pressure to globalize production, despite some incentive to “re-shore” continues to drive the industry's presence in Chicago downward.

Though the composition of the manufacturing industry continues to reflect the legacy of core-subsectors, the Chicago area's presence as a hub for industry relative to the United States on the whole has declined over the past half decade. Printing, fabricated metals, and machinery continue to comprise 43% of Cook County's manufacturing industry, in comparison with 45% in 2005.¹¹⁶ Certain sectors outside of the core exhibit growth in terms of market share, including food, rubber, and transportation equipment production, though each sub-sector outside of transportation and tobacco has experienced declines in both industry presence and employment.

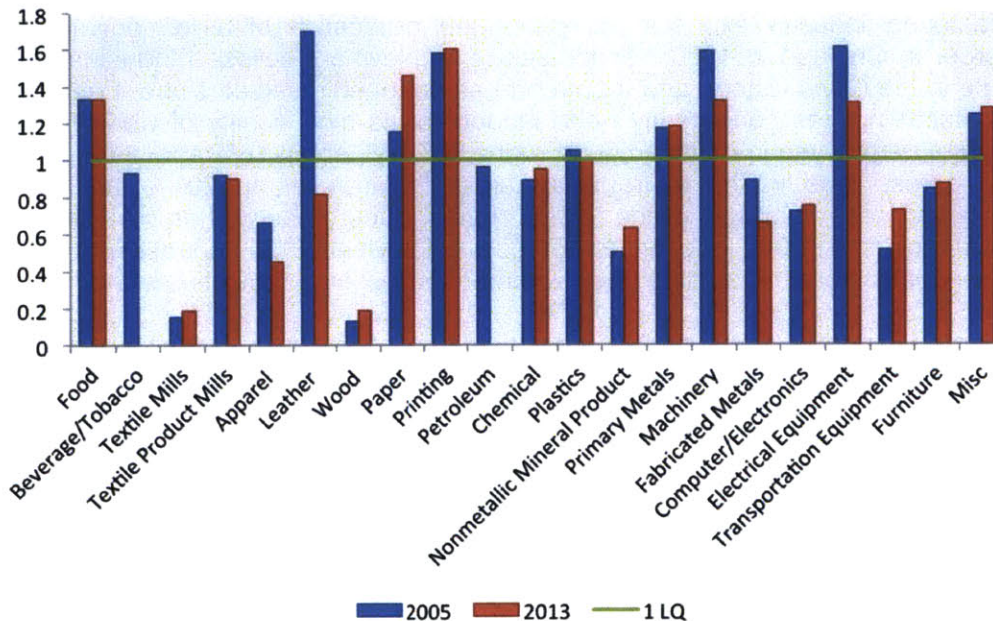


Figure 3.4. Chicago MSA: Location Quotient by Sub-Sector, 2005-2013
 Source: County Business Patterns

¹¹⁴ County Business Patterns: Cook County, 2005. Author's analysis.
¹¹⁵ County Business Patterns: Cook County, 2005 & 2013. Author's analysis.
¹¹⁶ County Business Patterns: Cook County, 2005 & 2013. Analysis by author.

In relation to manufacturing at the national level, an analysis of changes in location quotients (LQ) by sub-sector, illustrated in Figure 3.4 below, demonstrates Chicago's competitive advantage in industry may no longer lay in its ability to dominate certain elements of the production process. Even in 2005, after three decades of heavy industrial decline, Cook County continued to present an LQ of 1.70 in printing and 1.59 in fabricated metals (a location quotient greater than one indicates greater specialization in the sub-sector relative to the comparative geography). Industries occupying less significant market share within Cook County similarly exhibited strong specialization relative to the national level, including food, leather, and electric production. By 2013, however, the bulk of these industries demonstrate lower specialization, including industries that are both core and secondary to Chicago's own market. Printing persists as a sub-sector of specialty, as do fabricated metals and the food industry.¹¹⁷

As the Chicago area has both become less specialized in specific sub-sectors and continued to lose industry at an aggregate level, its broader economy has continued to restructure in favor of both the advanced services and trade. By 2005, manufacturing comprised 13% of Cook County's economy; in contrast to the 65% held by service-sector employment. The balance continues to shift in favor of a service-based economy; in 2013, 64% of firms represented service-sector industries, and 13% manufacturing.¹¹⁸

3.3 / Conclusion

In Chicago and nationally, reviewing the past three decades with an eye toward the manufacturing industry exposes the prolonged dislocation of a formerly industrial workforce. In Chicago in 1980, service-sector employment eclipsed industrial for the first time in the City's history, and that trend has not been reversed since. Employment in manufacturing has consistently been lauded for its high quality of work: today, in Chicago, an employee in manufacturing earns \$67,168, about 16% above the \$56,579 earned across jobs in the metropolitan area.¹¹⁹ However, in 2011, the Chicago metropolitan area – inclusive of the "collar county" suburbs as well as the City itself – was home to just 411,000 jobs, or 12% of local employment.¹²⁰ In contrast, employment in the service sectors – excluding trade – comprised just over 50% of all work.¹²¹

As Chapter Four will demonstrate, a restructuring of the manufacturing industry to adopt more advanced technology, and to potentially begin to re-shore, has caused planners and policymakers to reorient their attention toward the industry. The federal government is heavily committed to spurring growth in domestic high technology manufacturing; within the Chicago metropolitan area, local planners and policymakers too are working to understand how the City and County might support industrial firms in the adoption of new technology.

¹¹⁷ County Business Patterns: Cook County, 2005 & 2013. Analysis by author

¹¹⁸ County Business Patterns: Cook County, 2005 & 2013. Author's analysis.

¹¹⁹ Wial, Howard. "Locating Chicago Manufacturing: The Geography of Production in Metropolitan Chicago." UIC Center for Urban Economic Development. February 2013. P. 12

¹²⁰ Bureau of Labor Statistics, 2011 data for Chicago MSA

¹²¹ Bureau of Labor Statistics. "Economy at a Glance." 2011 data for Chicago MSA.

Planning for an era of advanced manufacturing, and potentially of reindustrialization, is often accompanied by a labor force question: how can the United States prepare its workforce to fill emerging jobs in high technology industry? As industry becomes increasingly productive as a result of technology adoption, and the skill set demanded for manufacturing work is higher, it may be more challenging to prepare the former, now dislocated industrial workforce for positions in the emerging advanced economy. What does this mean for Chicago's PMDs? As Chapter Five will describe, industrial job loss in the downtown PMDs mirrors that seen citywide. As we look toward the employment opportunities facilitated by industrial lands preservation, we may wish to how former manufacturing areas have diversified outside of the sector, rather than to how they might provide space for re-shoring.

CHAPTER 4: Planning for Advanced Manufacturing: Contemporary Industrial Policymaking

4.1 / Looking toward an Advanced Future: Where Does Chicago Fit In?

The impact of the past three decades on the United States manufacturing sector has certainly not been positive, and the effects of structural deindustrialization have been even more deeply felt for metropolitan areas that, like Chicago, have deep roots in industry but because of that depth have never specialized in niche sub-sectors. The metropolitan area has long been characterized by its diverse manufacturing sector; but unlike other cities – for example, Boston with its biotech industry – Chicago does not specialize in a niche production process. In these cities, employment in manufacturing has largely been replaced by service-sector work, particularly over the last decade, shaped as it has been by the broad-based impacts of the Great Recession.

Today, however, policymakers at the national level and in the Chicago metropolitan area are attuned to the potential re-shoring, and even re-urbanization, of the manufacturing industry. The declining value of U.S. labor and growing importance of customer proximity has inspired consideration of whether production could, and will, return to the United States. Should manufacturing re-shore, however, it will not take the same form as it did 30 years ago. The production process has largely shifted to adopt new, technology-driven processes that in aggregate are less reliant on labor. The positions available in today's "advanced manufacturing" economy generally require a high level of niche skills and education. The possibility of locating advanced manufacturing facilities in urban areas represents a valuable opportunity for cities, but one that employees in traditional manufacturing risk being unable to participate in. Low-skilled workers, once integral to the United States urban production process, now face limited opportunities for manufacturing employment.

How does Chicago reflect the changes taking place within the contemporary manufacturing industry? As this chapter details, the potential for industrial retention through firm-by-firm transitions toward more advanced production processes is at the forefront of urban and regional policymaking today. The transition toward advanced manufacturing is viewed as both a means of retaining firms that might otherwise relocate to less expensive regions and as an effort to reconnect a now dislocated former industrial workforce. However, with the adoption of advanced processes comes a tendency to shed labor, and to demand employees with highly specific skill sets. In a city home to a substantial dislocated former manufacturing workforce, the ripple effects of deindustrialization are still felt through population loss, high unemployment, and departure of the middle class. Over the past five years, economic development planning processes with an explicit focus on the manufacturing industry have been undertaken at the City and County levels, but they have not yet devised a system that can reconnect former employees with positions in the new industrial economy.

3.2 / The Evolution from Traditional to Advanced Manufacturing

Over the past decade, federal, state, and local governments have inaugurated new initiatives to support the manufacturing industry – and more explicitly, the *advanced*

manufacturing industry. This rapid growth in cross-jurisdictional planning for industry is integrally related to the way in which manufacturing is in flux today. Today, “changes in technology...are reconfiguring all aspects of the production process – the materials used, the data collected, the location, and the position of manufacturing within company value chains and global supply chains.¹²²” It is this increased reliance on technological innovation that characterizes manufacturing as advanced; the infusion of new technology has the capacity to increase the efficiency through which existing goods are produced, and unlocks the potential to create new products, processes, and services. The transition toward advanced manufacturing represents an evolution of the sector with substantial implications for the geography of production, its reliance on labor, and its value to an economy; federal, state, and local policymakers today, particularly in formerly industrial cities like Chicago that have experienced the loss of their manufacturing sectors, are grappling with how to reinvigorate their industrial cores through the adoption of new approaches to advanced production.

3.2.1 / The Public Policy Value of Manufacturing

New policymaking and planning initiatives intended to support the manufacturing industry justify the sector’s worth through four primary pathways: the demonstrated multiplier effect of manufacturing employment, the public and private value of high-tech manufacturing, and lastly, the contribution of advanced manufacturing processes to the innovation economy. Together, these arguments reflect an acknowledgement that today’s domestic manufacturing industry is fundamentally different from the sector traditionally: it is reliant on the highly-skilled, on high technology, and as oriented toward the production of ideas as it is the production of goods.

Economic integration and a strong multiplier effect.

Decades of deindustrialization have demonstrated the value of production-oriented sectors to the local and national economy. Commonly cited is the high multiplier effect generated by the manufacturing industry; across all sub-sectors, every dollar in sales of manufactured products generates \$1.33 in output elsewhere in the economy,¹²³ and each manufacturing job supports 2.5 jobs in other sectors.¹²⁴ The complexity of the production process means that manufactured goods depend heavily on other sectors to reach market; an estimated one in seven U.S. private sector jobs touch the domestic manufacturing industry.¹²⁵ Alongside that ripple effect, the high wages offered within the industry mean that manufacturing employment has a strong positive impact on consumer spending. Generally, production-oriented business activity and employment serves as an economic buoy at the national and local levels. In the Chicago context, the high multiplier and wage effects of the manufacturing industry formed the original rationale for the establishment of the protective industrial retention policy.¹²⁶

Reliance on a highly skilled workforce.

¹²² Reynolds, Elizabeth B., PhD. “Innovation and Production: Advanced Manufacturing Technologies, Trends, and Implications for U.S. Cities and Regions.” MIT Industrial Performance Center. Working Paper.
¹²³ Manufacturing Institute. “Manufacturing’s Multiplier Effect is Stronger than Other Sectors.” *Manufacturing Institute*. April 2014. Estimates employ U.S. Bureau of Economic Analysis Annual Input-Output Tables.
¹²⁴ President’s Council of Advisors on Science and Technology. “Report to the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing.” July 2012. P. 7
¹²⁵ Manufacturing Institute. “Number of Jobs Supported by Manufacturing in Other Industries.” *Manufacturing Institute*. April 2014. Estimates employ U.S. Bureau of Economic Analysis Annual Input-Output Tables.
¹²⁶ Rast 128.

Secondly, with rapid technological change has come a restructuring of the manufacturing industry in a manner that may align with the United States' competitive advantage. Between 1987 and 2011, labor productivity in the aggregate manufacturing sector grew at a rate of 3.3%, faster than the 2.2% exhibited in the non-farm business economy, despite deindustrialization.¹²⁷ The Brookings Institution estimates the majority of that productivity growth to stem from the computer and electronics sub-sector, which grew at a rate of 10.6% over the same timeframe, and which is highly dependent on research & development.¹²⁸ The growth segments of the U.S. manufacturing industry today are in advanced manufacturing, or production-oriented activities that rely on high technology to improve both process and product.¹²⁹ Manufacturing, previously labor-intensive, is now fueled by monetary and intellectual capital. With the restructuring of the manufacturing sector has come demand for a new worker profile that is both more highly skilled and better educated, and that the United States may be more competitively positioned to provide.

Contribution of manufacturing to the innovation economy.

Lastly, high-technology manufacturing is increasingly perceived as critical to both the production of goods and the production of knowledge, or innovation. The manufacturing industry underlies two-thirds of private sector R&D efforts,¹³⁰ or \$195 billion in investment in 2012.¹³¹ Supported by that investment are numerous scientists and engineers that contribute toward a high-technology production economy. The value of an innovation-driven economy is in its momentum: investment toward new, high technology products and processes only begets the further advancement.

As they did three decades ago, the employment and economic impacts of the manufacturing sector continue to form the foundation of policy initiatives aimed at protecting the sector and supporting its growth. The following two sections will outline some of those efforts taking place at the federal and local levels. Though policymaking intended to support the manufacturing industry is experiencing a resurgence, it is clear that the economic and employment impacts the sector generates are distinct from its nature three decades ago: where yesterday's manufacturing economy was valued for its breadth, today's is valued for its leanness, its ability to generate private investment, and its reliance on a highly-skilled labor force.

3.2.4 / Is Manufacturing Re-Urbanizing?

Home to dense concentrations of skilled and educated workers and educational institutions capable of supporting emerging research and development efforts, cities are perceived by some as potential sites to which advanced manufacturing might be re-shored. Given emerging sources of support at the federal level for initiatives to support manufacturing, how are cities responding, and how should they?

For the labor and intellectual capital justifications outlined above, advanced manufacturing firms cluster increasingly in cities; today, the 100 largest metropolitan

¹²⁷ Baily, Martin Neil and Barry P. Bosworth. "U.S. Manufacturing: Understanding its Past and Its Potential Future." *The Brookings Institution / Journal of Economic Perspectives*. P. 9.

¹²⁸ Baily & Bosworth 8.

¹²⁹ MIT Industrial Performance Center. "Strengthening the Innovation Ecosystem for Advanced Manufacturing: Pathways and Opportunities for Massachusetts." May 2015. P. 15.

¹³⁰ President's Council of Advisors on Science and Technology. "Report to the President: Accelerating U.S. Advanced Manufacturing." October 2014. P. 1

¹³¹ President's Council of Advisors on Science and Technology. July 2012. P. 8

areas hold 70% of U.S. advanced manufacturing jobs.¹³² Together, cities and metropolitan statistical areas hold 80% of total United States manufacturing jobs.¹³³ Wolf-Powers explains succinctly that, “cities, with their extraordinary density of talent, their ability to promote the circulation and absorption of ideas, and their role as test markets for new products, are potentially key sites for the re-activation of dormant manufacturing capacity and for the development of new ventures.¹³⁴” Their concentration of highly skilled workers and technology-oriented firms make urban areas especially well poised to capitalize on both the growth of, and policymaking that supports, advanced industries.

Manufacturing in urban areas reflects the ongoing restructuring taking place across the industry: today’s urban manufacturers are light, lean, and increasingly advanced. Given the competition for land in dense U.S. cities and the ability of firms to more flexibly build-to-suit in outlying rural or suburban areas, urban production is generally smaller-scale than manufacturing taking place outside of cities. Spatial and real estate-driven economic incentives coincide with macroeconomic pressures: technological changes have reduced the employment needs of many firms in exchange for identical or greater productivity. The long-term weakening of the industry has meant a need within many firms to reduce workforce size.¹³⁵ As of 2007, 70% of U.S. manufacturing firms employed fewer than 20 workers, and 91.4% employed fewer than 100. Of firms employing fewer than 20 workers, over one third are clustered in the country’s ten largest metropolitan areas.¹³⁶ In Chicago’s case, 68% of small manufacturers in the state are located within the city boundaries.¹³⁷

From a labor force perspective, however, producing specialized products for a niche consumer market requires a workforce whose training is equally specified. The manufacturing industry is well recognized for wages that are above the median, and this quality continues to hold in urban areas. Mistry and Byron note that between 2004 and 2008, median real wages across sectors in 16 of the 20 largest cities declined; however, in 10 of those cities, median wages in manufacturing rose. Importantly, increases were highest in cities that are exhibiting growth in the small-scale manufacturing firms Mistry and Byron document, and largest in cities where larger-scale, unionized plants have closed.¹³⁸ Accessing the high-value and stable employment that small-scale manufacturing firms offer is challenging, however, particularly for low-income and low-skilled communities. As at the aggregate level, the skills requirements of small-scale urban manufacturing firms are high, and many are constrained by their size in their ability to provide on-the-job training or apprenticeships to low-skilled potential employees. As will be described further in the chapter, city and state-level policymakers across the United States recognize the implications of a skills gap with respect to economic competitiveness and local equity, and have sought to address it through specialized programming within community colleges, funding for training and apprenticeships, and the creation of public and private entities dedicated to matching employees with firms on basis of skill.

¹³² Muro, Mark, Jonathan Rothwell, Scott Andes, Kenan Firi, and Siddarth Kulkarni. “America’s advanced industries: What they are, where they are, and why they matter.” *Brookings Advanced Industries Project*. February 2015.

¹³³ Helper et al 2012

¹³⁴ Wolf-Powers forthcoming, 1.

¹³⁵ Mistry, Nisha and Joan Byron. “The Federal Role in Supporting Urban Manufacturing.” *What Works Collaborative & Brookings*. April 2011. P. 14.

¹³⁶ Mistry & Byron 8

¹³⁷ Mistry & Byron 15

¹³⁸ Mistry & Byron 17

Urban manufacturing also reflects the increasing flexibility of the concept of industrial uses. Large-scale or heavy production rarely concentrates in urban areas today, as a factor of the cost of urban land, the inexpensiveness of production outside of the city or country, and the ability to build facilities to suit in less densely populated areas. Firms that are part of the production supply chain, however, do at times tend to concentrate in urban areas, and some are increasingly wedded to urban sites. In recent years, the rise of small-scale, high technology manufacturing has been accompanied by a second trend in urban industry: the emergence of “last-mile” distribution centers. The explosive growth of the e-commerce industry has demanded a structural shift in the shipping and distribution industries, with strong implications for the use of urban manufacturing space, and the workforce that accompanies it.¹³⁹ Last-mile warehouses and urban storage centers increasingly occupy the spaces previously home to production facilities. Colliers notes that “the size, scale, and level of sophistication required to create cutting-edge facilities necessitates the need for large land plots, with direct connectivity to high quality transport infrastructure.¹⁴⁰” Parcels formerly devoted to manufacturing, particularly those proximate to consumer markets in urban centers and to a variety of connective transport lines, are likely to be in high demand for adaptive use as distribution hubs as the industry advances.

The emergence of low-cost, highly efficient warehousing and distribution facilities has consequences for a formerly industrial labor force. First, last-mile distribution is a sub-sector that “crystallizes the customer experience, given the face-to-face interaction between delivery persons/retail shop staff and customers, who are always expecting a quality service and on-time delivery.¹⁴¹” Maintaining low operational costs while providing high quality customer service is the primary challenge faced by last-mile distributors, and it is anticipated that the drive to contain cost will lead to an increase in alternatives to home delivery – urban lockers, or collection centers.¹⁴² A reduced workforce size is a likely consequence of the drive to keep costs low. Secondly, relative to other positions that touch the manufacturing sector, the wages associated with distribution positions are comparably low. The Bureau of Labor Services estimates that the hourly mean wage for warehousing and storage employees is \$13.40, and 15% of employees are in a more precarious position as temporary hires.¹⁴³ Though the employment costs for last-mile logistics are high relative to other portions of the distribution process (typically, labor costs are reduced as a distribution center moves further from the CBD), the drive to maintain efficiency will likely continue to place pressure on the price of labor over time.¹⁴⁴

To summarize, urban manufacturing is no longer characterized heavy industry, or even by large-scale producers. As Mistry & Byron note, “innovation and growth are more likely to come from small, urban manufacturing networks, whose location and density enable them to respond rapidly to the changing needs of markets, whether local,

¹³⁹ Colliers. “From First Mile to Last Mile: Global Industrial & Logistics Trends.” October 2015. P. 4

¹⁴⁰ Colliers 27

¹⁴¹ Colliers 27

¹⁴² Colliers 27; Harps, Leslie Hansen. “Warehousing: the Evolution Continues.” *Inbound Logistics*. May 2003.

¹⁴³ Bureau of Labor Statistics. “Occupational Employment and Wages, May 2015: Packers and Packagers, Hand.” May 2015. <http://www.bls.gov/oes/current/oes537064.htm>

¹⁴⁴ Jones Lang Lasalle. “Urban logistics: the cost/service trade-offs associated with servicing the last mile.” *Jones Lang Lasalle Industrial Research*. Summer 2015.

regional, or global.¹⁴⁵ At the same time, cities are occupying a unique place within the production process as locations of highest demand for consumer goods; in response, logistics firms are modifying distribution networks to advance goods quickly along the last-mile.

Two trends in urban manufacturing – its transition toward high-technology R&D and production and the growth in urban warehousing – carry implications for the industrial workforce of today and yesterday. Though the population that may have held traditional manufacturing jobs continues to live in cities, it generally does not possess the skills necessary to obtain employment in today's high-technology sector. Today, that segment of the workforce is more likely to find employment in growth industries like warehousing, which provide low-skill employment opportunities for low wages. With the restructuring of the urban industrial economy comes a paradox for city policymakers. High-technology industry clearly provides strong value-added to urban economies through its innovation impacts and the high-skilled and well-remunerated labor force it draws; simultaneously, encouraging high-technology industry at the expense of the retention of traditional manufacturing leaves a large segment of the labor force vulnerable to underemployment and unemployment.

3.2.2 / The Changing Worker Profile of Advanced Manufacturing

A transition toward a United States industrial sector characterized by advanced manufacturing, rather than traditional production, has positive ramifications that recall the historic public benefit of industry. Advanced manufacturing carries a strong multiplier effect, offers high wages, and supports stable career opportunities. However, it is important to recognize that the worker profile in advanced industry today is markedly different than that of traditional industry. Traditional industry was historically a source of high-value employment with a stable career path accessible to less-educated workers; positions in advanced manufacturing today are high value, but tend to require specialized formal education and training. For segments of the workforce that have experienced the brunt of industrial dislocation, positions in the new manufacturing sector are more difficult to access.

Deitz and Orr document the shift in skill levels demanded by sub-sectors of the manufacturing industry that has accompanied the sector's restructuring from traditional to advanced. The authors argue that the aggregate effects of job-creation and job-displacement resulting from the globalization of production and a shift toward advanced industry have restructured the types of jobs performed in the domestic manufacturing sector to favor workers with large and specialized skill sets.¹⁴⁶ Through an analysis of industrial sub-sectors at the two-digit SIC level, the authors see that between 1983 and 2002, the share of highly skilled workers grew across all sub-sectors but two, leather and tobacco manufacturing.¹⁴⁷

Most importantly, sub-sectors with more rapid growth in their skilled workforces were more resilient to long-term industrial employment decline; firms in these sub-sectors experienced higher job growth, or lower employment decline.¹⁴⁸ Those sub-sectors –

¹⁴⁵ Mistry & Byron 46

¹⁴⁶ Deitz, Richard and James Orr. "A Leaner, More Skilled Manufacturing Workforce." *Current Issues in Economics and Finance*. Vol. 12 (No. 2): February/March 2006. P. 2

¹⁴⁷ Deitz and Orr 3

¹⁴⁸ Deitz and Orr 3

which include printing, the production of machinery, and chemical processing – have arguably been better able to capitalize on the gains associated with technological change through both the integration of advanced production processes and the adaptation of their workforces to favor those with a higher skill set. Importantly, over the time period studied, these sectors occupied a relatively stable share of total manufacturing employment (approximately 30%), but their share of United States high-skilled employment rose substantially, from 39 to 47 percent.¹⁴⁹ The restructuring of manufacturing by sub-sector is particularly relevant for Chicago's CBD PMDs, where industry continues to be dominated by the printing, food, and fabricated metals industries.

The restructuring of the domestic manufacturing industry and a transition toward a higher-skill workforce has meant the long-term dislocation of low-to-middle skill workers, who prior to structural deindustrialization could have maintained stable employment in traditional manufacturing. In her *Plant Closings and Worker Displacement: the Regional Issues*, Howland illustrates the magnitude of worker dislocation in the throes of deindustrialization: though the period between 1981 and 1986 saw a net loss of 1.2 million manufacturing jobs, the Bureau of Labor Statistics estimates the involuntary and permanent gross loss of 2.6 million jobs.¹⁵⁰ Losses over the past decade are even more acute: between 2000 and 2010, the United States shed 5 million manufacturing jobs.¹⁵¹

What are the implications for low-to-middle skilled workers, who continue to see job losses and are unable to access employment in the industrial economy as it reinvents itself? The consequences are lasting and complex. William Julius Wilson, in his 1997 *When Work Disappears*, provided one of the first accounts attributing the rapid growth of concentrated urban unemployment and poverty, its impacts delineated on basis of both race and class, to long-term deindustrialization and the loss of urban blue-collar opportunities to work.¹⁵² Fundamentally, he argues, the exodus of manufacturing work has left low-to-middle skilled workers with few to no opportunities for stable, living wage employment.

Historically, the manufacturing sector was known as a source of high-value employment accessible to low-skilled workers, in which the skills required to perform well could be acquired through apprenticeships or on-the-job training. Today's industrial labor market increasingly demands potential workers to both possess high levels of skill and be fully credentialed at the point of employment. Legacy manufacturing employees are increasingly less suitable for openings in the sector, leading to growing recognition of a "skills gap" that leaves positions unfilled and former industrial workers unemployed.¹⁵³ As the manufacturing sector receives attention for its potential to re-shore and re-urbanize, policymaking at the federal, state, and local level is seeking to both bolster a workforce prepared to fill positions in the new advanced manufacturing economy. Policymakers and planners also seek to understand how, if at all, low-to-middle skilled

¹⁴⁹ Davenport, Thomas H. "The Future of the Manufacturing Workforce." *Manpower*. 2013. P. 9.

¹⁵⁰ Howland, Marie. *Plant Closings and Worker Displacement: the Regional Issues*. W.E. Upjohn Institute for Employment Research. Kalamazoo, MI. 1988. P. 2

¹⁵¹ Atkins, Patricia, Pamela Blumenthal, Adrienne Edisis, Alec Friedhoff, Leah Curran, Lisa Lowry, Travis St. Clair, Howard Wial, and Harold Wolman. "Responding to Manufacturing Job Loss: What Can Economic Development Policy Do?" *Brookings Institution*. P. 1

¹⁵² William Julius Wilson. *When Work Disappears: the World of the New Urban Poor*. University of Chicago Press. 1997.

¹⁵³ Rich, Motoko. "Factory Jobs Return but Employers Find Skills Shortage." *The New York Times*. 1 July 2010.

workers formerly employed in the traditional industrial economy can be supported in “upskilling” to join the restructured manufacturing field.

3.3 / Contemporary Industrial Policymaking: From Federal to Local

Over the past half-decade, the “re-shoring” of the United States manufacturing industry has received ample attention from policymakers, the media, and within academic research. After decades of employment losses, recent small gains in industrial jobs and firms have been perceived as a signal that the United States may again be viewed as an attractive location for manufacturing firms. Between 2010 and 2015, the manufacturing sector added 855,000 new jobs for an aggregate 7.5% gain, the largest seen in decades.¹⁵⁴ Rising international labor costs, particularly in China, growing domestic consumer demand, and the increasing value of customer proximity are cited as primary reasons for re-shoring.¹⁵⁵

Over the past decade, policymaking intended to support growth the manufacturing industry has taken place at federal, state, and local levels. These initiatives come in response to positive employment indications in the manufacturing industry, but are rooted more deeply in an acknowledgment of the industry’s fundamental transformation. As the following section details, the manufacturing industry is in the process of reshaping itself in a manner that aligns with the United States’ competitive advantage. The manufacturing industry has adopted high-technology production processes that require highly skilled labor, integrate R&D efficiently, and benefit from proximity to both potential employees and a consumer base.

3.3.1 / Federal Initiatives to Support Advanced Manufacturing

The manufacturing sector’s transition from traditional to advanced has generated substantial and swift response from federal policymakers, and ample support from public and private-sector industry stakeholders. In June of 2011 – the first year that the domestic manufacturing sector saw an uptick in employment since 1997¹⁵⁶ – the Obama Administration launched its Advanced Manufacturing Partnership (AMP), a cross-sector effort intended to “[bring] together industry, universities, and the federal government to invest in the emerging technologies that will create high quality manufacturing jobs and enhance our global competitiveness.¹⁵⁷ The AMP focuses specifically on high-technology products and processes, and is founded on four primary objectives: building the capacity of U.S. manufacturing in sectors pertinent to domestic security interests, expediting the development of advanced materials through the Materials Genome Initiative, investing in robotics technology, and disseminating energy-efficient production processes.¹⁵⁸

A year after its inauguration, the AMP’s public-private Steering Committee issued *Capturing Domestic Competitive Advantage in Advanced Manufacturing*, a series of recommendations for policymaking to spur high-technology industry in the United States. The recommendations included in *Capturing Domestic Competitive Advantage*

¹⁵⁴ Kotkin, Joel. “The Cities Leading a U.S. Manufacturing Revival.” *Forbes*. 23 July 2015.

¹⁵⁵ Lester, Kaza, and Kirk 296.

¹⁵⁶ NYT Room for Debate, August 4, 2011

¹⁵⁷ The White House. “President Obama Launches Advanced Manufacturing Partnership.” The White House: Office of the Press Secretary. 24 June 2011.

¹⁵⁸ The White House. 24 June 2011.

oriented around three primary pillars: enabling innovation, securing the talent pipeline, and improving the business climate. The Steering Committee's assessment reflected an interest in supporting high-technology manufacturing coupled with an awareness of a significant sector-wide skills gap. By helping training providers, such as workforce development programs or community colleges, to become more responsive to the employment needs of advanced manufacturing firms, the country could begin to prepare a highly skilled workforce.¹⁵⁹

Since 2011, the federal government has undertaken or funded a series of initiatives to support advanced manufacturing industries while seeking to close the sector-wide skills gap. Three are especially pertinent to highlight within the context of this thesis:

Establishment of Manufacturing Institutes

Since the AMP's creation, the Administration has funded the establishment of eight Manufacturing Institutes as part of the National Network for Manufacturing Innovation (NNMI)¹⁶⁰. Influenced by Germany's interdisciplinary approach to production innovation, the Institutes facilitate cross-sector collaboration within high-technology industry segments in which growth is anticipated. The second Institute, the Digital Manufacturing and Design Innovation Institute (DMDII), is located on Chicago's Goose Island. The Institutes are intended to spur high-technology research & development within specific sub-sectors of manufacturing through interdisciplinary partnerships.

Augmenting Support for Manufacturing Extension Partnerships.

The Hollings Manufacturing Extension Partnership (MEP), like the federal government's Manufacturing Institutes, takes a partnership-driven approach to supporting existing small-to-medium sized manufacturing firms.¹⁶¹ MEPs are funded through the National Institute of Science and Technology (NIST) under the U.S. Department of Commerce. They operate as a network of 50 state-level centers that partner with locally-based manufacturing firms to provide technical assistance with respect to production, supply chain needs, and workforce development. MEPs are uniquely positioned to gauge the workforce needs of employers, and are increasingly viewed as critical to the manufacturing workforce development system.

Enactment of the Workforce Innovation and Opportunity Act (WIOA).

In mid-2014, the Workforce Innovation and Opportunity Act (WIOA) was enacted to enhance a series of workforce-oriented legislation authorized at the federal level. WIOA is intended to support workforce education, training, and skills-matching initiatives. It expanded funding available to training providers and community colleges to develop dedicated manufacturing education programming and improve the specialized training necessary to access niche positions.

Together, these initiatives indicate a federal focus on spurring high-productivity advanced manufacturing and a demonstrated interest in connecting the traditional manufacturing workforce with emerging careers in high technology manufacturing. As this thesis will demonstrate, the goals planning at the County and City levels in the Chicago metropolitan area are aligned, though more fundamentally, they are

¹⁵⁹ President's Council of Advisors on Science and Technology. July 2012. P. 29

¹⁶⁰ Manufacturing.gov. "Institutes." <https://www.manufacturing.gov/nnmi-institutes/>

¹⁶¹ Manufacturing Extension Partnership. "About Us." <http://nist.gov/mep/about/index.cfm>

considered with how the built environment of the region might best respond to new opportunities for manufacturing's growth.

3.3.2 / Planning for Industry in Chicago: Land Use, Infrastructure, and Workforce Agenda-Setting

Though the trajectory of traditional manufacturing in the Chicagoland area appears bleak, Cook County and the City of Chicago continue to prioritize industrial retention and growth within economic development agenda setting. Recent economic development planning efforts across jurisdictions both acknowledge long-term regional industrial decline and recognize the value of retaining a healthy manufacturing industry where possible. Over the past five years, because of leadership change at both the City and County levels, comprehensive economic development planning efforts have been undertaken, and all have emphasized the importance of industrial retention. As the following section articulates, the recommendations of economic development planning efforts across jurisdiction generally coalesce around support for the region's fabricated metals, food processing, and logistics sectors – those that either have been core to the health of Chicago's industrial base for decades or are poised for relative growth in years to come.

In 2010 and 2011, the County and City respectively experienced significant administrative changes. A new Board President at the County level represented an opportunity to pursue progressive regional policymaking; Emanuel's election the potential strengthening of the City's ties to federal decision-making, as well as to the business community that the mayor was born into. The terms of both administrations began with a period of agenda setting driven by comprehensive planning. Though each planning approach is shaped by a distinct knowledge-gathering process, the resulting plans reinforce each other in that they each advocate for public and private efforts to retain segments of the manufacturing industry.

3.3.2a / Planning for Manufacturing in Cook County

In April of 2013, Cook County issued *Partnering for Prosperity*, a regional economic development plan developed under its appointed Council of Economic Advisors. The plan takes a cautious approach to growth that acknowledges the region's precarious position within the national economy, opening with:

“For the last decade, our metropolitan economy has grown more slowly than the nation's and those in other metropolitan areas. Cook County plays a large role in this slipping economy. We have some of its greatest assets, including robust industries, a national transportation hub, world-class universities, and a high percentage of college-educated residents. But we also face some of its biggest challenges – a declining number of middle-skill production jobs and a greater percentage of people with low educational attainment. Cook County has multiple communities where residents are isolated by poverty, and its government is constrained by fiscal problems.¹⁶²”

¹⁶² Cook County Council of Economic Advisors. “Partnering for Prosperity.” Cook County. April 2013. P. 1

In a climate of wary optimism, *Partnering for Prosperity* charts a research-based strategy that advocates for efforts to retain sub-sectors of the manufacturing industry that support economic clusters, or groups of firms that are both co-located and more productive on basis of their nearness.¹⁶³ Sub-sectors of focus are chosen not only for their integration within local economic clusters, but also for their potential for growth and the ability of the Cook County government to provide adequate support.

Fabricated Metals

The authors of *Partnering for Prosperity* note that the manufacturing of fabricated metals – characterized by small-to-medium sized firms that produce intermediate or end products from metals¹⁶⁴ – holds a critical position within the supply chain. Firms within the sub-sector purchase primary metals from suppliers, and sell processed goods to a variety of industries at a higher value. Because they are generally small, fabricated metals firms benefit from proximity between production and R&D, and so are more likely than larger-scale industries to re-shore. At the same time, increasing demand for faster processing requires the sub-sector to innovate and adopt higher-technology, and higher-value, processes.

Food Processing and Packaging

Like the fabricated metals sub-sector, the food processing industry derives value from the transformation of a basic good into a higher-value product through processing. Chicago, and Cook County, has a deep history in food processing and continues to retain a strong and stable sector today.

Transportation & Logistics (T&L)

T&L, like fabricated metals and food processing, connects suppliers with purchasers. Given its diverse network of transportation avenues, the Chicagoland area is a historic logistics hub, and is poised to feed off of growth in supply anticipated to swell by 2020.¹⁶⁵

In presenting each sub-sector of focus, *Partnering for Prosperity* weaves together the case for industry retention with an analysis of how retention efforts can leverage the capacity of the County's workforce. The sub-sectors chosen by the County complement each other well because they require a diverse range of worker skill sets, and each contain pathways for upward mobility within firms. The fabricated metals sub-sector, as mentioned, is increasingly dependent on computerized processes and today faces a skills gap; however, once those skills are acquired, they are both highly valued and transferable between firms and industries. In contrast, the food processing industry calls for employees with a range of skill sets; positions in production and transportation can hire an applicant without a college degree, while other roles call for employees with the (again, high-value) skills necessary to operate and maintain machinery.

Partnering for Prosperity was developed against the backdrop of a second comprehensive planning effort, the thirty-year regional plan issued in 2011 by the Chicago Metropolitan Agency for Planning (CMAP), *GO TO 2040*. CMAP is the regional

¹⁶³ Cook County Council of Economic Advisors 27

¹⁶⁴ Cook County Council of Economic Advisors 22

¹⁶⁵ Council of Economic Advisors 28

planning organization responsible for planning efforts within and across Cook County and the “collar counties”, DuPage, Kane, Kendall, Lake, McHenry, and Will. *GO TO 2040* is the comprehensive land use and transportation plan intended to guide development and planning in the long-term across that geography. Like *Partnering for Prosperity*, *GO TO 2040* remains broad, and focuses its advocacy efforts on four high-level planning areas: livable communities, human capital, efficient governance, and regional mobility.¹⁶⁶

Partnering for Prosperity frames the value of manufacturing as a component of Cook County’s economic development strategy in terms of its multiplier effect and ability to engage a low-skilled workforce if policymaking focuses effectively on training and workforce matching. In contrast, *GO TO 2040* places the policymaking to support manufacturing industry as part of a broader focus on spurring regional economic innovation.

Arguably, the distinction between these two methods of framing has implications for the segment of the workforce most likely to receive focus as each plan is implemented. *GO TO 2040* uses a cluster-based research approach to identify regional industries with broad reach, but highlights high-technology sectors – biotechnology, advanced materials manufacturing, and green energy – as those on which the County should focus. The plan articulates a fear that within a national economy increasingly driven by high-technology industries, the Chicago region is underperforming:

“While new types of technologies and business models are certainly emerging locally, the available data indicate that our region is not doing as well as it should. The metropolitan Chicago region is generating fewer successful commercialized innovations from technology transfer programs, employing fewer workers in R&D jobs, and receiving less venture capital funding. The pace of innovation has stagnated.¹⁶⁷”

In contrast, *Partnering for Prosperity* addresses barriers to innovation in its three industry clusters of focus, it views technology adoption as a valuable addition to sectors that are already showing growth potential in metropolitan Chicago, and which have the capacity to support a low-to-middle skilled workforce: fabricated metals, food processing, and T&L. Though neither plan has been fully implemented, perhaps beginning economic development planning with an eye toward industries that have the capacity to support upward mobility for a low-skilled workforce will set the stage for an inclusive approach to economic development.

3.3.2b / Planning for Manufacturing in the City of Chicago

Though industrial planning has been a large component of the Emanuel administration’s economic development agenda, planning for manufacturing began at the close of the Daley administration. The publication of *Chicago Sustainable Industries (CSI) – Phase One: A Manufacturing Work Plan for the 21st Century* represents, like *Partnering for Prosperity*, an effort to bolster the City’s manufacturing through a comprehensive planning process. In the case of *Partnering for Prosperity*, however, planning comprehensively meant that manufacturing was addressed as part of a

¹⁶⁶ Chicago Metropolitan Agency for Planning. “GO TO 2040: Comprehensive Regional Plan.” 2011. P. 2

¹⁶⁷ Chicago Metropolitan Agency for Planning 183

broader regional economic development agenda. *CSI*, in contrast, employed comprehensive planning as a means of “[coordinating] the economic, social, and environmental aspects of Chicago’s manufacturing sector.”¹⁶⁸

CSI is a research document, intended to articulate both the value of Chicago’s manufacturing sector and public infrastructure currently in place to support it, in order to serve as the backbone for further policymaking and agenda setting. Like *Partnering for Prosperity*, its authors chart the public value of manufacturing by emphasizing the breadth of its economic impact, and by noting that within a period of sustained aggregate decline, certain sub-sectors are poised for growth. At the urban scale, the authors identify fifteen sub-sectors with high or growing location quotients, including the food and fabricated metals sectors identified at the county level, as well.

Through *CSI*, the City of Chicago tells the story of Midwestern manufacturing with optimism: a range of sectors are growing, and the City is poised to help them both increase productivity and provide local jobs. Facilitating an urban environment that is hospitable to the rebirth of manufacturing, however, will require the accomplishment of a series of goals. The first is telling with respect to the City’s perspective on the role played by land use policy in supporting healthy industry: it is to “examine the effectiveness of the planned manufacturing districts as stipulated by the Chicago Zoning Ordinance and review industrial corridor boundaries to determine if amendments are needed.”¹⁶⁹ Land use regulations are perceived as almost the most critical policy resource available to the City: they are viewed both as means of preserving land for manufacturing use and as tools for organizing the transportation infrastructure necessary to support industrial retention.

CSI includes an important piece of information that continues to influence public dialogue around land use planning today: in addition to land protected by current industrial zoning, “it is clear that manufacturers find areas outside the industrial corridors suitable as well. [Three maps] on the manufacturing sub-sectors show fabricated metal, food and primary metal manufacturing facilities all over the city.”¹⁷⁰ Through the research process that informed *CSI*, planners and policymakers likely uncovered information that began to call into question whether CBD PMDs were still necessary, or whether the dynamics of the industrial market were pushing key users to other sites in the City.

Three years after the issuance of *Chicago Sustainable Industries*, the City of Chicago – now under the Emanuel administration – issued a second plan, *Chicago Sustainable Industries: A Business Plan for Manufacturing*. The planning process behind both documents reflected an ongoing facilitated collaboration between public and private sector leaders focused on planning for manufacturing in the City. The *Business Plan* builds on the broad citywide analysis conducted under the first phase of *Chicago Sustainable Industries*, as well as the regional industrial plans issued in the interim period, to offer four key strategies to be pursued by the City in efforts to support industrial growth. Again, land use policy is elevated to a high priority position within the City’s policy agenda; the four strategies are as follows:

¹⁶⁸ City of Chicago. “Chicago Sustainable Industries – Phase One: A Manufacturing Work Plan for the 21st Century.” 2011. P. 6

¹⁶⁹ Chicago Sustainable Industries 8

¹⁷⁰ Chicago Sustainable Industries 20

Maximize Chicago's Location

Continue to protect and modernize areas that are zoned for industrial use and already well-served by the transportation assets necessary to support 21st century manufacturing.

Leverage Local Logistics

Upgrade truck, port, and river infrastructure to the level of service already provided by air and rail infrastructure; plan for a future in which transportation and logistics play an ample role.

Maximize Utility Infrastructure

Address ongoing electric and broadband issues by modernizing energy capacity and infrastructure within industrial corridors.

Create a Manufacturing Collaborative

Encourage partnerships between local government, manufacturers, technical assistance providers, and educators in order to fill the persistent skills gap.¹⁷¹

Within the first strategy, focused on land use policy, the City advocated for a comprehensive planning approach but explicitly noted the necessity of analyzing the efficacy of its center-city PMDs. Its planners continued to focus on the industrial corridors as an organizing principle within which all industrial land could be held, and to note that at present, 34% of land used by manufacturers fell outside of an industrial corridor.¹⁷² Reorganization of the industrial corridors, the authors insinuate, is a mechanism by which the City could better understand and rationalize its industrial land holdings. Through that reorganization process, the City should also “maintain and refine existing non-residential zoning adjacent to the North Branch Industrial Corridor east of Goose Island, and the east end of the Kinzie Industrial Corridor.”¹⁷³

In addition to land use policy amendments, which are core to Chicago's industrial planning, *A Business Plan for Manufacturing* asserts that the success of the City's manufacturing industry is contingent on public and private coordination in support of a well-educated industrial workforce. The *Business Plan* reiterates the need to up-skill a significant portion of Chicago's traditional workforce in order to fill emerging high-technology manufacturing positions, and argues that only through collaboration between a number of actors already engaged in that up-skilling will the City's workforce be capable of filling emerging advanced jobs.

Like *Partnering for Prosperity*, the sector-specific economic development planning undertaken in support of *Chicago Sustainable Industries* and its *Business Plan for Manufacturing* takes place against a backdrop of broader citywide economic development planning. Shortly after the transition to the Emanuel administration in 2011, the Chicago kicked off a citywide economic development planning process led by World Business Chicago, the City's quasi-public economic development entity. The resulting *Plan for Economic Growth and Jobs*, like *GO TO 2040*, articulates the City's future optimistically while couching it against decades of decline:

¹⁷¹ City of Chicago. “Chicago Sustainable Industries: A Business Plan for Manufacturing.” P. 4

¹⁷² A Business Plan for Manufacturing 8

¹⁷³ A Business Plan for Manufacturing 8

“While the economy of metropolitan Chicago has enormous competitive assets, there are challenging trends in key metrics such as output (gross metropolitan product), employment, and productivity over the past decade that indicate that the economy of metropolitan Chicago is struggling to adapt to the new global economic realities. Just as previous generations of forward-thinking Chicagoans have done, we need to undertake a purposeful, concerted effort to assure our economic prosperity in the long term.¹⁷⁴”

At the City scale, manufacturing is still perceived as a critical component of the urban economy, despite long-term decline. In comparison with other sectors, WBC notes that manufacturing is the second-largest contributor to Chicago’s gross regional product (GRP), at \$53.9 billion in 2010. From a strategic perspective, the plans authors advocate for using the City’s legacy as an industrial hub to transition toward a future grounded in advanced manufacturing. WBC argues that only by encouraging legacy manufacturers within the City’s base sub-sectors to innovate with respect to both product and process can the City retain its competitiveness within the global manufacturing industry.¹⁷⁵ Shifting toward manufacturing processes that leverage technology, the authors assert, will require up-skilling on part of Chicago’s traditional manufacturing employees, and a significant public commitment toward preparing a workforce to respond to a more advanced future. Furthermore, the *Plan for Economic Growth and Jobs* reiterates the City’s commitment to industrial land use assessment by asserting the role played by consistent and efficient zoning in supporting manufacturers in the City.

4.4 / Conclusion

Advanced manufacturing, a reinvented production that looks more like R&D, is at the forefront of federal, state, and local policymaking. After decades of industrial decline, governments at a range of jurisdictions are seeking to understand how the United States might again become competitive in the production of goods. For the Chicago metropolitan region, benefiting from a transition to advanced manufacturing will require a re-focusing on its core industries – food processing, fabricated metals, and its transportation & logistics system – and determining how it can best differentiate itself from other cities with similar specialties.

For the Chicago metropolitan area, a transition toward advanced manufacturing has clear workforce implications. As Chapter Three describes, the City is home to a dislocated workforce formerly employed in the traditional manufacturing industry, and has been unable to provide that workforce with employment of similar quality. This chapter articulates the shift in skills and education required by firms adopting advanced production processes from low to high and from broad to niche.

Chapter Five examines the evolution of Chicago’s downtown planned manufacturing districts between 2005 and 2013, with a particular eye to employment and quality of work. In sum, the chapter demonstrates that the City’s PMDs are no longer home to firms classifiable as manufacturers; in each district, employment in manufacturing has fallen more steeply than citywide. Citywide, however, Chicago’s manufacturing industry continues to suffer relative to others that have experienced growth, including sectors

¹⁷⁴ World Business Chicago. “Plan for Economic Growth and Jobs.” March 2012. P. 2

¹⁷⁵ World Business Chicago 36

with demonstrated career pathways, such as education and infrastructure. The findings of Chapter Five suggest that the City may benefit from pursuit of an employment and workforce development policy that focuses more broadly than the manufacturing sector, instead looking to sectors with the capacity to meet labor force needs, and also to grow.

CHAPTER 5: Illustrating Change in Chicago's Downtown PMDs

5.1 / "Jobs versus Real Estate?" Do PMDs Continue to Fit this Paradigm?

Since their original implementation in 1988, the value of Chicago's planned manufacturing districts have periodically been called into question, particularly as the industrial or residential neighborhoods that abut them experience waves of gentrification. *Crain's Chicago Business*, a local business newspaper that has covered the PMDs since the late 1980s, summarized the dynamics of the ongoing debate in 1997:

"The politics of planned manufacturing districts in Chicago are simple. Manufacturers are in favor of the city program that preserves valuable urban turf for industry. Residential developers, who can and have made enormous profits by building in such neighborhoods, hate planned manufacturing districts (PMDs). And politicians have been known to heed those who squeak loudest.¹⁷⁶"

Over the past half decade, however, public debate over the purpose and value of the PMDs has swelled to a breaking point. Ongoing residential gentrification coupled with growing interest in converting CBD industrial space toward tech-office use, and a perception that the current city administration might be amenable to land use and



Fig. 5.1. Clybourn Corridor & Goose Island Planned Manufacturing Districts
Source: CPM Industries

¹⁷⁶ Wangenstein, Betsy. "Real Estate Review." *Crain's Chicago Business*. 12 April 1997.

zoning changes, has renewed real estate speculation in the industrial areas. Continued citywide decline in manufacturing employment has reinforced an increasingly public narrative asserting that retaining industrial zoning in the CBD no longer preserves economic benefit for Chicago.

This chapter suggests, however, that the economic value of the Clybourn Corridor, Goose Island, and Kinzie Corridor planned manufacturing districts – those currently the primary subjects of debate – no longer lies purely in their ability to provide space for the manufacturing sector. Both business employment counts in manufacturing are declining in Chicago, and more swiftly in downtown PMDs than citywide. Over the past decade, however, employment in sectors that may touch the manufacturing industry – transportation and warehousing, wholesale trade, and temporary hiring – have grown more rapidly in these PMDs than citywide. The growth of these sectors at the hyper-local district level is reflective of a similar recent surge citywide in the wake of the recession.

Though the politics of planned manufacturing districts have traditionally pit the interests of industry against those of residential real estate development, long-term economic restructuring away from a reliance on production demands that the conversation be expanded to reflect the presence of sectors that are growing in industrial areas today. Sectors of growth in downtown PMDs, though they may not be as visible as the high-tech or office-based industries that generate competing spatial demand, are fundamental to a contemporary urban economy. Firms in these sectors support the health and resiliency of Chicago's economy and are particularly important to protect in a period characterized by citywide population loss, unemployment, and pressure on the middle class. As redevelopment planning in downtown Chicago continues, it must respond to the City's central PMDs not as homogenous industrial areas, but as diverse economic geographies that are both critical to Chicago's economic health and reflective of the opportunities available to low-to-middle skilled workers today.

5.2 / A New Sub-Market or Three Separate Districts? Comparing the CBD PMDs

In November 2015, MB Real Estate's (MBRE) *Market Beat* summarized an argument for the integration of the Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs into a single real estate submarket. "By their entrepreneurial nature," the authors wrote, "tech and other millennial-oriented companies are more interested in the next big thing than they are in conventional options."¹⁷⁷ "The occupancy of former industrial buildings by firms like Uber and Google in or adjacent to the Kinzie Corridor had transformed its western end into a new market for tech-office space, and MBRE argued for the extension of that real estate market northward into the Goose Island and Clybourn Corridor manufacturing districts. Interviews

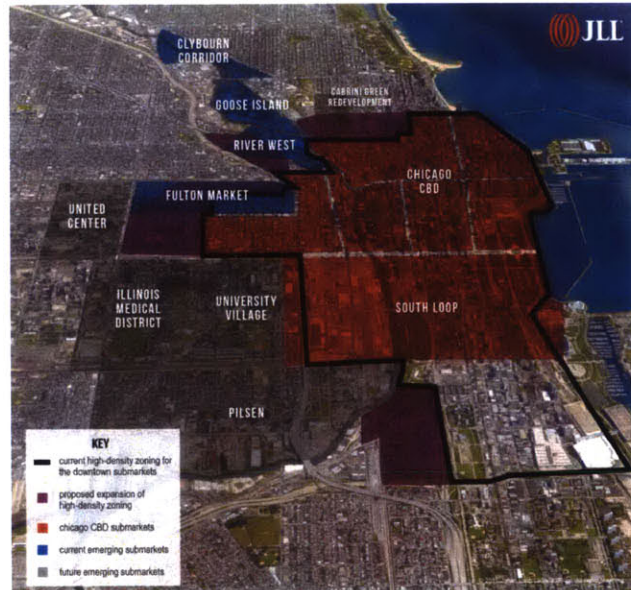


Figure 5.2. Downtown Chicago Sub-Market Analysis
Source: Jones Lang Lasalle

and investment patterns indicate that the view is shared across Chicago's development community; firms specializing in tech-office space have shifted their purchasing from the Kinzie Corridor, or River West, into both PMDs on the Near North Side.

Within the context of this thesis, the three PMDs are analyzed together on basis of the common real estate pressures that industrial space within them faces. However, the districts are relatable not only for their inclusion in a developing real estate market. The three districts share a number of built environment and physical features that continue to make them attractive spaces for industry and residential use today. As Figure 5.3 below demonstrates, the three districts share similar adjacency to the Loop; as Chapter Two detailed, that proximity informed their original appeal for industrial users. Each district is cut by both rail and public transit lines, and borders the City's north-south or east-west highway system. Lastly, both the Clybourn Corridor and Goose Island are bounded by the Chicago River on one or two sides. Together, the three districts are comparable for the real estate pressures they face, as well as for the assets that have made them appealing to industry through the present day.

¹⁷⁷ MB Real Estate. "Market Beat: New Submarket on the Horizon." November 2015.

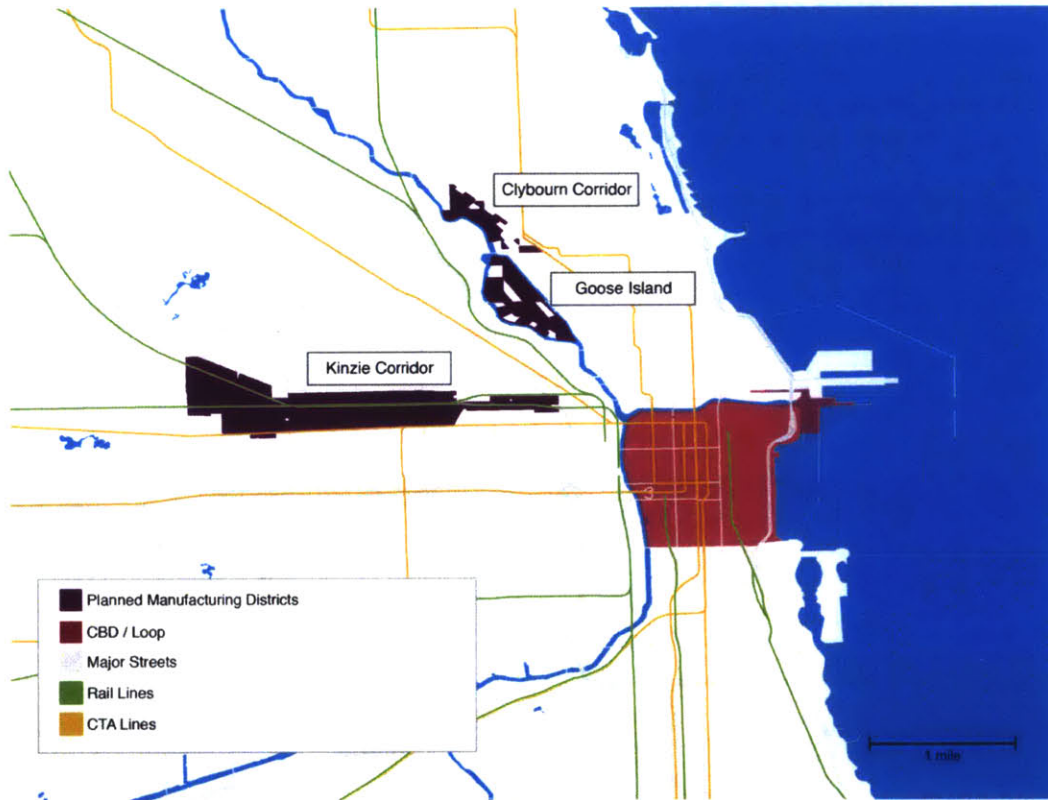


Figure 5.3. Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs
 Data Source: Chicago Data Portal

5.3 / Planned Manufacturing Districts: An Evaluation

The following section provides an evaluation of the economic and employment dynamics of Chicago's Clybourn Corridor, Goose Island, and Kinzie Corridor planned manufacturing districts. Focusing on the timeframe of 2005 through 2013, the evaluation charts and analyzes changes in district-wide employment, sector and sub-sector prevalence, and wage levels over time.

5.3.1 / Summary

Between 2005 and 2013, the economic and workforce composition of the three PMDs shifted dramatically. Macroeconomic forces, including structural deindustrialization and the impact of the recession perpetuated firm and employment losses in the manufacturing sector. The introduction of new sectors – primarily warehousing and administrative work – likely as a function of economic restructuring in the wake of the recession, contributed to aggregate employment gains. Six primary trends in employment, sector prevalence, and wage levels are summarized below:

Like the City of Chicago, the CBD PMDs are shedding manufacturing employment. Between 2005 and 2013, the CBD PMDs lost manufacturing employment at an average rate of 53%, in comparison with a 27% loss citywide. Steeper employment losses in the city center are likely attributable to the encroachment of incompatible uses on the peripheries of PMDs, a preference among manufacturers for larger sites, and persistent structural deindustrialization.

However, two of the three CBD PMDs are gaining total employment at a faster rate than the City.

Between 2005 and 2013, employment in Chicago increased at a rate of 13%; in contrast employment in the Clybourn Corridor and the Kinzie Corridor grew by 40% and 78%, respectively. Localized employment increases are attributable to the introduction of new middle-wage sectors to the PMDs.

Table 5.1. Cross-PMD Employment Comparison: 2005 - 2013*

	Kinzie Corridor	Clybourn Corridor	Goose Island	City of Chicago
Size (Acreage)	675	115	160	149,800
Employment				
2005 Employment	9,177	1,903	2,474	1,151,653
2013 Employment	16,355	2,659	2,427	1,303,379
% Change	78%	40%	-2%	13%
2005 Manufacturing Employment	2,716	302	961	86,298
2013 Manufacturing Employment	1,772	201	71	62,751
% Change	-35%	-33%	-93%	-27%
2005 Administrative Employment	937	46	26	78,192
2013 Administrative Employment	7,555	17	166	95,065
% Change	706%	-63%	538%	22%
2005 Transportation / Warehousing Employment	204	7	23	59,275
2013 Transportation / Warehousing Employment	436	1,287	285	69,436
% Change	114%	18286%	1139%	17%
2005 Wholesale/Retail Trade Employment	2,150	511	207	123,143
2013 Wholesale/Retail Trade Employment	2,554	828	739	126,304
% Change	19%	62%	257%	3%
Location Quotients				
2005 Manufacturing LQ (relative to City)	3.95	2.12	5.18	-
2013 Manufacturing LQ (relative to City)	2.25	1.57	0.61	-
2005 Administrative LQ (relative to City)	1.50	0.36	0.15	-
2013 Administrative LQ (relative to City)	6.33	0.09	0.94	-
2005 Transp./Warehousing LQ (relative to City)	0.43	0.07	0.18	-
2013 Transp./Warehousing LQ (relative to City)	0.50	9.09	2.20	-
2005 Trade LQ (relative to City)	2.19	2.51	0.78	-
2013 Trade LQ (relative to City)	1.61	3.21	3.14	-

* Increases highlighted in green; decreases highlighted in red.

Sources: Longitudinal Employee-Household Dynamics Survey, County Business Patterns, 2005 & 2013

As manufacturing uses are leaving the PMDs, new firms are taking their place – but the introduction of new sectors is not uniform across the PMDs.

Employment losses within the manufacturing industries in the PMDs are negated by employment gains in sectors that vary across geography. In the Clybourn Corridor, transportation and warehousing employment has grown; in the Kinzie Corridor, administrative employment has grown. While these sectors have both expanded citywide, as well, neither are reflective of those that comprise the bulk of Chicago's economy today.

Manufacturing firms remaining in the PMDs continue to primarily represent core industries – food processing, fabricated metals, printing – that are the backbone of an urban industrial economy.

No sub-sector is particularly resilient to deindustrialization pressures; in fact, the sub-sectors that make up the bulk of the industrial economies in the PMDs, and are reflective of local clusters, see the greatest magnitude of firm loss.

Table 5.2. Cross-PMD Sector & Sub-Sector Comparison: 2005 - 2013*

	Kinzie Corridor	Clybourn Corridor	Goose Island	City of Chicago
Sectors				
Dominant Sectors	Administrative, Wholesale Trade, Manufacturing	Warehousing, Retail Trade	Wholesale/Retail Trade, Education, Health Care	FIRE, Health Care, Profess/Tech
Dominant Manufacturing Sub-Sectors	Food Processing, Printing, Furniture, Machinery, Fab. Metals	Food Processing, Printing, Fabricated Metals	Food Processing, Printing, Fabricated Metals	Food Processing, Plastics, Fabricated Metals, Machinery

* Increases highlighted in green; decreases highlighted in red.

Sources: Longitudinal Employee-Household Dynamics Survey, County Business Patterns, 2005 & 2013

Across sectors, wage levels are increasing across two of the three PMDs. However, wage levels across all three PMDs are lower than citywide.

Though in all PMDs but Goose Island, wage levels are increasing, they continue to remain lower than citywide, perhaps attributable to the prevalence of middle-wage sectors within the three PMDs.

Within the manufacturing sector, wages in all three PMDs are lower than citywide. Though wages are increasing in two of the three PMDs, wages have steeply declined in the Clybourn Corridor.

Though manufacturing wages are generally increasing, they continue to remain lower than those seen across Chicago, perhaps reflecting the locational disadvantage of the CBD today.

Table 5.3. Cross-PMD Wage Comparison: 2005 - 2013*

	Kinzie Corridor	Clybourn Corridor	Goose Island	City of Chicago
Wages				
2005: % Workers Earning Above \$40K	38%	37%	27%	43%
2005: % Workers Earning Below \$15K	18%	27%	26%	20%
2013: % Workers Earning Above \$40K	30%	43%	42%	53%
2013: % Workers Earning Below \$15K	24%	22%	20%	15%
2005: % Manuf. Workers Earning Above \$40K	38%	67%	27%	43%
2005: % Manuf. Workers Earning Below \$15K	18%	5%	26%	13%
2013: % Manuf. Workers Earning Above \$40K	45%	2%	42%	52%
2013: % Manuf. Workers Earning Below \$15K	10%	59%	20%	9%

* Increases highlighted in green; decreases highlighted in red.

Sources: Longitudinal Employee-Household Dynamics Survey, County Business Patterns, 2005 & 2013

The following section describes each trend, and its implications for Chicago's CBD PMDs, in further detail.

4.3.2 / Methodology

The below portrait of change within Chicago's CBD planned manufacturing districts employs quantitative data from three primary sources: the Longitudinal Employer-Household Dynamics (LEHD) data set, the County Business Patterns (CBP) survey, and the Quarterly Census of Employment and Wages (QCEW). Together, the three sources comprehensively illustrate the dynamics of district-wide employment, sector and sub-

sector prevalence, and wage levels at two points in time. A brief description of the role played by each data source is given below, and further methodological detail can be found in Appendix C.

Longitudinal Employee-Household Dynamics (LEHD)

The LEHD data set, accessed and extracted using the OnTheMap web application, provides data on wages, demographics, and sectors of employment at the worker level. Within the context of this thesis, data from the LEHD for the years 2005 and 2013 is used to illustrate changes in aggregate and sector-specific employment, wage levels, and sector prevalence over time.

County Business Patterns & Quarterly Census of Employment and Wages

Together, data from the County Business Patterns (CBP) survey and Quarterly Census of Employment and Wages (QCEW) demonstrate how sub-sectors of the manufacturing industry have entered or exited each planned manufacturing district over time, and what implications that movement has for the average annual wage levels likely seen in each district.

5.3.3 / Employment Dynamics

1) Like the City of Chicago, the CBD PMDs are shedding manufacturing employment.

Between 2005 and 2013, industrial employment fell in each of the CBD PMDs and citywide. Manufacturing job losses in the downtown industrial areas, however, outpaced those seen in Chicago on the whole; within the PMDs, manufacturing employment fell by 48%, in comparison with 27% in Chicago. Steep job losses across geography can be attributed to persistent structural deindustrialization and the Great Recession; however, downtown industrial decline is likely a function of growing preference for other sites and the growth of incompatible uses on the periphery of the PMDs.

In his *Curbing Industrial Decline or Thwarting Redevelopment*, Rast traces the performance of three CBD PMDs between 1988 and 2004, and locates three patterns that provide valuable context for the study of industrial job loss in the current period. Between 1988 and 2000, likely as a result of deindustrialization, each PMD saw job losses that paralleled those exhibited citywide. Between 2000 and 2004, however, as the national economy expanded, manufacturing employment in the PMDs grew by 34%, while citywide, it continued to decline at a rate of 28%.¹⁷⁸ Though manufacturing firms in the CBD PMDs were clearly impacted by deindustrialization, they seem to have seen a greater incentive to remain in place, perhaps as a function of their locational assets and the zoning protections in place.

Between 1988 and 2000, Rast finds that employment losses were particularly concentrated in the Clybourn Corridor, where manufacturing jobs fell from 1146 to 323. In comparison with the Goose Island and Elston Corridor PMDs, the Clybourn Corridor performed least effectively over the period. He attributes concentrated decline in part to allowances made for non-industrial uses in the district's buffer area. He notes that at the PMD's establishment, 20% of employees in the buffer area worked in manufacturing, but by 2004, that figure had dropped to 2%; big box commercial retailers now occupied former industrial space.¹⁷⁹

¹⁷⁸ Rast (2005) 12

¹⁷⁹ Rast 15

Table 5.4. Manufacturing Employment, 2005 - 2013

Geography	2005	2006	2007	2008	2009	2010	2011	2012	2013	Avg. Annual Change	Change over Period
Kinzie Corridor	2,716	2,792	2,869	2,637	2,297	2,031	2,085	1,898	1,772		-35%
Kinzie Corridor: % Change		3%	3%	-8%	-13%	-12%	3%	-9%	-7%	-5%	
Goose Island	961	804	541	497	194	135	137	60	71		-93%
Goose Island: % Change		-16%	-33%	-8%	-61%	-30%	1%	-56%	18%	-23%	
Clybourn Corridor	302	298	301	327	325	300	312	382	201		-33%
Clybourn Corridor: % Change		-1%	1%	9%	-1%	-8%	4%	22%	-47%	-3%	
City of Chicago	86,298	81,483	79,806	77,404	67,541	64,786	66,244	65,160	62,751		-27%
City of Chicago: % Change		-6%	-2%	-3%	-13%	-4%	2%	-2%	-4%	-4%	

Source: Longitudinal Employee-Household Dynamics Survey

Table 5.5. Total Employment, 2005 - 2013

Employment Changes of greater than 10% highlighted in red and green.

Geography	2005	2006	2007	2008	2009	2010	2011	2012	2013		Change over Period
Kinzie Corridor	9,177	9,944	10,670	10,596	10,280	10,234	13,050	14,623	16,355	8%	78%
Kinzie Corridor: % Change		8%	7%	-1%	-3%	0%	28%	12%	12%		
Goose Island	2,474	2,629	1,979	2,358	1,993	1,937	2,193	2,356	2,427	1%	-2%
Goose Island: % Change		6%	-25%	19%	-15%	-3%	13%	7%	3%		
Clybourn Corridor	1,903	2,999	3,414	3,609	2,709	2,653	2,756	2,747	2,659	6%	40%
Clybourn Corridor: % Change		58%	14%	6%	-25%	-2%	4%	0%	-3%		
City of Chicago	1,151,563	1,157,168	1,205,159	1,218,349	1,218,961	1,239,035	1,261,865	1,280,417	1,303,379	2%	13%
City of Chicago: % Change		0.49%	4.15%	1.09%	0.05%	1.65%	1.84%	1.47%	1.79%		

Source: Longitudinal Employee-Household Dynamics Survey

Between 2005 and 2013, manufacturing employment across the three PMDs reflected the dynamics observed by Rast: generally, employment patterns followed the business cycle and the trends seen citywide. However, two new trends can be observed. Across all PMDs, manufacturing declines are now steeper than seen citywide. The Clybourn Corridor, which lost the bulk of its manufacturing employment between 1988 and 2000, has not recovered; rather, employment remained flat until 2012, when firm loss caused significant decline.

Manufacturing employment indexed across geography is illustrated in Figure 5.4 below. As the figure illustrate, the patterns of industrial decline in the Kinzie Corridor and Goose Island roughly mirror that experienced across Chicago. At the City level, over the period, manufacturing employment declines were relatively steady, but punctured by two atypical years. In 2009, citywide manufacturing employment fell by 13%, or 9,800, as a consequence of economic contraction associated with the recession. In 2009, losses in the Kinzie Corridor were similarly significant; on Goose Island, however, the year meant the loss of 60% of its manufacturing employment.

In 2011, as the national economy began to rebound, manufacturing employment saw a small uptick, citywide and within both PMDs. The increase, however, was not sufficient to raise manufacturing employment to its pre-recession levels, and every year since has seen decline. Job losses have been muted at the City level in comparison with the two PMDs, however: in 2012 and 2013, average industrial job loss in the Kinzie Corridor was 8%, and on Goose Island, 19%. By 2013, Goose Island's manufacturing employment had shrunk to 71, just 3% of total employment in the PMD.

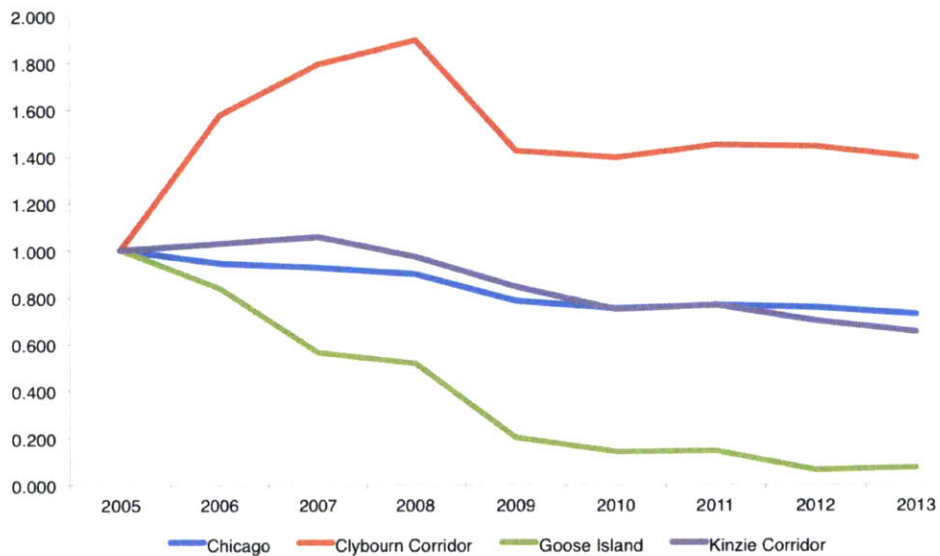


Figure 5.4. Indexed Manufacturing Employment – City of Chicago & PMDs, 2005-2013
Data Source: Longitudinal Employee-Household Dynamics

In contrast, manufacturing employment in the Clybourn Corridor remained relatively flat for the majority of the decade, even through the Recession. Manufacturing employment hovered consistently at around 320 persons, losing just 1% of employment in 2009. The loss of Finkl Steel in 2012, a major employer, is the cause of steep decline in industrial employment over the period.

Comparing the dynamics of manufacturing employment in each PMD between 2005 and 2013 against the longer history painted by Rast, a series of trends begin to emerge. First, when employment is at a sufficient scale, its ebbs and flows at the level of the PMD appear to mirror that seen citywide, and are informed by both the business cycle and by the macroeconomic pressures of deindustrialization. When manufacturing employment is low or following a period of long-term rapid decline – as in the case of the Clybourn Corridor – it may remain constant or continue to decline. Extrapolating the long-term trajectory of the Clybourn Corridor to PMDs that have also experienced significant employment loss – as an example, Goose Island – it is useful to question whether manufacturing will likely see growth in the district in the future.

Across the PMDs, given that the rates of annual industrial job loss roughly mirror, or are higher than, those seen at the citywide level, it is fair to say that the presence of protective industrial zoning is not sufficient to reverse the process of long-term structural deindustrialization. The PMD itself is not sufficient to keep industrial firms in place when macroeconomic incentives favor relocation.

However, that the patterns of industrial job loss differ across the three PMDs despite their relative proximity may evidence the presence of factors exogenous to the structural deindustrialization process that alter the speed or nature of decline. In his 2005 paper, Rast notes that the Clybourn Corridor PMD had, to that point, least effectively retained industrial users; between 1988 and 2004, it lost 71% of its manufacturing employment. He attributes decline in the PMD to allowances made for commercial and retail users in the Corridor's buffer area. The presence of incompatible uses as early as the PMD's establishment in 1988 may have quickened the rate of industrial decline. Similarly, though Goose Island is a planned manufacturing district, by 2005, it was widely perceived as a potential hub for the campuses of professional and tech firms. A series of planned developments accommodated new non-industrial uses. In both the Clybourn Corridor and Goose Island, the increasing flexibility in allowable uses may have contributed to the deindustrialization process already underway.

The intensity of decline in each of the CBD PMDs relative to change at the citywide level may also be an indicator of the declining value of manufacturing space in the city center. The geographic dynamics of structural deindustrialization have long told us that the bulk of manufacturing firms today prefer the inexpensive and spatially flexible nature of suburban sites. That the overall rate of manufacturing job loss between 2005 and 2013 within each PMD outweighs that seen at the citywide level may indicate that firms have a stronger preference than ever for sites that are outside of the city, or the larger industrial parcels that can be found at Chicago's periphery.

Overall, and particularly when paired with Rast's earlier analysis, the dynamics of manufacturing loss in the CBD PMDs indicate that industrial employment decline is not solely a function of processes of deindustrialization; planning plays a role. The case of the Clybourn Corridor indicates that the presence and growth of incompatible uses can impact the likelihood that manufacturing firms will remain in place. Once incompatible

uses are introduced, it appears unlikely that manufacturing will return, despite zoning protections. Should the CBD PMDs remain, to ensure their future efficacy, land use protections must be reinforced through infrastructure investment, transportation planning that is attentive to industrial uses, and careful weighing of the value of special permits for non-industrial use.

2) However, two of the three CBD PMDs are gaining total employment at a faster rate than the City.

In contrast to the deep job losses seen in manufacturing across all PMDs, in the Clybourn Corridor and Kinzie Corridor PMDs, employment across all sectors increased at a higher rate than in Chicago on the whole. Between 2005 and 2013, employment at the citywide level grew at a rate of 13%; in contrast, aggregate employment in the Clybourn Corridor and Kinzie Corridor PMDs grew by 40% and 78%, respectively.

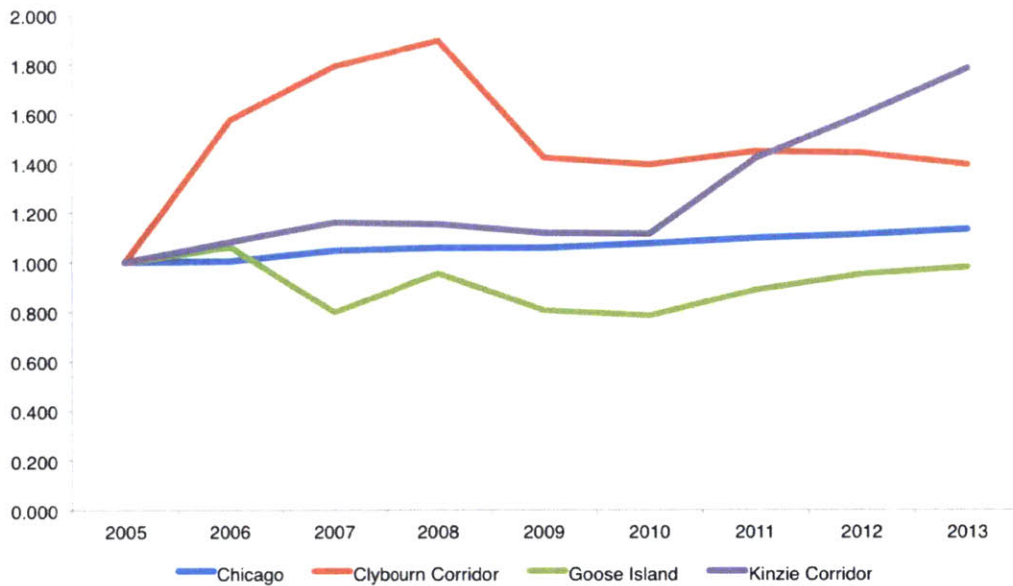


Figure 5.5. Indexed Aggregate Employment – City of Chicago & PMDs, 2005-2013
 Data Source: *Longitudinal Employee-Household Dynamics*

As Table 5.5, above, illustrates, dynamics of growth within each PMD differ from each other, and from the relatively stable pattern of employment growth seen citywide. Between 2005 and 2013, employment grew relatively stably and slowly across Chicago, at a rate of between 0 and 4%. Fluctuations mirrored the business cycle; employment expansion peaked in 2007 at 4.15%, fell to 0.05% at the height of the recession in 2009, and has held relatively steady at 1.5% in the years since.

In contrast, employment changes within each PMD roughly follow the business cycle, but exhibit significant volatility. The Clybourn Corridor experienced a 58% growth, or just over 1,000 jobs, between 2005 and 2006, as the economy expanded prior to the recession. In 2011, as the economy rebounded after the recession, the Kinzie Corridor expanded by 28%, adding 3,000 jobs. In 2009, at the depths of the recession, employment in each PMD fell by between 3% and 25%.

The dynamics of aggregate employment in each PMD clearly follow the business cycle, but simultaneously appear to reflect the presence of other factors. What explains the discrepancy between stable and moderate annual growth in employment citywide, and volatile patterns of expansion and decline within each PMD? In the following section, I posit that the volatility of employment within each PMD is reflective of the rapid introduction of new sectors of employment. Specifically, over the past decade, the Clybourn Corridor and Kinzie Corridor have become hubs for warehousing, trade, and administrative employment; both of these sectors exhibited a significant increase in employment, both in the PMD and citywide, over the course of one year.

The dramatic increases in employment seen in the Clybourn Corridor and Kinzie Corridor districts offers evidence that these areas are attractive sites for employment-oriented uses. Despite their original intended use as spaces for manufacturing, the flexibility built into the PMD zoning designation has meant that these areas have evolved to be characterized by a range of sectors as the attractiveness of center-city manufacturing has declined. As the planning process to assess the viability of introducing new uses into PMDs proceeds, it is critical to acknowledge the value that employers see in these spaces, and to assess means of retaining existing firms as any new uses are added.

4.3.4 / Sector & Sub-Sector Dynamics

3) As manufacturing uses are leaving the PMDs, new firms are taking their place – but the introduction of new sectors is not uniform across the PMDs.

As demonstrated above, though manufacturing is declining across Chicago's CBD PMDs, as manufacturing firms exit PMDs, firms in other sectors are replacing them to negate overall employment losses. However, despite their proximity to each other, we do not see the same sectors entering across PMDs; nor are the sectors that exhibit growth in the PMDs characteristic of the bulk of the City's economy. In the Clybourn Corridor, we see a growth in transportation and warehousing, while in the Kinzie Corridor, we see a growth in administrative employment; in contrast, professional and social services comprise the majority of employment citywide. The introduction of new sectors explains district-wide increases in employment, and may be reflective of a continued restructuring of the City's economy toward middle-wage, contingent service-sector work.

The introduction of these particular sectors drives the majority of employment growth within each PMD. As illustrated below in Figure 5.6, employment growth in the Kinzie Corridor stems from a large and sustained increase in district-wide administrative employment. In 2005, employment classified under administrative or waste management services represented 10% of all jobs in the district, a sizeable but small proportion. By 2013, employment in the sector had ballooned to 46% of all jobs, or 7,555 people. Drastic job increases began in 2010, when employment in the sector increased by 97%. In the same year, the City experienced an unprecedented 17% increase in work classified under that sector. Notably, the administrative services sector includes forms of contingent employment, including temporary work; its explosion citywide may reflect a shift toward impermanent hiring practices following the recession. In the Kinzie Corridor, the prevalence of administrative work is unprecedented, so its increase may reflect the sector's occupancy of office space in the district as it grows.

Similarly, employment growth in the Clybourn Corridor, illustrated below in Figure 5.7, reflects an unprecedented growth in the warehousing and transportation sectors. In 2005, just 7 workers were employed in the sector. By that point, as Rast documents, the Corridor had diversified away from manufacturing toward retail trade, particularly in its buffer area. In 2006, however, the district's transportation and warehousing sector grew by 980 employees, and unprecedented amount. In Rast's year-over-year analysis of the Clybourn Corridor between 1988 and 2004, firms in the district had employed no more than 27 employees in the sector. The sector's explosion in the district slightly precedes its swift growth at the citywide level; in 2009, the sector expanded abruptly by 39%, after years of modest decline. Since 2006 and 2009 respectively, the sector has expanded moderately in the district and at the citywide level; in the Clybourn Corridor, it now represents just below 50% of employment.

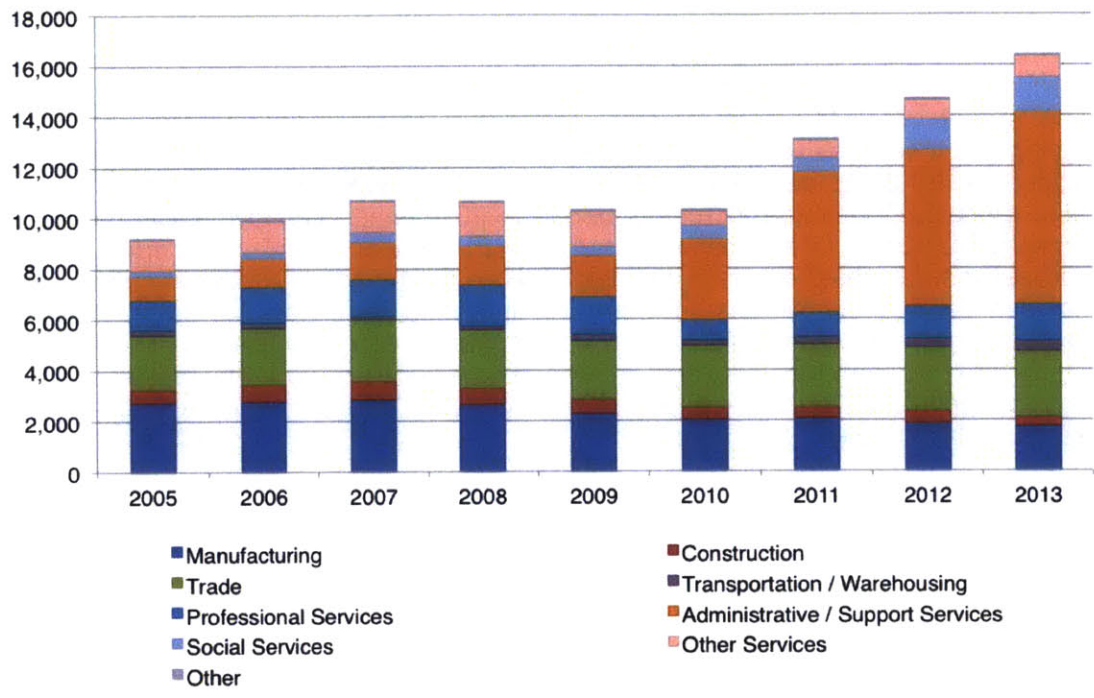


Figure 5.6. Employment Change by Sector – Kinzie Corridor, 2005-2013
 Data Source: Longitudinal Employee-Household Dynamics

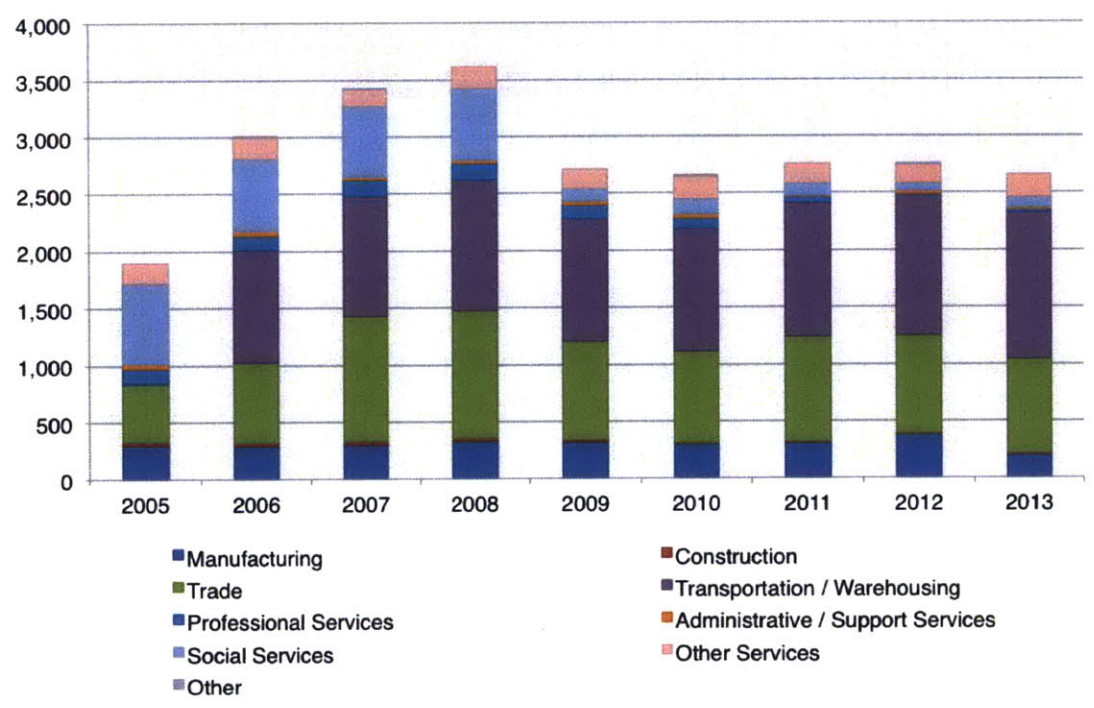


Figure 5.7. Employment Change by Sector – Clybourn Corridor, 2005-2013
 Data Source: Longitudinal Employee-Household Dynamics

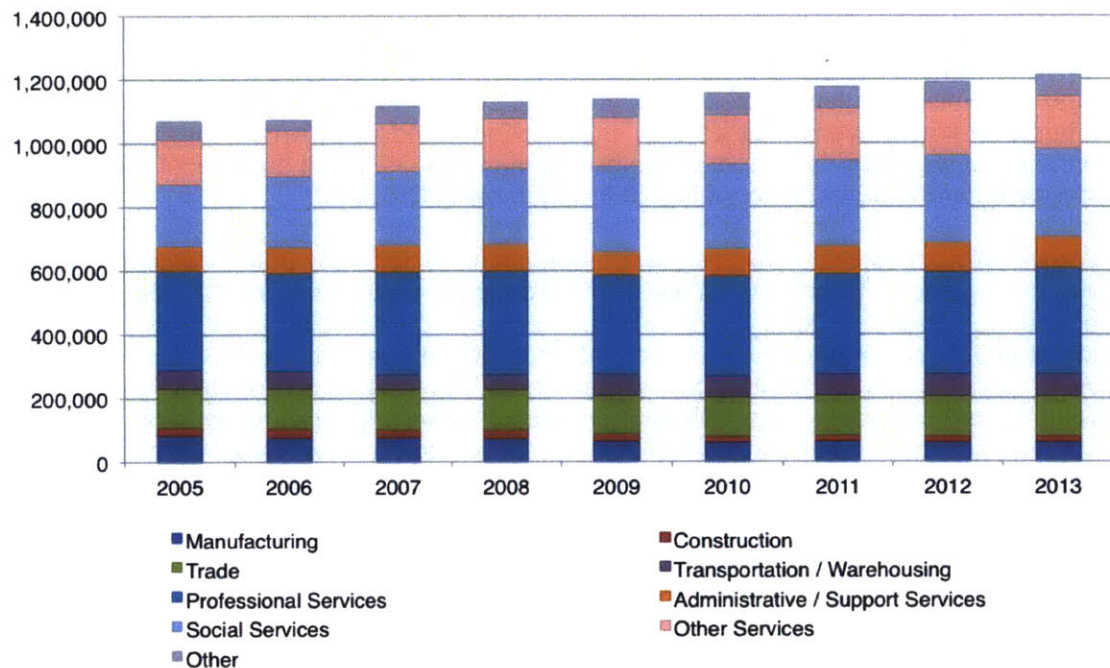


Figure 5.7. Employment Change by Sector – City of Chicago, 2005-2013
Data Source: Longitudinal Employee-Household Dynamics

Arguably, the introduction of new sectors helps to explain the explosive and uneven growth within each PMD relative to the City. As Figure 5.8 above illustrates, Chicago’s economy is dominated by service-sector employment; over the time period studied, jobs across service sectors have made up around 75% of employment. Growth in the professional and social service sectors is both relatively stable and comprises the bulk of employment expansion citywide. In contrast, employment growth in the Kinzie Corridor and Clybourn Corridor planned manufacturing districts are driven by the introduction of a new sector that exhibits more volatile growth patterns at the citywide level. The introduction of that new sector, whether it be warehousing or administrative employment, is behind a dramatic increase in overall employment in the district.

In both the Kinzie Corridor and Clybourn Corridor, we see rapid local economic transformation shaped by sectors that are either entering or returning to Chicago *en masse*. This pattern begs a series of questions: why have these sectors expanded so rapidly in Chicago in recent years? Despite close proximity to each other, why has warehousing elected to site in the Clybourn Corridor and administrative employment in the Kinzie Corridor?

In the Kinzie Corridor, the rapid expansion of administrative employment likely reflects a growth in temporary staffing and business administration firms – and citywide, temporary hiring – in the wake of the recession. Between 2009 and 2013, temporary staffing accounted for 15% of job growth nationally; across metropolitan areas, Chicago

led the way, adding an approximate 45,000 temporary positions over the period.¹⁸⁰ In the Kinzie Corridor today, 30% of firms classified under administrative services provide office administration, temporary help, or employment placement services, up from 18% in 2005. While a variety of other administrative sub-sectors have grown over the period – janitorial firms have increased their presence in the PMD by 16% -- given the volume of hiring undertaken by temporary help agencies, it is likely that the bulk of employment increases are attributable to their growing foothold in Chicago.

Growth in both sub-sectors has labor implications, particularly in the context of former industrial space. Temporary staffing is precarious, particularly in the post-recession economic context. In 2013, Manpower, one of the largest staffing firms globally, tended to place 30% of temporary employees into permanent positions through their temporary work; prior to the recession, the share would have been 60 to 70%.¹⁸¹ Temporary workers tend to earn just \$33,300 annually.¹⁸² Similarly, though warehousing and storage provides permanent employment, it is equally low value, offering annual earnings of just \$32,400. Positions in both sub-sectors are accessible to low-to-middle skilled workers; however, particularly in the post-recession economy, they do not offer the opportunities for advancement that the manufacturing positions formerly occupying the CBD PMDs once did.

An analysis of emerging sectors illustrates that though employment in the CBD PMDs is increasing, it does not reflect well on the labor market prospects available to low-to-middle skilled workers in Chicago today, nor on the health of the City's economy as it emerges from the Recession. However, the growth of contingent work in industrial areas is an insufficient reason to revise industrial designations in favor of new types of development. During a period where labor market opportunities for low-to-middle skilled workers are low, in a city with a severe income gap, favoring employment in high-skilled industries over low-to-middle skilled neglects a large swath of the labor market.

¹⁸⁰ Wright, Joshua. "Temp Employment is Dominating Job Growth in the Largest Cities." EMSI. <http://www.economicmodeling.com/2013/06/21/temp-employment-is-dominating-job-growth-in-the-largest-cities-is-that-a-good-thing/>

¹⁸¹ Weber, Lauren. "ManpowerGroup CEO: What's Next for the Job Market." *Wall Street Journal*. 18 June 2013.

¹⁸² Wright.

4) Manufacturing firms remaining in the PMDs continue to primarily represent core industries – food processing, fabricated metals, printing – that are the backbone of an urban industrial economy.

Though manufacturing has declined substantially in each of the three PMDs, the sector's composition by industry continues to reflect industries that are core to local economies. The bulk of manufacturers in each PMD continue to work in food processing, fabricated metals, and printing – sub-sectors in which Chicago has historically specialized, but which are integral to any urban economy. The decline of local clusters is more pronounced in the CBD than citywide, which may reflect the reduced value of city-center locations for manufacturers, mounting pressure to relocate, or a combination of the two.

As Figures 5.8 and 5.9 on the following page demonstrate, between 2005 and 2013, the composition of manufacturing by sub-sector across the 3 PMDs did not change significantly. Firms in the food & beverage, paper & printing, and fabricated metals sub-sectors represented about half of all manufacturing activity in both periods. Together, these firms represent a series of sub-sectors that generally tend to serve the local market, rather than export. Fabricated metals and printing are examples of “local clusters,” which produce to serve the local market; food processing, in contrast, is a “traded cluster,” which might produce for local, regional, or national consumption.¹⁸³ As Chapter Three illustrates, Chicago has historically specialized in these three industries; however, they are industries that tend to prevail across urban areas, rather than cluster in a single city or region.

¹⁸³ U.S. Cluster Mapping Project. <http://www.clustermapping.us/>

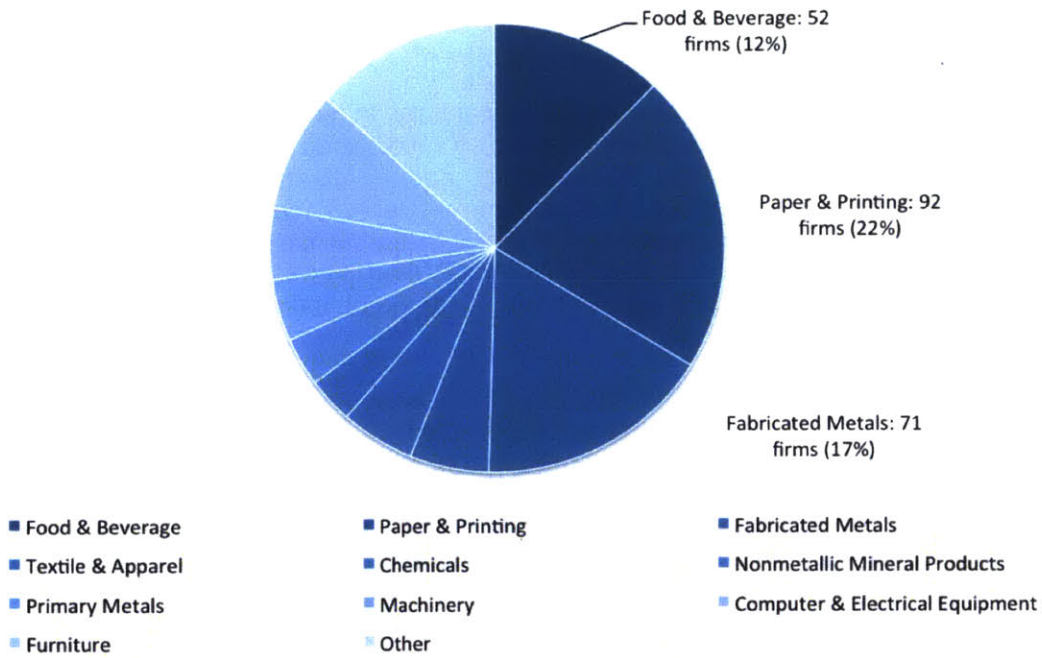


Figure 5.8. Manufacturing Sub-Sectors across PMDs, 2005
 Data Source: County Business Patterns

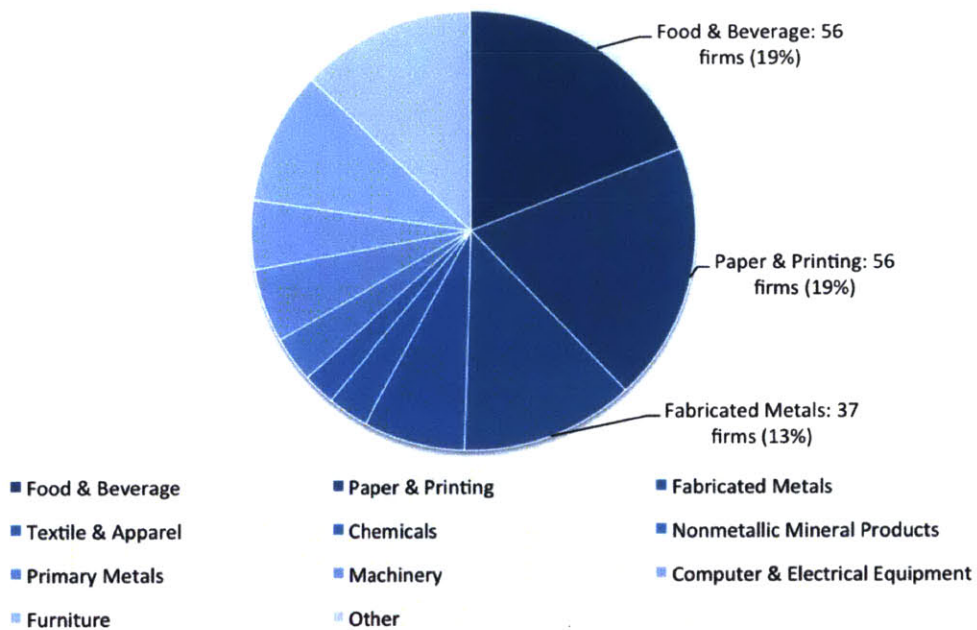


Figure 5.9. Manufacturing Sub-Sectors across PMDs, 2013
 Data Source: County Business Patterns

It is clear that the manufacturing sectors in the Clybourn Corridor, Goose Island, and Kinzie Corridor are buoyed by the presence of local industry with deep historical roots. However, firm losses in printing and fabricated metals represent the majority of manufacturing firm losses in the three PMDs over the period. As Table 5.6 demonstrates, between 2005 and 2013, 53% of the 131 firms, or 70 firms, leaving the three PMDs fell in those two sub-sectors.

	2005		2013		Firm Loss: 2005 - 2013	
	# of firms	% of total	# of firms	% of total	# of firms	% of total loss
Food & Beverage	52	12%	56	19%	N/A	N/A
Paper & Printing	92	22%	56	19%	36	27%
Fabricated Metals	71	17%	37	13%	34	26%
Textile & Apparel	24	6%	22	7%	2	2%
Chemicals	23	5%	9	3%	14	11%
Nonmetallic Mineral Products	14	3%	7	2%	7	5%
Primary Metals	15	4%	10	3%	5	4%
Machinery	19	4%	16	5%	3	2%
Computer & Electrical Equipment	22	5%	15	5%	7	5%
Furniture	37	9%	29	10%	8	6%
Other	57	13%	38	13%	19	15%
Total	426		295		131	

Source: County Business Patterns, 2005 & 2013

As Table 5.7 below illustrates, the impact of losses in printing and fabricated metals is felt citywide, but not to the same degree as within CBD PMDs. Between 2005 and 2013, we see a loss of approximately 800 firms in the two sub-sectors, but those losses comprise just below 40% of the City's total manufacturing firm loss. Citywide, firm losses stem from a third sub-sector in which the CBD PMDs do not see significant loss, machinery. Like printing and fabricated metals, machinery firms often produce for the needs of local consumers.

	2005		2013		Firm Loss: 2005 - 2013	
	# of firms	% of total	# of firms	% of total	# of firms	% of total loss
Food & Beverage	917	7%	943	9%	N/A	N/A
Paper & Printing	1,847	15%	1,343	13%	504	24%
Fabricated Metals	2,605	21%	2,306	22%	299	15%
Textile & Apparel	396	3%	326	3%	70	3%
Chemicals	559	5%	504	5%	55	3%
Nonmetallic Mineral Products	429	3%	373	4%	56	3%
Primary Metals	283	2%	206	2%	77	4%
Machinery	1,429	12%	1,098	11%	331	16%
Computer & Electrical Equipment	949	8%	790	8%	159	8%
Furniture	596	5%	422	4%	174	8%
Other	2,352	19%	1,989	19%	363	18%
Total	12,362		10,300		2,062	

Source: County Business Patterns, 2005 & 2013

That the decline of local clusters is more pronounced in CBD PMDs than citywide may be reflective of three dynamic processes within center-city industrial areas. Commonly, local clusters choose to locate in urban areas due to the value of proximity to both

consumers and suppliers, as well as access to transportation infrastructure.¹⁸⁴ On the one hand, it is possible that suppliers and consumers today see less value in locating in Chicago, or in the center-city; however, given that printing and fabricated metals firms tend to produce for a local consumer base, it may be less likely that demand is shifting. A second possibility is that, as industry innovates, certain firms within these sub-sectors are being outcompeted by others that are adopting new technology. A winnowing of firms may contribute to firm loss at the local and citywide levels.

A third potential dynamic, and a question at the heart of this thesis, is the role of land use patterns and competition for space from uses incompatible with manufacturing. That the loss of core manufacturing sub-sectors within center-city PMDs outpaces the rate seen at citywide may reflect two land use patterns. First, firms may feel a push to exit the three center-city PMDs as a result of the increasing presence of incompatible residential or commercial uses at their periphery. Anecdotally, interviewees note an increase in both pedestrian and vehicular traffic within the three PMDs as they have experienced a second wave of gentrification; this enhanced activity may mean that firms feel as though they no longer have the access to transportation infrastructure that once made the PMDs attractive. Secondly, firms may feel a pull to relocate operations to less congested sites elsewhere in the City. Interviewees noted the growth in recent years of industrial clusters in Southeast Chicago, along the I-55 expressway and proximate to a series of rail lines reactivated by Norfolk Southern. As new development shifts the character and use of center-city PMDs, industrial firms may see locating elsewhere in Chicago as a more attractive option.

It is valuable to note, however, that across the three CBD PMDs and citywide, the food and beverage sub-sector is the only industry to see an increase in firm presence over time. Chicago has a long history in food manufacturing, and currently is the leading United States metropolitan area in terms of both gross regional product and employment in the sub-sector.¹⁸⁵ Though food manufacturing is generally perceived as a cluster oriented toward local consumption, Chicago's food sub-sector includes firms producing for consumers both within the City and outside. The value of continuing to locate food production facilities within the CBD and throughout Chicago appears clear.

Each of the sub-sectors that is core to both the economies of the CBD PMDs and to the City of Chicago – fabricated metals, printing, and food processing – has been identified through city and county-level planning processes as industries of focus. A variety of stakeholders engaged in industrial growth and retention efforts have sought to understand how to both transition these sub-sectors toward the adoption of advanced production processes and to continue to integrate local workers with a variety of skill sets. Understanding the factors that keep these sub-sectors in place, or push them to relocate, is also critical. Though within two of the three sub-sectors, firm loss is steep citywide, that it is felt more deeply within the City indicates the role played by land use policy in influencing the location decision-making processes of these industrial firms.

4.3.5 / Wage Dynamics

5) Across sectors, wage levels are increasing across two of the three PMDs. However, wage levels across all three PMDs are lower than citywide.

¹⁸⁴ U.S. Cluster Mapping Project. <http://www.clustermapping.us/>

¹⁸⁵ World Business Chicago. "Food Manufacturing." 2014. Citing Moody's Analytics, 2014.

When aggregated by sector, in the Clybourn Corridor and Goose Island, the share of workers earning over \$40,000 per year increased between 2005 and 2013 to just over 40%. However, earnings within each of the three PMDs are lower than across Chicago; citywide in 2013, 53% of employees earned above \$40,000 per year. Table 5.8, below, illustrates wage dynamics over time.

	Kinzie Corridor	Clybourn Corridor	Goose Island	City of Chicago
2005: % Workers Earning Above \$40K	38%	37%	27%	43%
2005: % Workers Earning Below \$15K	18%	27%	26%	20%
2013: % Workers Earning Above \$40K	30%	43%	42%	53%
2013: % Workers Earning Below \$15K	24%	22%	20%	15%

Sources: Longitudinal Employee-Household Dynamics Survey, County Business Patterns, 2005 & 2013

As Figures 5.10 and 5.11 illustrate, average earnings are improving for workers across sectors in all PMDs apart from the Kinzie Corridor. The share of workers earning above \$40,000 per year is increasing, and the share of workers earning below minimum wage is declining. However, despite directional gains that mirror those seen citywide, the percentage of workers earning above \$40,000 per year remains lower than across the City.

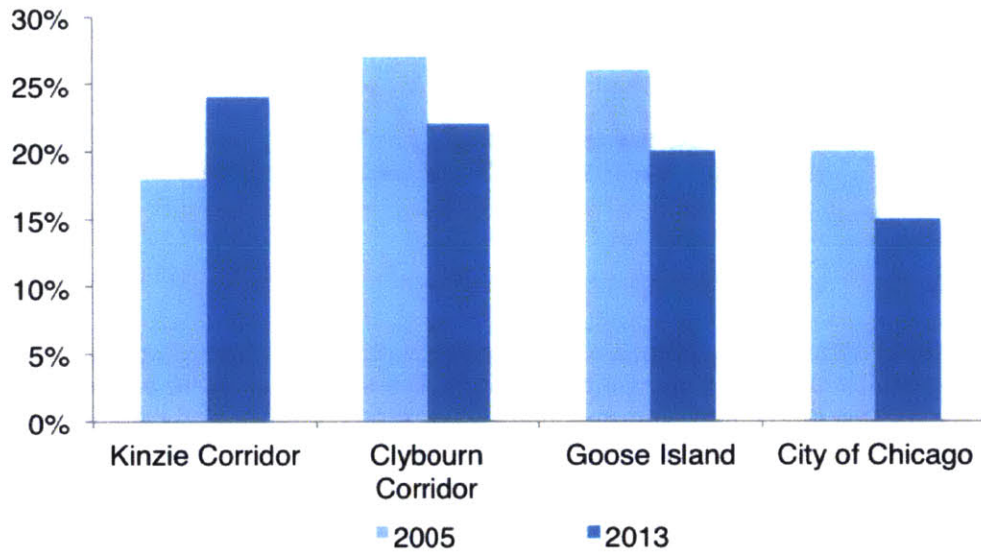


Figure 5.10. Percent of Employees Earning Below \$15,000 per Year, 2005 – 2013
 Data Source: Longitudinal-Employee Household Dynamics

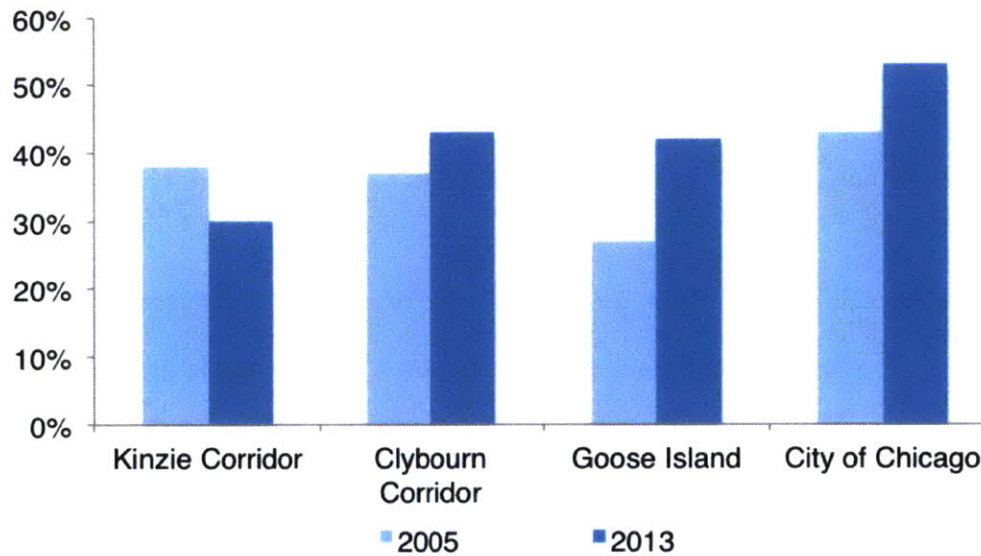


Figure 5.11. Percent of Employees Earning Above \$40,000 per Year, 2005 – 2013
 Data Source: Longitudinal-Employee Household Dynamics

Over the past two decades, increases in payroll earnings and employment in Chicago have been concentrated in the central area, within or around the Loop.¹⁸⁶ Those gains are attributed to the growth of professional service sectors concentrated in Chicago's downtown, and the shift away from a CBD reliant on the manufacturing industry. The Clybourn Corridor, Goose Island, and the Kinzie Corridor are each included in that central area, and the overall trend toward wage increases perhaps reflects the introduction of higher-value service-sector employment.

However, as previously described, the composition of the three CBD PMDs on basis of sector is not a reflection of the citywide economy. In Chicago, employment in FIRE, professional services, education, and health care dominate the economy. These sectors are not prevalent in the CBD PMDs; instead, trade, warehousing, and administrative services now dominate the districts. The average annual earnings in the service sectors that characterize Chicago's economy carry a \$20,000 premium over those that characterize the CBD PMDs (\$76,773 compared to \$51,376).¹⁸⁷

Though we cannot attribute the earnings differential seen in the CBD PMDs to a concentration of lower-wage sectors, economic composition may be one reason behind the trends seen across PMDs. If so, it is critical to note that despite their proximity to the Loop, the PMDs are unique economic spaces in terms of sector, wage, and likely, worker demographics. Given that the service-based sectors that support the downtown economy tend to require relatively high levels of education and training, as the City evaluates the performance of its PMDs, it may be valuable to note that the districts likely provide economic opportunity for low-skilled workers in a geographic area where that is increasingly rare. The earnings potential associated with trade, warehousing, and administrative positions does not match that offered by the manufacturing industry; the former offers an average wage of \$49,000 in comparison with an average wage of \$60,000.¹⁸⁸ However, in an economy where employment in manufacturing is both rare and less accessible to low-skilled workers, preserving low-skilled work is increasingly critical.

¹⁸⁶ Testa, Bill. "Chicago's Center Leads the Way?" Federal Reserve Bank of Chicago. July 11, 2011.

¹⁸⁷ Quarterly Census of Employment & Wages, 2013. Compares the average annual earnings in finance & insurance, real estate, professional & technical services, education, and health care (NAICS codes 52-54 & 61-62) with average annual earnings in manufacturing, wholesale trade, retail trade, and transportation & warehousing (NAICS codes 31-49)

¹⁸⁸ Quarterly Census of Employment & Wages, 2013. Compares the average annual earnings in wholesale trade, retail trade, transportation & warehousing, and administrative sectors (NAICS codes 42-49 & 56) with average annual earnings in manufacturing (NAICS codes 31-33)

6) Within the manufacturing sector, wages in all three PMDs are lower than citywide. Though wages are increasing in two of the three PMDs, wages have steeply declined in the Clybourn Corridor.

As noted above, the difference in composition by sector between Chicago's CBD PMDs and the citywide economy cannot be viewed as the primary reason for the wage discount seen within industrial districts. As we narrow our analysis by sector to examine employment in manufacturing specifically, the reason for that is clear. Though earnings are increasing in two of the three PMDs, they remain lower than those seen citywide.

	Kinzie Corridor	Clybourn Corridor	Goose Island	City of Chicago
2005: % Manuf. Workers Earning Above \$40K	38%	67%	27%	43%
2005: % Manuf. Workers Earning Below \$15K	18%	5%	26%	13%
2013: % Manuf. Workers Earning Above \$40K	45%	2%	42%	52%
2013: % Manuf. Workers Earning Below \$15K	10%	59%	20%	9%

Sources: Longitudinal Employee-Household Dynamics Survey, County Business Patterns, 2005 & 2013

As shown in Table 5.9, above, across the City, 52% of workers earn above \$40,000, but in the Kinzie Corridor and Goose Island PMDs, the share of workers earning at that level is just over 40%. In 2005, the share of workers earning below the \$40,000 threshold was lower in those two PMDs than citywide, as well; arguably, the two PMDs began at different points than the City's aggregate manufacturing workforce. However, the substantial difference in workforce profiles on basis of wages between industrial districts and the City on the whole suggests that earnings differentials are not only caused by the composition of each economy, but by differences in the sub-sectors or firms that comprise each sector.

Manufacturing wage differentials across geographies could be attributable to the presence of certain sub-sectors; more specifically, to the prevalence of local clusters within industrial districts. As detailed above, firms in the food processing, fabricated metals, and printing sub-sectors dominate the PMD economies; together, they command average annual earnings of \$53,500. In contrast, the industrial economy of Chicago represents a much broader array of manufacturing sub-sectors. The average annual earnings across all manufacturing sub-sectors are \$58,800.¹⁸⁹ The wage differential seen across the City's CBD PMDs may stem from the clustering occurring in the district.

¹⁸⁹ Quarterly Census of Earnings and Wages, Cook County 2013.

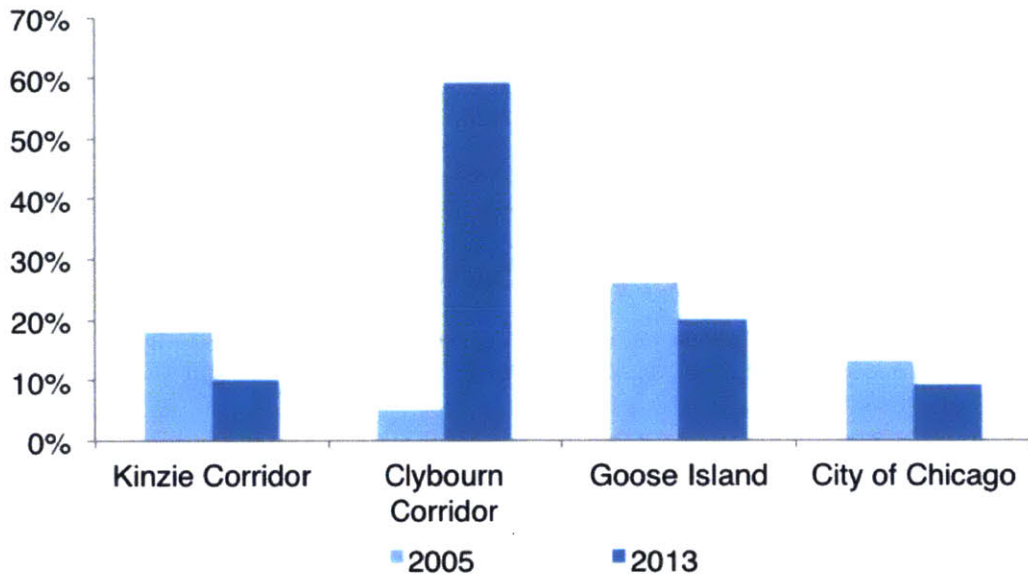


Figure 5.12. Percent of Manufacturing Employees Earning Below \$15,000 per Year, 2005 – 2013
 Data Source: Longitudinal-Employee Household Dynamics

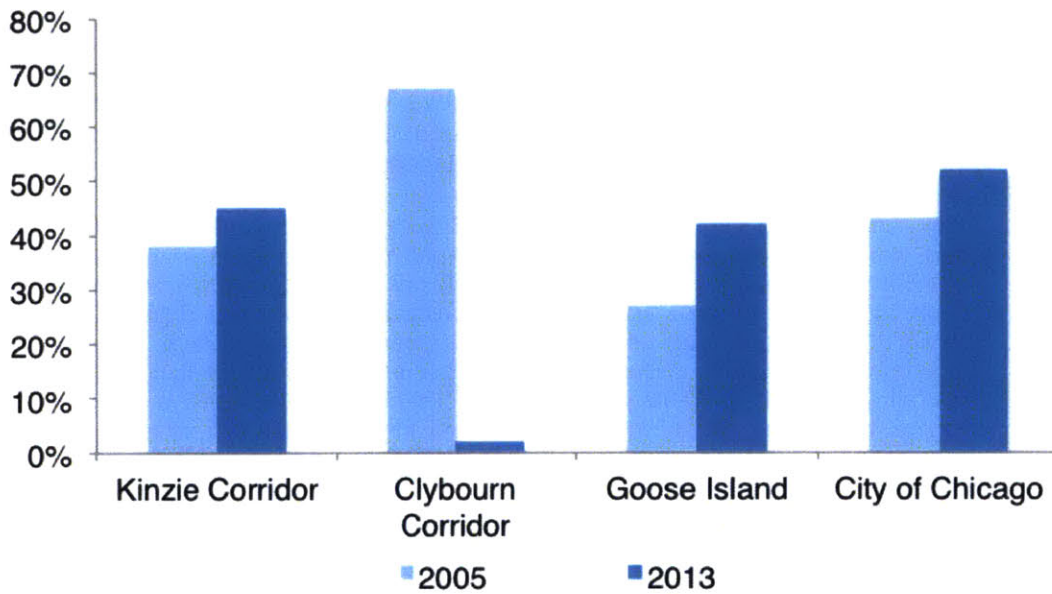


Figure 5.13. Percent of Manufacturing Employees Earning Above \$40,000 per Year, 2005 – 2013
 Data Source: Longitudinal-Employee Household Dynamics

Though the Kinzie Corridor and Goose Island both see wage increases that parallel change citywide, it is important to note the wage dynamics of the Clybourn Corridor. As depicted above, in 2005, 67% of manufacturing workers earned above \$40,000 per year; by 2013, just 2% did. Over the course of a decade, the quality of manufacturing employment in the district declined substantially.

An explanation for the dramatic wage movement in the Clybourn Corridor can be found in changes in employment over the period. Between 2005 and 2013, the district's manufacturing employment fell by 100. Both employment losses and changes in wage levels stem from the year 2012, when the district lost 182 employees, and 288 workers earning above \$40,000. In 2012, Finkl Steel relocated from the Clybourn Corridor to the south side of Chicago; overall job losses are likely attributable to the firm's departure. However, the loss of living wage jobs may reflect the restructuring of industrial firms that remain in the district.

This analysis of manufacturing wages reveals that employment dynamics can reflect changes in the value of geography, the presence of sub-sectors, and the employment decision-making of individual firms. As locations like the CBD PMDs become less attractive to industrial employers, they may choose to leave, bringing a wage profile with them. Firms may also choose to establish occupational structures that favor high or low-value work. In aggregate, the industrial sub-sectors that characterize a district or city also help to shape its wage outcomes.

5.4 / Implications for Chicago

5.4.1 / Assessing the Value and Impact of the PMDs

A December 2015 op-ed published in *Crain's Chicago Business* summarizes the justifications often offered in support of the removal of Chicago's downtown PMDs. In response to the razing of buildings formerly occupied by Finkl Steel, former Lincoln Park neighborhood association president Scott Nations writes:

"Finkl isn't the area's sole deserter. A. Lakin & Sons, Guttman Tannery and other industrial businesses have gone as well...What makes the exodus surprising isn't that it happened – but that it happened despite Chicago's extraordinary steps to make certain it wouldn't...Now businesses have fled despite the district's protections, and new businesses aren't replacing them due to infrastructure limitations....The PMD is now perversely counterproductive; it is frustrating attempts to create jobs as the majority of the acreage sits vacant. It's illogical to continue what isn't working – and the manufacturing district isn't working.¹⁹⁰"

With the high-profile departure of Finkl has reemerged a perception of Chicago's PMDs as now-desolate attempts to preserve an industrial Chicago that, in preserving space for a failed effort, stymie the City's ability to move forward toward a new economy. The findings of this chapter counter that narrative. Though business presence and employment within the downtown PMDs that is explicitly classified as manufacturing has certainly declined, the structural flexibility of the PMDs has allowed them to remain well-used by firms and responsive to the changing nature of Chicago's economy.

¹⁹⁰ Scott Nations. "Let's pull the plug on the Clybourn Corridor planned manufacturing district." *Crain's Chicago Business*. 29 December 2015.

Despite their resilience with respect to employment across sector, the PMDs are not structured to ensure that the jobs they support are high quality or accessible; while this chapter's analysis reflects an increase in wages across PMDs that mirrors trends seen citywide, more research is necessary to understand the types of occupations that the districts support.

Nations, and critics of the PMDs whose focus is honed on the manufacturing industry, are correct: the districts have not demonstrated the capacity to reverse or mitigate long-term structural industrial decline. This chapter, building on Rast's prior analysis of the performance of the Clybourn Corridor and Goose Island PMDs, demonstrates that manufacturing employment trends within the districts have generally mirrored those seen citywide, and the ebbs and flows of the business cycle more broadly. Over the past decade, as Midwestern manufacturing has struggled to rebound following the Recession, we have seen center-city production employment falling at a steeper rate than across Chicago. Finkl Steel's relocation decision-making speaks to the pressures felt by downtown manufacturing firms today: outmoded building stock, increasing transportation concerns, amplified need for energy, and the knowledge that these qualities are available in sites elsewhere in the region.

Recalling Chapter 2, however, we can note that the PMDs were not established with the intent to mitigate structural deindustrialization. Rather, their creation reflected an effort to preserve space for healthy industrial firms that would not have otherwise chosen to relocate. Ducharme, architect of the PMD concept, writes, "the PMD concept was originally created to address the displacement concerns of [manufacturers in the Clybourn Corridor]. It was designed to ensure that certain manufacturing-zoned areas like the Clybourn Corridor would continue to be used for industrial purposes despite upscale residential and commercial development pressures.¹⁹¹" While the PMDs were part of a suite of industrial retention policies that responded to the employment effects of structural deindustrialization, they sought to address the hyper-local effects of real estate, rather than macroeconomic, pressure.

From their inception, the PMDs were also designed as place-based, flexible zoning mechanisms and arguably, that quality has ensured their economic resilience with time. Ducharme continues, "[The PMD] was also designed as a flexible zoning tool. Each PMD will specify what types of land use tools, if any, will be allowed, where, and under what circumstances. These rules assure manufacturers in the district that new development will be compatible with their operations.¹⁹²" As demonstrated in Table 1.1 in Chapter Two below, the primary use explicitly prohibited under each PMD ordinance is residential. The original planners of the PMD recognized that the thriving residential real estate market had the capacity to drive out industrial users through speculation and the introduction of neighborhood characteristics that would quickly provide incompatible with industry.

They also recognized the hyper-local nature of clustered industrial markets across which spatial and regulatory needs might vary. Table 1.1 illustrates flexibility in allowable uses across downtown PMDs that both responded to unique neighborhood conditions and sought to explicitly allow uses likely to be physically compatible in the long-term. The definition of manufacturing as an allowable use within the PMDs is, in

¹⁹¹ Ducharme 1991 222

¹⁹² Ducharme 1991 222

fact, loose: it is defined as “any production, processing, cleaning, servicing, testing, repair, or storage of materials, goods, products, or information.”¹⁹³ The breadth afforded to the original understanding of manufacturing has allowed the districts to remain economically functional as the sector has shifted in form, scale, and geography of production; that malleability has been complemented by a flexibility in the remaining allowable uses in each district. As traditional manufacturing has declined within the PMDs, new forms of production have been accommodated, and the introduction of new complementary sectors have offset losses stemming from sectoral restructuring and decline.

This chapter demonstrates that the flexibility inherent in each PMD has allowed them to function as geographies of employment that respond to the changing nature of industry and economic activity in Chicago. Employment within the downtown PMDs has grown at a faster pace than citywide, and that increase is reflective of growth in sectors that are integrated into the production process, though they are not explicitly classifiable as manufacturing. Declines in manufacturing jobs in the Clybourn Corridor have been outweighed by increases in employment in warehousing and transportation, a sector integral to the delivery of manufactured goods, and perhaps more likely to locate in metropolitan areas today. In the Kinzie Corridor, where office buildings are allowable, declines in manufacturing have been offset by increases in administrative employment, representing the district’s ability to accommodate an urban economy that has now restructured to predominantly be comprised of service-sector work.

The PMDs were originally established as a tool to prevent the displacement of manufacturing businesses and firms in complementary sectors; however, the manufacturing sector was afforded value for the high-quality employment it facilitated. In her account of the City Council hearing that preempted the passage of the Clybourn Corridor PMD, Ducharme continues to quote a manufacturing employee in the district whose job proved vulnerable to redevelopment: “I used to have a \$75 apartment in the area and I walked 1.5 blocks to my job...That \$75 apartment is now \$1700 and the job where I had a good union wage is now a condominium. The choice is this: working at a good manufacturing job or working at a service industry job to get McDonald’s wages. I’m for protecting manufacturing and protecting jobs.”¹⁹⁴ This chapter demonstrates the capacity of the downtown PMDs to preserve land for employment-oriented uses; however, it indicates that the districts are not an effective means of maintaining job quality.

Structurally, the PMDs do not include a means of addressing quality of work through policy or programming. They were established at a point in time when industrial employment both comprised the majority of jobs in downtown PMDs and could be relied on to provide higher wages than service-sector jobs requiring similar skill sets. Preserving land for industrial use was viewed as a means of retaining the employment that the sector supported. As illustrated in Chapter Three, however, both the manufacturing industry and the composition of urban economies have shifted since the late 1980s to afford fewer opportunities for high-quality work to low-skilled employees. Elements of the manufacturing industry that continue to site in United States cities are

¹⁹³ City of Chicago. “Clybourn Corridor Planned Manufacturing District Ordinance.” 1988.

¹⁹⁴ Ducharme 1991 223

generally highly productive and reliant on a high-skilled labor force. Lower paying service-sector positions have eclipsed higher-value production work in American cities.

The flexibility inherent to the PMDs has allowed them to continue facilitating employment opportunities in a variety of sectors as the City's economy has restructured; however, it is challenging to gauge or control the quality of that work. In an interview, Ducharme describes the difficulty of assessing and shaping job quality within the districts:

"For instance, there's two very large logistics firms [within the Clybourn Corridor], C.H. Robinson and Coyote. C.H. Robinson, about 20% of their labor force is hourly labor that works in a call center, but there are some ladders up into the company from that. Coyote outsources that [type of work]. C.H. Robinson has it in house, so has career ladders; but Coyote, which is essentially the same thing, outsources it, so it does not have those ladders within the company. I think there's a real lack of information about the employment impacts...I think pretty much all of these are living wage jobs. The issue is how many of them are for people who are college-educated...and how many of them are for working-class people, and offer any ladders to people who didn't necessarily go through a four-year college. I think there's just a real lack of information.¹⁹⁵"

Even within firms situated in the PMDs that may provide the same functional services, occupational composition, accessibility, and pathways upward are distinct. This thesis sheds some light, in aggregate, on how employment patterns have shifted within the PMDs over time. The share of employees earning over \$40,000 has increased, both across sectors and within firms classified as manufacturers. However, we cannot illuminate whether increases in earnings in the aggregate are attributable to rising employment quality across workers, and Ducharme's anecdote underscores our inability to describe occupational and wage patterns as uniform across or within a sector, or even comparable firms. Fundamentally, however, we cannot attribute wage patterns within the PMDs wholly to the presence of the zoning designation; structurally, the PMDs do not possess the tools or teeth necessary to shape the quality of work within them. Further research is necessary to understand the quality of PMD employment, who is employed, and how city policy might better support pathways toward high-value work in these districts.

Finally, this chapter is reflective of the role PMDs might play within the Chicago area's industrial planning efforts. Recalling Chapter Three, significant economic development planning has been undertaken by both Cook County and the City of Chicago over the past half decade that elevates the manufacturing industry as a strategy for economic growth. This chapter's analysis, though conducted at the hyper-local district-level scale, illustrates a more somber portrait of the regional manufacturing industry than is reflected in public planning efforts. The introduction of non-industrial uses within industrial spaces is perhaps an indication that economic development planning efforts should focus more broadly, despite Chicago's industrial legacy. This analysis, however, is also an indication that industrial planning ought to employ a regional, rather than city- or district-level, scope. By focusing on the highly local dynamics of land use, the City may miss opportunities for industrial growth and employment elsewhere in the region.

¹⁹⁵ Ducharme. In-person interview by author.

5.4 / Conclusion

In sum, preservation of industrial space through the downtown PMDs has certainly benefited Chicago – but perhaps not in the manner envisioned by the policy's original architects. At their creation, the PMDs were an effort to preserve space for urban manufacturing and in doing so, retain the high-value and accessible employment associated with 20th century industry. The inherent flexibility in the PMDs – both in how the City has defined production and in the allowable uses able to coexist alongside manufacturing firms – has meant that the PMDs today are districts characterized by employment-oriented uses, though manufacturing in Chicago's downtown has dwindled. Critics of PMD preservation who argue for the redevelopment of industrial districts in an effort to generate work where there is none can, and should, be refuted. The PMDs do continue to support employment in a range of sectors that are dynamically responsive to Chicago's shifting economy. Prior to implementing zoning change, the City or community-based coalitions should understand the integration of employment within the PMDs into the wider Chicago economy, and whether allowing new uses might jeopardize the presence of existing work.

However, the preservation of space for employment has not resulted in an original goal of the architects of the PMDs: the retention of high-quality work that is accessible to low-to-middle skilled communities. The districts were established at a moment when the majority of industrial work they supported was both high quality and accessible, and so the PMD structurally does not contain a mechanism that seeks to protect potential changes in the quality of work. This chapter's quantitative analysis demonstrates that quality of work is not uniform across districts, or even within the manufacturing sector. The dramatic shift in wage levels within the Clybourn Corridor over the course of a decade corroborates the anecdotal evidence Ducharme provides: today, wage levels and occupational structures are perhaps more firm-driven than they are sector-driven. Two firms occupying the same sector may have fundamentally different profiles with respect to quality of work. When we look to the hyper-local level, we can begin to see the impact of individual firms exiting or entering, and understand that today, the departure of a single firm may radically change the wage makeup of a district-wide sector. The following chapter outlines how the City might shift the structure of the PMDs to both facilitate pathways to employment and use the leverage of land value to promote high-value work.

CHAPTER 6: Toward a Flexible, Employment-Oriented PMD

6.1 / Recommendations for the City

Chicago's planned manufacturing districts were established with the original intent of retaining high-quality employment accessible to low-to-middle skilled local workers. This thesis sought to understand whether – given the restructuring of the United States manufacturing sector, the impacts of long-term structural deindustrialization, and processes of urban economic restructuring – the City's PMDs continued to support high quality employment. The PMDs have clearly succeeded in retaining employment, though they have not been able to mitigate structural deindustrialization. The flexibility in allowable uses incorporated into the PMDs' original zoning has helped them to remain attractive spaces for businesses to locate – particularly those that do not require retail frontage or proximity to residential neighborhoods.

It is unclear, however, whether the PMDs are able to impact the quality of work that is supported within their boundaries. Structurally, the zoning designation does not have the tools or teeth necessary to enforce wage levels, mandate diversity of hiring, or facilitate the institutional structures necessary to connect workers with employment. Chapter Four illustrates that wage patterns in the PMDs mirror those seen citywide, both within the manufacturing sector and in aggregate; however, those patterns are not indicative of policy impact.

Building on the district-level analysis conducted in Chapter Four, this chapter outlines how the City can better understand the nature of its industrial land use system and the value it provides to both businesses and workers. Amidst debate over the removal, maintenance, or refinement of the PMDs, this chapter offers a series of research-driven steps that the City can take to guide its decision-making that focus on four areas: 1) regional industrial land use systems analysis; 2) the implications of land use change for businesses; 3) the implications of land use change for the workforce; and 4) the impacts of land use change on tax receipts, and why a long-term view matters. Refocusing on the question of quality of work, this chapter also provides an assessment of how Chicago might integrate the district-level structure of the PMDs into existing workforce development initiatives.

The debate in Chicago is ongoing, and decision-making is currently underway regarding the future of the Clybourn Corridor, and the former site of Finkl Steel's facilities. Though this thesis advocates for a comprehensive and regional approach to industrial planning, the chapter concludes by applying the lessons learned in this thesis to the hyper-local planning process today.

6.1.1 / Assessing the dynamics of industrial land use and implications of policy change

This thesis demonstrates that, despite vacancy in the core area of the Clybourn Corridor, employment is growing in the CBD PMDs when aggregated across sector. The active presence of businesses and employment is an indication that, at present,

the PMDs may not need to be rezoned for new uses and that if they are, the City may jeopardize work that both supports local residents and is fundamental to its economy.

The previous chapter's analysis illustrates that today, "manufacturing district" is a relative misnomer. Prevalent sectors in the downtown PMDs today – transportation, warehousing, wholesale trade – do interface with the manufacturing industry and the supply chain of production, though they are not classifiable explicitly as manufacturing. The flexibility of the PMD structure means that a broad range of non-industrial uses are also allowable within the districts and more prevalent today than ever before, given the decline of production in Chicago's core. Today's PMDs might more accurately be classified as "employment areas," given that the prohibition of residential use has likely allowed a greater proportion of space to be allocated toward firms and uses that generate jobs.

With the PMDs reframed to acknowledge their ability to support urban employment, should they be retained as is, amended, or removed? As it continues to debate the value of its PMDs, the City should undertake a series of analyses to better understand the potential economic and employment implications of rezoning. Given that Chicago's stock of industrial land spans its geography – and that the dynamics of land use outside of the downtown are distinct from those of the City's core – any analysis focused on the PMDs should be comprehensive and systemic, rather than confined to the level of the downtown districts. A series of complementary and comprehensive assessments focused on ramifications of rezoning for land use, employment quality, and business viability, described below, will help the City to weigh the value of shifting its zoning policy incrementally or *en masse*.

1) Assessing the regional market for industrial land

Though, as described in Chapter Two, many cities are currently grappling with whether and how to preserve their stock of industrial land, strong precedents do exist that Chicago can employ to understand the rationale for and potential implications of land use change. Mixed-methods approaches reliant on quantitative and qualitative analyses of the dynamics of industrial land and its users have generally provided the most thorough basis for industrial land use review. Howland's industrial land use assessment for Prince George's County in Maryland, described more thoroughly in Chapter Two, is a frequently cited example of an approach that both conveyed how industrial land was used at the time of the assessment and the impact a rezoning might have on business occupants. Howland's review was comprised of two primary components: the creation of a typology of industrial land use by supply and demand generated using real estate and employment data, and the facilitation of a survey of industrial business owners occupying land zoned for manufacturing.

The methodology employed in Prince George's County can and should be applied in the Chicago context, where demand for industrial land varies widely by geography. Howland's quantitative analysis coupled CoStar and QCEW data to illustrate levels of vacancy, rents, and employment by district and by sector.¹⁹⁶ At the county level, her analysis allows a relational comparison between districts where demand is growing and falling. The Chicago area's market for industrial land is regional and demand varies widely by district; as an example, Colliers anticipates strong and continued growth in demand for industrial space on the City's South market, as well as in suburban areas,

¹⁹⁶ Howland 44

as opposed to in North Chicago.¹⁹⁷ The spatial variations in industrial demand illustrated by the real estate market today provide justification for an analysis of supply and demand that builds on the methodology developed by Howland and takes a similarly regional approach.

2) Assessing the value of industrial zoning to businesses today

A qualitative assessment of the value that existing businesses see in industrial zoning designations can corroborate the findings of a quantitative supply and demand analysis. A survey, or series of comprehensive interviews with industrial and non-industrial users of the PMDs can shed light on the elements of PMDs that firms find valuable today, and what PMDs they would like to see protected.

As an example, in an interview, Steve DeBretto, long-time director of the Industrial Council of Northwest Chicago (ICNC), which represents the interests of industry in the Kinzie Corridor PMD, described a number of firms with deep roots in the PMD that are now feeling the impacts of mixed-use development at its periphery.¹⁹⁸ The Fulton Market restaurant district that has emerged over the past decade has generated foot traffic and real estate demand that poses a threat to firms with industrial land use and infrastructure needs. In contrast, Roger Romanelli, director of the Randolph-Fulton Market Association (RFMA), which represents a range of businesses within and on the periphery of the Kinzie Corridor PMD, describes a split between businesses that derive benefit from the PMD's limitations, and those that now thrive on the increased presence of local retail.¹⁹⁹ Clearly, firms hold conflicting perspectives on the value of the PMD zoning designation today. These anecdotal assessments of business interest should be undertaken systematically and across PMDs to understand the relationship between land use and local business needs.

3) Assessing the types and quality of employment supported in the PMDs today

Finally, as Chicago weighs redevelopment options, it must conduct a fine-grained study of the types of occupations supported within the City's PMDs, and who is employed. Ducharme's anecdotal reflection on the differing occupational profiles supported by two logistics firms within the Clybourn Corridor PMD are evidence of the complexity of employment within these districts – and within any geography.

Emerging fine-grained data resources, like the LEHD survey, have the capacity to capture patterns in employment by sector at the hyper-local level. The LEHD survey can certainly be applied across the Chicago region to illuminate where employment is growing within certain sectors. However, public quantitative data sets are often hampered by their inability to demonstrate what is really a qualitative variable, the quality of an occupation. The LEHD survey can uniquely indicate wage patterns, places of residence, and increasingly, workforce demographics within defined geographic areas.

To fully understand the quality of work – as an example, the differences in occupational structure between a Coyote and CH Robinson, who at first glance appear nearly identical as firms – requires a qualitative assessment of firm-level hiring and

¹⁹⁷ Colliers. "Chicago: Industrial Market Overview"
http://rockfordil.com/images/RAEDC_Uploads/Market%20Report%20Colliers%20Q42014-Chicago%20Industrial.pdf

¹⁹⁸ DeBretto. In-person interview by author.

¹⁹⁹ Romanelli. In-person interview by author.

employment practices. Such an assessment could be conducted through a survey or qualitative interviews that focus on wage levels, the capacity of firms to absorb low-skilled workers, and pathways for entry-level workers that support upward mobility within the firm. A fine-grained analysis of quality of work can both give the City an understanding of the types of employment currently present within PMDs – and how, or whether, that employment would be affected by rezoning – and offer it a point of leverage through which to either implement policy that addresses quality of work or facilitate connections with workforce development organizations that can support hiring and training.

4) Applying a short-term and long-term perspective to an assessment of the tax implications of land use change

For Chicago, the rezoning of industrial areas, particularly in high-value downtown real estate markets, carries strong implications for public revenue generation, specifically through its potential to impact property tax receipts. Property taxes comprise about a third of the City's annual tax receipts and are allocated toward the payment of Chicago's public debt, pension obligations, and public library system.²⁰⁰ Given an ongoing budget stalemate at the state level and pension crisis at the city level, property taxes are a critical source of public revenue. Citywide property tax rates have not been raised, and an increase in the assessed value of space is the primary means of growing revenue at this point. For the City, the redevelopment of industrial space represents an opportunity to grow tax revenue.

For the City, rezoning in the PMDs presents an opportunity for short-term property tax gains, but may mean further instability in the long-term for those whose work is displaced. Ducharme describes the politics of the trade-off:

“A couple years ago, [the City] hired US Equities to look at all the PMDs and update them for a more modern economy. [The CBD] PMDs came out really, really well. They are effective at retaining big firms and smaller firms, they have very low vacancy rates, and the land values are very high for industrial land throughout the region...What we're hearing from others is that Emanuel's real grand plan is that everything between Cermak and Fullerton and Western and the Lake should become part of the larger Loop, and that there should be high-density development, and that would solve, in his opinion, his property tax woes. He needs more money, and so he wants to – we've been told that – the things that are in his way are the PMDs and public housing.”²⁰¹

In today's period of fiscal uncertainty and sluggish economic growth, high-density real estate development can be perceived as a means of generating the capital necessary to support economic development goals. It can also be conflated with general economic development and local growth. In a city where the middle class is shrinking, the population is declining, and unemployment is high, preservation of employment should remain a public priority to rival or exceed local revenue generation.

²⁰⁰ Corfman, Thomas A. “City Hall's Expanding Appetite for New Taxes.” *Crain's Chicago Business*. 18 July 2015.

²⁰¹ Ducharme. In-person interview by author.

6.1.2 / Shifting the Focus to Jobs: Integrating the PMDs into Chicago's Workforce Development System

Though the PMDs were established in effort to retain the type and quality of work associated with the manufacturing industry, this thesis makes clear that the districts function as land use tools, not workforce development mechanisms. The City does not currently mandate or govern the quality of employment within the districts; however, a district-level institutional framework is in place to facilitate a stronger linkage between land use policymaking and the workforce development system.

The late-1980s establishment of the PMDs was accompanied by the implementation of a series of industrial retention initiatives, one of which was the creation of Local Industrial Retention Initiative (LIRI) councils. LIRIs function at the neighborhood level, often under the purview of non-profit organizations, and are intended to identify and meet the needs of local industrial firms. Each PMD is represented by a LIRI. At their inception, many LIRIs played a workforce development role; as an example, North Branch Works (NBW), the LIRI responsible for firms in the Clybourn Corridor, is credited with diversifying local industrial hiring.²⁰² In fact, the original PMD concept had an explicit workforce development component. The LEED Council, now North Branch Works, was established by members of the New City YMCA, which represented communities on Chicago's Near North Side, including residents of the Cabrini-Green public housing development, less than a half-mile from the Clybourn Corridor. The YMCA landed on a place-based industrial retention strategy through efforts to shift the hiring practices of Near North Side firms to support employment opportunities for members of the Cabrini-Green community.²⁰³

Today, LIRIs play a variety of functional roles. NBW and ICNC, which together represent Near North Side manufacturers, are heavily involved in the land use debate over PMD retention. In contrast, the Jane Addams Resource Corporation (JARC) has evolved into one of the City's primary non-profit organizations providing training and employment matching in the manufacturing industry; though the North side community of Ravenswood is its geographic scope, it anecdotally functions as a sector-specific non-profit organization.

Though LIRIs no longer play an explicit workforce development role, they are institutional assets available to the City with the capacity to support hiring in industrial and non-industrial sectors. Given that downtown PMDs no longer primarily support manufacturing businesses and employment, the scope of the LIRIs should perhaps be expanded to include sectors that predominate within each PMD. Rather than focusing explicitly on the retention of manufacturing businesses and employment, LIRIs have the unique ability to understand and represent the needs of the variety of businesses that sit within their affiliated PMDs. A range of workforce development providers – from the broad to the sector-specific – exist in Chicago today; LIRIs may not need to play a direct workforce development role, but can serve as a point of connection between firms within their districts, particularly those supporting strong career ladders, and organizations across the City that provide training and hiring services.

²⁰² Holzer and Ducharme. In-person interviews by author.

²⁰³ Ducharme. In-person interview by author.

LIRIs can continue to support the manufacturing industry by functioning as a sector-specific “connective tissue,” particularly in response to ongoing city-level initiatives to support the manufacturing industry. As part of the implementation of its *Plan for Economic Growth and Jobs*, the City, via its quasi-public economic development agency, World Business Chicago, has established an industrial workforce development campaign, *1000 Manufacturing Jobs*. The campaign interfaces with regional manufacturing firms and workforce development organizations to support local hiring in the manufacturing industry. Bailey Warren, a Project Manager with WBC, noted that *1000 Manufacturing Jobs* does not employ the PMDs as a geographic area of focus. The campaign partners with sector-specific LIRI councils, but does not work explicitly to place workers in positions within PMDs. Disintegration between the city-level campaign and the PMDs may reflect the loss of urban manufacturing businesses and employment. However, it may also reflect limited, or reoriented, institutional capacity within organizations that may have the ability to make workforce development service providers better aware of local employment opportunities across sectors.

It ought to be remembered, even in a post-industrial era where high-value work is challenging to come by, that the original goal of the PMD structure was to support employment that was accessible to low-to-middle skilled Chicagoans. At a point in time when those opportunities are rarer than ever, the PMDs should be viewed through that vantage point, and well-integrated with existing resources that seek to promote employment access citywide.

6.1.3 / Facilitating an Equitable Transition to an Advanced Manufacturing Economy

This thesis demonstrates that today, employment in Chicago's downtown PMDs is not wholly industrial, and that employment outside of the manufacturing sector has eclipsed that within it. As Chapter Four demonstrates, however, the restructuring of the manufacturing sector to adopt high-technology processes and practices is at the forefront of ongoing planning efforts in the City and the region. Given the long-term structural dislocation of the sector's former employees, how can planning for a new form of industry seek to integrate low-to-middle skilled Chicagoans? Do the PMDs play a role in facilitating accessible employment?

Workforce development is acknowledged across levels of government as a critical priority, largely because of the specificity of skills required by emerging positions in local manufacturing today. The City of Chicago's *Business Plan for Manufacturing* writes, “While Chicago's current manufacturing base will require an estimated 5,200 new workers per year for the next 10 years, an estimated 1,200 skilled production jobs will go unfilled due to a lack of qualified employees...Recruiting the next generation of manufacturing workers is a key to filling this gap.²⁰⁴” Already, a number of institutionalized efforts – driven by policymakers, non-profit organizations, and private firms – are seeking to “upskill” Chicago's workforce to fit emerging positions, and to connect the highly skilled with opportunities.

A more fundamental challenge faced by the City – and one that cannot be filled through upskilling efforts – is how to connect employees in the traditional manufacturing

²⁰⁴ City of Chicago. “Chicago Sustainable Industries: A Business Plan for Manufacturing.” P. 28.

economy, or low-to-middle skilled young people, with positions in the new industrial workforce. These employees may possess few tech skills or formal education credentials. Opportunities are emerging to cultivate the skills necessary to participate in advanced manufacturing positions at an early age, and these programs or projects should be given further weight. The primary example is Austin Polytechnical Academy's Manufacturing Careers & College Connect (MCCC) program, which partners with private manufacturing firms in Chicago to provide middle and high school students with in-class training in computerized skills and formal apprenticeships to provide on-the-job training. Manufacturing Renaissance, the non-profit organization behind MCCC, views workforce development as beginning in kindergarten and ending on the job, and MCCC as an effort to "reorient education toward production."²⁰⁵ With a \$2.7 million grant from the Department of Labor, MCCC is currently being refashioned as a program that can be deployed across the Chicago Public Schools (CPS) system.²⁰⁶ Efforts like MCCC that focus explicitly on integrating marginalized communities into the new manufacturing economy – and that view technical education as beginning at an early age – should be grown and replicated. On a higher level, the City's workforce development efforts that link to the manufacturing industry should be grounded in an intent to provide employment within disinvested communities that may least easily benefit from the potential manufacturing renaissance today.

How does land use policy support these goals? As this thesis has demonstrated, land use protections for industry do not translate into equitable workforce development outcomes. To shift employer hiring patterns, the PMDs must be given more teeth, or be situated within a stronger institutional infrastructure that actively works to connect low-to-middle skilled Chicagoans with high-quality work. The recommendations provided above may help to move these objectives forward. Redevelopment opportunities on large-scale parcels like the Finkl Steel site, assessed below, provide another opportunity for the City to exert leverage that explicitly supports creating opportunity for the low-to-middle skilled. Accomplishing these goals, however, begins first with the direct acknowledgement in ongoing industrial planning that the most challenging to accommodate in the new industrial economy will be those who originally facilitated its growth.

6.2 / Emerging Policymaking: Applying Recommendations to the Finkl Steel Rezoning

In April 2016, the City of Chicago made an announcement widely viewed as a first step in the dismantling of the Clybourn Corridor planned manufacturing district designation. Through a press release, the Mayor's Office launched a public review of the City's stock of industrially zoned land with the goal of "modernizing restrictive zoning...and benefiting the entire city with new opportunities for investment, neighborhood jobs, and economic development."²⁰⁷ Though the scope of the review process, because of high-profile vacancy on the Finkl Steel site, it has been perceived as a signal that the administration is willing to dismantle the Clybourn Corridor PMD.

²⁰⁵ Swinney. In-person interview with author.

²⁰⁶ City of Chicago. *Mayor Emanuel announces Austin Polytechnical Academy receives \$2.7 million dollar grant from the U.S. Department of Labor* [Press Release]. 7 April 2014

²⁰⁷ City of Chicago. "Mayor Emanuel Announces Plan to Modernize Industrial Corridors. April 4 2016.

The City's plan is three-pronged, and represents an effort to signal support to the City's manufacturers while simultaneously opening space in the Clybourn Corridor to new development. Through the review process, it aims to:

“1) Develop ideas to improve industrial corridors that have the potential for new or continued manufacturing growth. In these corridors, the city will review market analyses and develop ideas for improvements and potential corridor boundary expansions to ensure they are more competitive.

2) Reform some industrial corridors to unlock new economic growth where industry is no longer the main driver. In areas such as the North Branch – [in which the Clybourn Corridor & Goose Island are situated] – where traditional industry is no longer the main economic driver and properties like the former A. Finkl & Sons Co. site are stagnant, the city will review existing and potential land uses to accommodate market demand for potential technology, commercial, residential or retail development.

3) Create a new funding tool to invest in industrial job centers, many of which are in proximity to neighborhoods in need of economic growth. To help address Chicago's shifting industrial landscape and increase the economic competitiveness of local neighborhoods, the Mayor will propose a fee on non-industrial developments in industrial corridors. That fee structure will be based on the impact those developments have on the city's overall industrial landscape. The funds generated will be dedicated to two purposes: supporting industrial expansion and manufacturing jobs in proximity to neighborhoods that need support, and supporting area infrastructure improvements to corridors transitioning away from traditional industrial use.²⁰⁸

The City's plan is well intentioned, and reflects efforts within the Department of Planning and Development (DPD) to reorient conversation around industrial land use from a site-specific to a citywide level. Kathy Dickhut, DPD Deputy Commissioner, and leader of the City's *Chicago Sustainable Industries* planning processes, is an advocate for a comprehensive planning process that can negate the politics of turf and send a positive signal to the City's manufacturers. “We need to look at the whole thing as a system,” she says, “Because people will perceive that getting rid of the PMDs means manufacturing isn't important; which isn't the case, manufacturing is important. The question is, where is it best to be located?²⁰⁹” Within DPD, there is a hope that industrial planning can be guided by the spatial preferences of industry today, rather than by the localized redevelopment pressures that localized land use debates to the site level.

Translating the goal of comprehensive planning into action, however, may be impeded by the prevailing economic climate and conflicting political will. The former Finkl Steel site represents one of the largest Near North Side development opportunities in

²⁰⁸ City of Chicago.

²⁰⁹ Dickhut. In-person interview by author.

decades, and while the Mayor's Office has a seat at the negotiating table, the City does not have the institutional or financial capacity to own or hold the land; controlling to whom it will be sold is not in its purview. To again quote Kathy Dickhut: "We do not have, like Boston or New York or Los Angeles, redevelopment authorities – what we have is a PMD. It's a different tool, and we have less control."²¹⁰ The suspected buyer of the Finkl site is tech-office developer Sterling Bay, a firm that has made its name through the redevelopment of industrial loft space, and their bid likely comes with a request for flexibility in the otherwise rigidly zoned core area of the Clybourn Corridor PMD.

Zoning is the City's primary land use control; however, in Chicago, zoning decisions are heavily influenced by ward-level politics. The new alderman of the ward in which the Finkl site is located, Brian Hopkins, is an opponent of the PMD seeking to both maintain a site-level dialogue and assert ward-level political strength. Though the PMD has long been perceived as an invulnerable designation, new ward leadership appears to have the capacity to influence that view. "We amend zoning designations all the time," says Hopkins, "At its core, that's what it is. No more and no less. It is more complicated because a PMD has never been removed before, but that won't be an obstacle. With the support of the administration, with my full support as an alderman, the process will not be an impediment to getting this done."²¹¹

Without the ward-level or mayoral will to retain industrial zoning on the Near North Side, and with a non-industrial development firm emerging as the likely bidder for the Finkl Site, it appears that the balance of power is in favor of the site-specific. Though the Finkl Steel site is unique in its size and locational advantage, its redevelopment will likely set an example for the reuse of industrial land throughout the CBD. By examining CBD PMDs through a microscope, and contextualizing them within the City's economic trajectory and policy history, this thesis can provide lessons for the Finkl site that can then be extrapolated to support citywide land use policymaking. Fundamentally, this thesis makes clear that CBD industrial space remains – when allowable – attractive space for employment-oriented use. This thesis also demonstrates the economic resilience generated by flexibility in uses allowable in industrial districts; as the City adds or amends industrial land use designation, it should incentivize the co-location of a variety of production-oriented uses.

6.2.1 / Critiquing Cross-Subsidization

Rather than being open-ended, Chicago's proposed review of industrial land stock has a clear objective that is geographically demarcated: to expand the boundaries of protected industrial land in peripheral neighborhoods where industry is stabilizing or growing, to refine or remove protections on downtown industrial space, and to establish a financial tool that enables the subsidization of industrial development in low-income areas. Like the review's citywide scope, the creation of a new funding tool is well intentioned. Structurally, the mechanism would levy a fee on non-industrial development in designated PMDs or industrial areas. David Doig, President of Pullman CDC Chicago Neighborhood Initiatives (CNI), and former DPD Deputy Commissioner, described the impetus for the tool:

²¹⁰ Dickhut. In-person interview by author.

²¹¹ Bloom, Mina. "Finkl Steel, surrounding properties could be homes, more." *DNAinfo*. 3 April 2016.

“So, you have this kind of mismatch between where the companies want to be and where the City is facing this other redevelopment pressure. So, we actually have proposed to the City that given some of these sites – Finkl, Chicago Paper Board, the Tribune building, Morton Salt, there’s like half a dozen or more that are in play now – I think the City’s going to capitulate and change it. So then the question becomes, are there more opportunities for linked development where the City can generate some resources; so, like, if you’re a Finkl Steel and you go from a manufacturing designation to something more mixed-use, you’re probably creating huge amounts of value, so is there a way the City can benefit from that and then take those resources, take that incremental value, to support development where it’s really needed.²¹²”

The goal is to capture market-driven value and direct it toward projects to which capital might not otherwise flow. In theory, particularly given the concentration of disinvested neighborhoods in Chicago, such a tool could provide a valuable source of resources at a point of relative city and state-level austerity. The capacity, implementation, and implications of such a program, however, are deserving of scrutiny, if only to ensure that as it is rolled out, the funding tool creates the intended impact.

In the April 2016 press release, Mayor Emanuel describes the cross-subsidization initiative as “[building] on the new norm we are establishing in Chicago where our thriving areas will help our neighborhoods in need of investment.²¹³” The precedent policy that he refers to is not specified, but it is reminiscent of the City’s Affordable Requirements Ordinance, which requires that a percentage of units in new multifamily development be designated as affordable. Prior to 2015, developers could pay a flat \$100,000 fee per unit toward the City’s Affordable Housing Trust and opt not to build on-site. In 2015, the Ordinance was amended to increase the in-lieu fee in accordance with the strength of the neighborhood real estate market; the prior fee had resulted in just 184 on-site units and \$19 million in aggregate AHT payments over the course of the decade.²¹⁴ Though the amendment has garnered substantial pushback from the development community, it ideally will result in both a greater number of designated affordable units built across the City and a relative deconcentration of poverty.

The ARO case is a strong example of well-intentioned public policy can have minimal impact if poorly structured; or can have negative ramifications, by seeking to achieve a stated goal – in this case, the production of new affordable units – but being unable to do so. The cross-subsidization mechanism is comparable for three reasons: it may be unable to achieve the stated goal and so may detract from the implementation of meaningful community development policy, it may hamper the resilience of industrial zones by limiting their flexibility, and it may result in a continued segregation of “lower” uses, like heavy industry, to communities of poverty on the City’s South and West sides.

The potential zoning-change fee has already generated some controversy over its capacity to be actualized. In response to its inclusion in the PMD review process, Alderman Hopkins of the 2nd ward speculated that cross-subsidy on the Finkl site may

²¹² David Doig. In-person interview by author.

²¹³ City of Chicago.

²¹⁴ Novara, Marisa. “Strengthening Chicago’s Affordable Requirements Ordinance for All.” *Metropolitan Planning Council*. 27 October 2014.

be impossible, given the costs of infrastructure development on-site.²¹⁵ Hopkins comment, though off the cuff, is indicative of the types of questions that must be asked before a zoning-change fee policy is implemented. The City must consider the likely cost of redeveloping former industrial sites for new uses, given likely remediation expenses, assemblage needs, and development costs. If new development is too costly to finance an in-lieu fee – or if mixed-use CBD development, like many existing planned developments in the CBD PMDs, is a recipient of public financing sources, like TIF – the existence of an in-lieu fee structure may simply paint the City in a better light as it gives a go-ahead on gentrification downtown.

Secondly, this thesis provides evidence of the value of flexibility in the allowable uses accommodated by industrial districts. As the heavy industry no longer saw value in locating in the City's central area and left the core area of Clybourn Corridor, the rigidity of allowable uses may have prevented new firms from locating in the district. Districts with an ability to accommodate office and retail space as of right, like Goose Island and the Kinzie Corridor, have proved resilient with respect to aggregate employment, though manufacturing job numbers have fallen. Encouraging a mix of uses that are compatible with manufacturing, and are employment-oriented, may be a better means of ensuring that the remaining PMDs can continue to retain employment against a backdrop of macroeconomic fluctuation and industry decline. Allowing flexibility may also support the districts as the production process transitions: as manufacturing becomes leaner, it is likely to "look" more like office or tech space, and policy should not seek to stymie that evolution. To avoid facilitating uniformly industrial development – or no new development at all – the City should ensure that the in-lieu fee is explicitly withheld from projects that incorporate uses that might be complementary to production.

Lastly, creating policy that incentivizes the location of productive use outside of Chicago's core runs the risk of segregating "lower" uses in lower-income neighborhoods. Finkl's relocation is one example of this potential pattern. In 2013, Finkl Steel's new factory space opened in Bronzeville, a predominantly black and low-income neighborhood, financed partially through a \$22.5 million TIF investment. Though community input is now actively sought to redevelop the former Finkl site, minimal community engagement appears to have been facilitated in Bronzeville prior to the firm's relocation. A 2013 *Chicago Tribune* article quotes Peggy Montes, president of the Bronzeville Children's Museum, located two blocks from the factory:

"What can we do now? Nothing." ... She said the time to question Finkl's move has long passed. Going forward, Montes said, the conversation should be focused on how the company can help the community. "We don't have a YMCA; we are missing a lot of community type services."²¹⁶

Though again, cross-subsidization to support job creation in disinvested communities is well intentioned, it is important that new funding be paired with a thoughtful approach both to industrial zoning in areas where manufacturing is now an attractive use and community engagement processes around new development. The original application of PMD zoning around the CBD thoughtfully considered the separation of homes and

²¹⁵ Ori, Ryan. "Mayor's move could bring homes, stores to Finkl site." *Crain's Chicago Business*. 2 April 2016.

²¹⁶ Cancino, Alejandra. "Steel company forges ahead with new South Side plant." *Chicago Tribune*. 20 January 2013.

community activity from heavy industrial use; new industrial designations should be equally thoughtful.

The Chicago Neighborhood Initiative's Pullman Park redevelopment is an example of thoughtful mixed-use development that is both anchored by industry and grounded in long-term community engagement processes. The 180-acre project, located on the site of a former steel mill, is the result of a 10-year community planning process in the Pullman neighborhood facilitated by CNI. David Doig describes the process: "We were much more open-ended in terms of what we were interested in hearing. The first thing is that we wanted to find out what people's needs were, what did people want. And then were four consistent themes that we heard."²¹⁷ The themes included a need for local retail, job creation, indoor recreation space, and affordable senior housing. An iterative community-based design process, coupled with neighborhood-led coalition-building, spurred a multi-phase development process that culminated in the acquisition of a clean soap factory in 2015. Pullman Park's retailers and Method Soaps are governed by community benefits agreements that mandate hiring, a wage premium, and philanthropic investment in the community.

Pullman Park isn't perfect: the community has had to make sacrifices with respect to the types of retailers it attracts, and though wages are set at a premium via the CBA, they are just a couple dollars over the state minimum wage. The development is also unique: Method Soaps took a triple-bottom line approach to its relocation decision-making, the scale of the parcel offered opportunities for non-conflicting mixed-use development that integrates industry, and the project was able to attract strong public support at the city and state-level for its community impact. CNI's leadership has strong ties to City Hall; and uniquely, the Pullman neighborhood received a national park designation in 2014. Projects like Pullman Park take time and are unlikely to be replicated rapidly or frequently. Pullman Park has, however, set a precedent for place-based industrial development that is attentive to community interest and need. In March of 2016, CNI and Whole Foods announced the siting of the firm's Midwest distribution facility in Pullman, anticipated to generate 150 jobs.²¹⁸ Projects like Pullman Park both set a precedent for future industrial mixed-use development and provide lessons with respect to community engagement that can be applied as the geography of industry, and public incentives to support it, shift within Chicago.

In sum, establishing a community investment mechanism through cross-subsidization is a laudable concept, particularly in a city characterized by concentrated pockets of poverty and wealth. Prior to establishing such a fee, however, the City must consider the impact of disincentivizing mixed-use industrial development in existing PMDs on their future economic resilience. It must also consider how industry will site on the South and West sides; just as active conversation is currently being undertaken to assess the potential for conflict between industrial and residential presence on the Near North Side, that conversation must be given equal weight as the City seeks to site industry in new places. The argument for job creation is not enough to warrant the siting and funding of industry in neighborhoods where conflicts of use will be generated; in an urban area characterized by a mix of density and uses, any new industrial siting must be zoned to ensure it will not conflict, and must undertake a community engagement process to ensure it is compatible with how people live and work in place today.

²¹⁷ Author interview.

²¹⁸ Trotter, Greg. "Whole Foods opening distribution center in Pullman." *Chicago Tribune*. 17 March 2016

6.3 / Leveraging Site-Specific Redevelopment Opportunities

What further lessons can the site-specific redevelopment opportunity made available by Finkl Steel's relocation offer to the debate over industrial land use in Chicago? The redevelopment of the Finkl Steel site will likely not be integrated into the City's comprehensive review of industrial land; given the politicization of the site and its current vacancy, it will be a site-specific redevelopment project. Redevelopment of the parcel, however, is an opportunity to integrate the core recommendations of this thesis – attention to the value of flexibility, and the need for an employment-focused economic development policy – to create a project that satisfies some of the goals that made PMDs both desirable and a necessity three decades ago.

The Finkl Steel site and adjacent parcels, all in the core area of the Clybourn Corridor designated for heavy industry, are vacant, and this thesis demonstrates clearly that heavy industry in Chicago's CBD is steadily declining. Whether the sites have remained empty in the long-term due to assemblage challenges or lengthy negotiations of sale remains unclear, but their vacancy has catalyzed local public debate that now must be addressed. Given the decline of heavy industry along the North Branch of the Chicago River, parcels in the Clybourn Corridor's core area likely should be rezoned to accommodate a broader range of uses. However, a 40-acre site adjacent to Chicago's most concentrated pocket of economic and employment growth presents a clear opportunity for the City to assert leverage as it attracts firms to anchor the site.

Chicago's current economic development strategy is often characterized (and criticized) as driven by efforts to attract corporate firms to the City. Under the Emanuel administration, just below 40 firms have relocated their corporate headquarters to Chicago, including conglomerates that drive global production processes, like Kraft Heinz and Archer Daniels Midland.²¹⁹ The corporate-center strategy is often criticized for its inability to generate employment or investment outside of the City's downtown. Structurally, the strategy is not facilitated to focus on neighborhood investment, but led by World Business Chicago. In City Hall, there is minimal leadership dedicated to neighborhood-scale community and economic development; though clear need is demonstrated across the City, a department does not exist that is explicitly tasked with supporting small business growth, local workforce needs, and community investment.

Though its impact would be small-scale, the Finkl Steel site could serve as an opportunity to reorient the City's corporate headquarters strategy. The site will clearly generate value for the developer and end user: the value generated through 1K Fulton, Google's Chicago headquarters, developed by Sterling Bay and refinanced for \$275 million, or twelve times the acquisition price, can serve as a comparable. Knowing the site's value, with a strong position at the negotiating table and a history of attracting high-profile companies to the City's downtown, the administration can use this opportunity as one to exert leverage on the employers that it wishes to attract. Piggybacking on its passage of a citywide minimum wage hike in 2012, a City-facilitated CBA could mandate a wage premium for service-sector employees; it could also require investment by that firm in dedicated adult education and training opportunities that are aligned with anticipated citywide growth sectors, like tech, education, and health care.

²¹⁹ Marek, Lynne. "Inside the private group that guides Chicago's economic development policy." *Crain's Chicago Business*. 10 October 2015.

The size of the site also offers opportunity to explicitly support small businesses and start-up firms with the ability to return capital to Chicago's neighborhoods. The City does not have an explicit small business development strategy, though citywide, it exhibits the 7th fastest growth in firms with 50 employees or less of U.S. metropolitan areas.²²⁰ The Finkl Steel site can serve as a prototype for space dedicated to small business owners; following the precedent set by cities like Cambridge, the City could mandate a portion of space priced at below-market rents and dedicated to use by start-up firms.

Finkl Steel is a CBD site, and the economic benefits of redevelopment will likely serve downtown residents. However, by exerting leverage with respect to anchor tenants and developing mandates to ensure space is allocated for local small businesses, the City can perhaps begin to reshape its corporate-center economic development strategy in support of Chicago's neighborhoods.

6.4 / Conclusion

Kathy Dickhut, Deputy Commissioner at DPD, is a champion for an integrated approach to land use planning. "We need to look at the whole thing as a system," she argues, "Because PMDs, you have such a constituency for them, and people think that if you undo one PMD, then it impacts all of them...Zoning is a really bad place to start, because people get really site-specific."²²¹ The case of the City's CBD PMDs reinforces the need for a planning perspective that frames industrial districts as small spaces within a wider urban and regional network.

Since their establishment in 1988, almost everything that characterizes planned manufacturing districts has changed. Prevalent sectors have risen and fallen, the industrial employment that spurred their creation has declined, and adjacent neighborhoods have undergone waves of redevelopment. The manufacturing sector has morphed, as well, from a labor-intensive industry employing people with a range of skill sets to one increasingly capital-intensive and advanced. Chicago is a new city, as well. In his *The Third City*, Bennett describes the loss of its manufacturing industry as "the most fundamental reshaper of Chicago since the 1950s, [a] wrenching and highly ambiguous transformation from an industrial to postindustrial metropolis."²²² Chicago today walks a fine line between the global city and austerity; deindustrialization has transformed the city into a destination, while leaving a swath of its communities behind.

Bennett also traces a portrait of Chicago that can be applied aptly to its industrial lands:

"In order to comprehend a city as complex as Chicago, one must employ both the panorama and street-level perspectives. From the standpoint of proposing a realistic normative vision of the city, it is equally necessary to try to harmonize large-scale urban processes and systems – transportation networks, school systems, and the like – with local neighborhood circumstances and resident preferences. Inevitably,

²²⁰ Marks Jarvis, Gail. "Small business job growth strong in Chicago and Illinois." *Chicago Tribune*. 3 November 2015. Citing IHS Global analysis of payroll records collected by payroll firm Paychex.

²²¹ Dickhut. In-person interview by author.

²²² Bennett 75

there is friction generated by the interplay of the panoramic and street-level. The music so produced may be compositionally coherent, but there is likely to be some measure of dissonance, local streets widened in the interest of citywide traffic management, the 'suboptimal' siting of some public facilities in lieu of demolishing a longstanding residential district.²²³"

The economic dynamics and politics of planned manufacturing districts play out at the neighborhood scale, and so must be perceived from that vantage point. But, the districts, and the activities that they support, are critical to the health of Chicago, and of the metropolitan region. Their ebbs and flows must be examined in relation to those of the broader geographies. As the City changes, as the economy evolves, a district that once housed steel mills may today better function as home to a cluster of production intertwined with open space. Urban industry today must be viewed relationally, from a sky-high vantage point, and with flexibility.

²²³ Bennett 21

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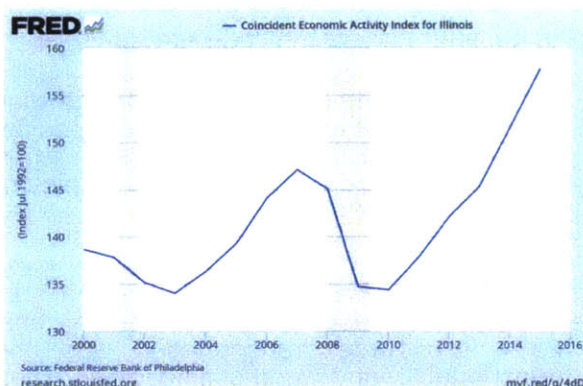
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Appendix C. Methodology

Timeframe. This thesis' evaluation charts changes in district-level economic indicators between two points in time. To control for the impact of fluctuations in macroeconomic activity over time, the years for evaluation are selected that represent similar positions in the business cycle, and are neither points of economic peak nor trough. The selection of years took place using the state-level Coincident Economic Activity Index for Illinois, which is a composite index created by the St. Louis Federal Reserve Bank inclusive of four variables: nonfarm payroll employment, the unemployment rate, average hours worked in manufacturing, and wages and salaries. The state's trend with respect to these indicators is set to match its trend for gross state product.²²⁴ As depicted in the chart at right, the years 2005 and 2013 parallel each other in two ways: they present similar index values (139 and 145, respectively) and are each at the midpoint of an expansionary period.



Longitudinal Employer-Household Dynamics (LEHD). To evaluate changes in employment by sector and workforce composition over time, this thesis uses data compiled by the Longitudinal Employer-Household Dynamics (LEHD) program, managed by the Center for Economic Studies at the U.S. Census Bureau. The LEHD program is the result of a federal-state collaboration, the Local Employment Dynamics (LED) Partnership, which merges data collected at the employee level with data collected at the employer level to create comprehensive annual labor market statistics that can be accessed at small-scale geographic levels.²²⁵

The compilation of the LEHD has led to the creation of several means of accessing data. This evaluation uses OnTheMap, an interactive web-based mapping and data extraction application that links and illustrates where workers are employed and where they live.²²⁶ Additionally, the application provides information on the age, earnings, and employment sectors of the workers surveyed; since 2009, it has also included data on race, ethnicity, educational attainment, and sex.

Most importantly, and uniquely, OnTheMap and the LEHD allow for the extraction of workforce data at small-scale and irregular geographies. Through the OnTheMap interface, data can be extracted to the census block level. Using ArcGIS shapefiles or KML files, the workforce indicators for irregular, non-standard, or local-level geographies such as Chicago's PMDs can also be extracted or examined. This evaluation uses shapefiles indicating the outlines of the Clybourn Corridor, Goose Island, and Kinzie Corridor PMDs, extracted from Chicago's zoning map using its Data Portal,²²⁷ to cull district-level labor force data from the years 2005 and 2013. The results of this extraction are used to examine three factors:

²²⁴ FRED Economic Data. "Coincident Economic Activity Index for Illinois." St. Louis Federal Reserve Bank. <https://research.stlouisfed.org/fred2/series/ILPHCI>

²²⁵ Longitudinal Employer-Household Dynamics. <http://lehd.ces.census.gov/>

²²⁶ Longitudinal Employer-Household Dynamics. "OnTheMap Help and Documentation." http://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap

²²⁷ City of Chicago Data Portal. "Boundaries – Zoning Districts (current)." <https://data.cityofchicago.org/Community-Economic-Development/Boundaries-Zoning-Districts-current-77cve-jgbp>

1) District-wide Employment Levels: Between 2005 and 2013, the number of workers employed in each PMD shifted substantially. Data extracted using OnTheMap allows us to understand employment growth or decline within each PMD over time.

2) Sectoral Mix: The OnTheMap application identifies the number of workers employed within each two-digit NAICS sector annually. Sector-level employee numbers allow for an understanding of sectors that are growing or declining within each district over time. By calculating the share of sector-specific employment relative to total employment within each PMD, we can also begin to understand whether aggregate employment growth or decline is attributable to employment change in certain sectors, or to change across the board.

OnTheMap also allows the user to narrow by sector in three semi-aggregated capacities: goods producing; trade, transportation, and utilities; and all other services. The goods producing sectors include construction and manufacturing (NAICS codes 23 – 33). Trade, transportation, and utilities include retail and wholesale trade, transportation and warehousing, and utilities (NAICS codes 22 and 42 – 49). The third category, all other services, includes all service sectors (NAICS codes 51 – 92). For the purposes of this thesis, with its particular focus on the local-level dynamics of the manufacturing industry, narrowing analysis to the level of goods producing sectors allowed for a stronger understanding of the workforce dynamics associated with the manufacturing industry, and how they relate to the dynamics of employment at the district-wide level. Narrowing to the level of trade, transportation, and utilities sectors, similarly, allowed this thesis to identify those as growing sectors in certain geographies with wage and age profiles that differed significantly from those examined in the manufacturing industry, and sometimes in the district on the whole.

3) Workforce Composition: Retrospective analyses of workforce composition using the LEHD are complicated, because the majority of demographic data (race, ethnicity, educational attainment, sex) is only available after 2009. Prior to 2009, two variables describing the workforce are available: age and wage levels. The age variable is categorical and describes the number of workers age 29 and below, between ages 30 and 55, and over the age of 55. Similarly, the wage variable is categorical, and describes the number of workers earning below \$1,250 per month (\$15,000 annually, or below minimum wage), between \$1,250 and \$3,333, and above \$3,333 (\$40,000 annually).

4) Comparisons across Geographies: Lastly, because OnTheMap facilitates the easy extraction of data at a variety of geographic levels, it allows for the comparison of economic and employment dynamics across geography. In this case, the economic and employment attributes of each PMD are compared against those of the City of Chicago's industrial corridors, its citywide boundaries, and the boundaries of the Chicago MSA. With this data in hand, location quotients can be produced to indicate whether certain geographies specialize in an industry relative to larger geographies, and whether that specialization changes over time.

County Business Patterns. Because the LEHD only allows for the extraction of data on at the 2-digit NAICS level, this evaluation uses data from County Business Patterns (CBP), an annual series compiled by the U.S. Census providing employee and firm counts by industry.²²⁸ CBP data can be extracted down to the 5-digit zip code geographic level. Because this thesis examines small-scale, irregular geographies that do not neatly intersect with zip code boundaries, it extracts and aggregates firm counts for the zip codes that each PMD falls within for the years 2005 and 2013. Each PMD fell within no more than three adjacent zip codes. Zip code-level firm counts were extracted and aggregated at the 6-digit, 4-digit, and 3-digit NAICS code levels, and counts by sub-sector were compared between each year to understand which sub-sectors

²²⁸ County Business Patterns. <https://www.census.gov/econ/cbp/>

experienced growth or decline over the timeframe. It is valuable to note that in 2012, the U.S. Census re-categorized certain sub-sectors to account for within-industry change over time. The re-categorization process may influence the accuracy of estimations of sub-sector growth or decline (as an example, the obsolescence of a sub-sector may have resulted in its re-categorization as a different 6-digit sub-sector within the same 3- or 4-digit NAICS code bucket). Because of the volume of data available, and this thesis' focus on the manufacturing industry, only sub-sectors of the manufacturing industry were included in this analysis.

Quarterly Census of Employment and Wages. Following the extraction of firm counts by sub-sector for each district, the evaluation identifies the average employee wage affiliated with each sub-sector using data from the 2013 Quarterly Census of Employment and Wages (QCEW). The QCEW, facilitated by the Bureau of Labor Statistics, publishes quarterly and annual counts of employment and wages covering 98% of US jobs, and available at a variety of geographic levels.²²⁹

To ensure that the wage counts associated with individual firms remain confidential, if the number of firms counted within a sub-sector is sufficiently small, associated aggregate wage counts are not publicly available. Because of low firm counts across numerous sub-sectors at the county level, this evaluation elected to use wage data available at the Illinois state level. In addition to firm counts, employee counts, and aggregate wage payments across sub-sector, the QCEW calculates the average weekly wage paid per employee. Using the average weekly wage, this evaluation calculates the average annual wage per employee.

Once wage data is matched with sub-sector data at the zip code level, we can illustrate how the average wage level changes over time, as sub-sectors of the manufacturing industry exit or enter. As an example, it allows us to understand how the average wages within the Clybourn Corridor have shifted as firms within the fabricated metals sub-sector have closed or relocated over the past decade.

It is valuable to note that this analysis does not reflect changes to the organizational or compensation structures internal to specific sub-sectors. Through this analysis, we are able to illustrate the impact of changes in the sub-sectors that comprise a district-level economy on the wages of local workers; however, it is likely that sub-sectors of industry have restructured over the past decade, as well. Capturing the effects of within-industry firm-level restructuring is a recommended direction for future research.

²²⁹ Quarterly Census of Employment and Wages. <http://www.bls.gov/cew/>