

The Geography of Production:
Chicago and its Industrial Corridor System
Chicago Department of Planning and Development

Chicago's Industrial Corridor system is a collection of 26 contiguous geographic areas ranging in size from 70 to 3,500 acres. Built over 150 years, the system is an essential part of the region's sustainable infrastructure because it provides a stable landscape for new and expanding manufacturers, wholesalers, and distribution companies to operate. The system also includes 15 Planned Manufacturing Districts (PMDs) that provide additional zoning protections to sections of the corridors. As Chicago's industrial subsectors change and evolve, they have the ability to mold the landscape and buildings to their needs while providing a range of job opportunities.

Chicago's industrial corridor system is an essential element in the region's economy. Losing land within a particular corridor can negatively impact the system as a whole. Loss of industrial space in PMDs is of particular concern because it can weaken land use protections and impact the viability of the City's industrial economy; therefore, actions should be taken to strengthen the system elsewhere.

Background

Today, manufacturing is among the region's largest and most prominent sectors, contributing \$53.9 billion in gross domestic product.ⁱ The strength of this sector is the result in large part of the efforts of business and civic leaders who enhanced the City's geographical position by creating multiple transportation networks to support wholesale trade and manufacturing. Once in place, industrial sites aligned with the transportation networks, guiding the physical layout of the city.ⁱⁱ This economic system (ecosystem) was, and continues to be, comprised of a diverse array of companies that continually move around within the industrial landscape, while others move in and out, and others incubate their businesses and skills nearby. Simultaneously, railroads and government have invested resources and created policies and programs to support the industrial corridor system.

In a 2012 report on American manufacturing by the Brookings Institute, Chicago was classified as having a diversified manufacturing economy as opposed to an economy based primarily on one sector such as information technology, automobiles, chemicals, food, or machinery.ⁱⁱⁱ Approximately half of the Chicago region's 392,000 manufacturing jobs are located in Cook County, one-third of which are in the city. Chicago's largest manufacturing subsectors are food (26 percent) and fabricated metal products (15 percent).^{iv}

Origins of the System

The 475-acre Union Stockyards, opened in 1865, initiated the region's formal planning efforts for industry, specifically focusing on meat packing and distribution. By 1909, the Stockyards was one of about 15 concentrated industrial areas depicted in the *Plan of Chicago*. The plan included "probable lines of growth" for industrial development, which was predicted to move away from the city center along rail lines and the river.

The Chicago Plan Commission, an outgrowth of the 1909 plan, continued to map and project industrial growth. Planners who produced the 1946 *Preliminary Comprehensive City Plan of Chicago* estimated that 14.5 percent of city land was then used for industrial and railroad uses, with an additional five percent needed to accommodate expansion and new industry.

System Planning

In 1952, the Chicago Plan Commission released the *Chicago Industrial Study* with data backing up this projection. The Plan Commission noted that approximately 80 percent the metropolitan area's manufacturing companies and jobs were within Chicago, and that the city's "favorable industrial location and distribution point" would continue to make it attractive to industry. The commission projected that demand for industrial land could be expected from companies attracted to Chicago, but that the principal demand would come from existing companies. The Plan Commission pointed out that existing companies were continually relocating and replacing obsolete buildings, with approximately one-third located outside of concentrated industrial areas.

The Plan Commission recommended several actions, including development of an "industrial performance code" to govern industrial layout, proper planning of roads, trucks, and mass transit facilities, and relocating manufacturing plants to dedicated industrial districts. The recommendation was promulgated in 1957 through a revision to the zoning code that established performance standards to regulate issues such as noise and emissions produced at industrial sites.^v

The *Chicago Industrial Study* was intended to serve as the basis for the city's policy on industrial planning and zoning and as the basis for formulating an industrial land use plan. Six of the 12 industrial planning principles read as follows:

- Chicago requires a strong industrial base in order to maintain its economic well-being and to support, through taxes, the necessary community services and improvements.

- The City Plan should guide industrial location into a desirable and efficient pattern by providing space for the expansion of existing plants, for new industrial locating in Chicago, for especially designed streets, and for the related services and facilities.
- Industrial potentialities of land having favorable relationship to transportation routes and facilities should be recognized in the planning process.
- Street layout in industrial areas requires special consideration of the design requirements of modern industry.
- Industrial land use should not generally be indiscriminately scattered among other land uses and other uses should generally be eliminated from industrial areas.
- The demand for industrial land in Chicago will continue to be at least moderate as a result of the expansion and relocation of existing industries and the establishment of new industries.

Twelve years later, planners adjusted the numbers, stating that 51 percent of the region's manufacturing employment was within the city. From 1958 to 1961, 150 firms left the city and 24 percent of manufacturers new to the region chose the city. As the Plan Commission predicted, the principal source for city land demand came from existing companies. From 1947 through 1961, there were more than 1,100 on-site expansions in Chicago and more than 900 companies moving from one city location to another city location. Planners estimated that 12 percent of all city land was used for industrial or railroad purposes and projected the need for a 14 percent increase in the future.

In the *Basic Policies for the Comprehensive Plan of Chicago*, published in 1964, the Planning Department and the Chicago Plan Commission acknowledged a change among manufacturers in local industrial corridors. Modern industrial technology was reducing the number of workers per acre because fewer, more highly skilled workers, were now operating complex machinery. In addition, many companies preferred one- or two-story plants with off-street parking and loading spaces. This preference resulted in companies needing more land with fewer jobs. Planners were clear that the "city must face up to other problems in the sound development of industrial land. Although there seem to be many sites potentially available for industry, tracts are often split into too many small parcels, or owners are holding land off the market until it can command the price they want."

The direction of industrial movement was primarily to the Northwest Side of the city and nearby suburbs due to availability of vacant land adjacent to new expressways. Given this

situation, the overall goal was to make more land available for expansions and relocations by addressing environmental and transportation issues in areas served by rail and water. Specific actions were recommended: develop industrial districts closely related to transportation facilities; relocate scattered industry into the industrial corridors; and improve the accessibility and environmental quality of large industrial areas, specifically in the Calumet area. Special service and assistance should also be provided to industries wishing to move to the city or expand. A 1964 plan included a recommendation to upgrade and expand the job skills of the labor force through education.

Expanding the Tool Kit for Managing the System

In 1985, the Department of Planning and Development initiated the Local Industrial Retention Initiative (LIRI) program, which for the next 20 years was the primary delivery vehicle for direct economic development services to small manufacturing firms in Chicago.^{vi} Similarly, in 1988 the Hollings Manufacturing Extension Partnership (MEP) was initiated within the National Institute of Standards and Technology, a U.S. Department of Commerce agency. MEP organizations partner with government, academic, and business support groups to provide services directly to small and mid-sized manufacturers to help them be more competitive.^{vii}

During the 1980s, parts of Chicago began to experience a residential real estate boom. Along the North Branch of the Chicago River, industrial land was being sold and developed into large one-story commercial establishments, and older multi-story buildings began to be reused for lofts and offices. Manufacturers, the non-profit industrial advocacy group, the Local Economic and Employment Development (LEED) Council, and the Department of Planning and Development proposed land use policies to protect residential uses from encroaching into the industrial corridors. A new zoning tool, the Planned Manufacturing Districts (PMD), was created that restricted residential uses. From 1988 through 1990, three PMDs were established within the North Branch Industrial Corridor. The PMDs include a core and buffer zones, which reflects the belief that commercial uses allowed in the buffer zones are less disruptive than residential uses.^{viii}

During the first half of the 1990s, the Chicago Department of Planning produced, and the Chicago Plan Commission adopted, a comprehensive industrial land-use policy covering the north, south, and west sides of the city.^{ix} The plans for the three areas were to be implemented through zoning review and targeted public investments. Nine implementation strategies were set out:

1. Adopt an industrial land use plan that designates viable and well-defined industrial corridors. Industrial corridors designated in this industrial land use plan should be considered areas of the city's highest priority for long-term industrial development and investment.
2. Maintain the industrial integrity of the corridor by requiring that proposals for non-industrial development and proposals for rezoning to nonindustrial districts be approved as planned developments. In general, rezoning any land located within a corridor to non-industrial zoning classification should be avoided. It is recognized, however, that such rezoning may be appropriate in particular cases.
3. Continue the selective use of the Planned Manufacturing District mechanism as a tool for assuring stability of land use in the city's industrial areas.
4. Amend the provisions of the Chicago Zoning Ordinance applicable to the manufacturing zoning districts to provide for a classification of uses and associated development standards that are congruent with the needs of modern industrial development.
5. Rezone the non-industrial zoned properties within the corridor and, as necessary, existing industrially zoned properties consistent with the appropriate modified M-zoning category.
6. When reviewing any proposed rezoning of industrial property located outside of the corridors, include considerations of the impact upon any nearby viable industrial development.
7. Establish an interdepartmental program to identify and regularly update the infrastructure needs of industry throughout the city.
8. Feature the industrial park opportunities identified in the land use plan in citywide programs to attract, expand and retain industry.
9. Identify Rail Access Development Areas and foster a closer relationship between the railroads and the city to enhance the development and marketing of all rail properties and services.

Boundaries of the industrial corridor system took on additional significance with passage of the Chicago Zoning Ordinance of 2004. Section 17-13-0400 of the new code required that the Plan Commission hold a public hearing on requests to rezone land to a non-industrial use within an industrial corridor and make a recommendation to the City Council Committee on Zoning. Section 17-17-0274 defines "industrial corridor" as any area that has been designated as a

priority area for industrial development or retention in a plan approved by the Plan Commission or City Council. The *Corridors of Industrial Opportunity* adopted by the Chicago Plan Commission in November 2004 provides legal boundary descriptions for each of the 24 Industrial Corridors.^x

Fifteen PMDs were approved by the Chicago City Council between 1988 and 2007, each at the core of a designated industrial corridor. Chicago's PMDs attracted interest from other U.S. cities and researchers. Professors from the University of Wisconsin-Milwaukee produced a report on the first three PMDs.^{xi} They concluded that the Clybourn, Goose Island, and Elston PMDs had preserved a substantial number of jobs "in an area of the city that, but for the PMDs, would have likely transitioned from industrial to residential. With respect to overall job and business creation and retention, the PMDs have performed remarkably well." However, they observed a transformation in the type of business activity. Manufacturing was a smaller proportion of economic activity, and the manufacturers were less likely to be in traditional heavy manufacturing. They recommended that PMDs be preserved as long as they are necessary to protect owners from encroachment by incompatible land uses. PMDs should be reconsidered only when owners of industrial property cease operations.

As first noted by planners in 1964, manufacturing continues to require fewer employees and more space, while increasing in productivity. In 2011, with a grant from the U.S. Department of Commerce, DPD published phase one of a manufacturing work plan. The document included a map of each of the industrial corridors, detailing existing land uses, zoning, acreage, and number of jobs and the names of the applicable tax increment financing (TIF) districts. The document was distributed to a public steering committee that met for the next two years to develop a strategy to guide public resources to promote the viability of Chicago's manufacturing base. The term "Sustainable Industries" was introduced, defined as the "base sectors" that either export goods or services or provide crucial support to the companies that do. Chicago's sustainable industries possess operating needs and requirements that align with the area's indigenous assets (market demand, industrial base, workforce, real estate, transportation, and technology) and provide good-paying jobs for residents.^{xii}

The final plan adopted in 2013,^{xiii} reinforced many of the strategies and policies of past plans. The city's goal, according to the Chicago Sustainable Industries (CSI) plan, is to maintain the integrity and increase the effectiveness of concentrated manufacturing; maintain a strong zoning classification for manufacturing; and ensure that the range of compatible uses is clear, evolves with technology, and takes full advantage of local transportation infrastructure. As a result, CSI's first five action items include goals to:

- Selectively revise corridor boundaries to include adjacent land that is zoned for manufacturing and ensure that all intermodal facilities are within Industrial Corridors.
- Amend the Zoning Code to provide a 21st Century definition of manufacturing; clarify existing manufacturing uses; address changes in manufacturing and compatible uses within PMDs; and provide boundary amendments for PMDs.
- Designate the Dan Ryan Industrial Corridor in the Englewood community to incorporate the expanding Norfolk Southern railroad facilities.
- Amend the Industrial Corridor boundaries and zoning of the Lake Calumet area to reflect existing uses.
- Develop an integrated vision, land use and infrastructure plan for the Illinois Port District and Lake Calumet properties for manufacturing.

Since CSI was adopted, the Chicago Plan Commission approved two more industrial corridors, and DPD has conducted analyses of the PMD code, industrial waterway usage, and manufacturing incubator facilities.

How Businesses Move within the System

Planners in the 1960s recognized that relocations were not always the best option and therefore “large, good quality plants” should be maintained at their present sites. S&C Electric Co., which manufactures electrical fuses and switches, may have been the kind of facility that led to this recommendation. The company began in 1909 when two Commonwealth Edison employees developed a new product to solve an existing problem at the Fisk power plant. Two years later, they opened their first shop near what is today the Ravenswood Industrial Corridor. Over a period of 35 years, they moved twice and expanded in place once in the same general area. In 1947, they began acquiring property along the Ravenswood rail line at the northern edge of the city, eventually creating their own industrial enclave of 45 acres. In 2013, S&C had had about 1,800 employees started construction on a new four-story building, with engineering offices in Wisconsin, California, Washington, and Florida and subsidiaries in Canada, Brazil, Mexico, the United Kingdom, and China.^{xiv}

As early as 1964, planners were recommending special assistance to relocate the wholesale food markets at Randolph, Fulton, and South Water Street, which by then were viewed as “inefficient and obsolete” in design. The city’s food markets have relocated throughout the

city’s history. Select examples include the Chicago International Produce Market built in the Pilsen Industrial Corridor, Testa Produce in the Stockyards and, more recently, food wholesalers moving from the Fulton Market area of the Kinzie Corridor to the Stevenson Industrial Corridor.

Another example is the Finkl steel plant, located in the North Branch Industrial Corridor since 1902. Protecting Finkl steel, and its industrial neighbors, was the impetus for the creation of the City’s PMDs.^{xv} The Clybourn PMD was the first to be created and included Finkl, the Lakin tire recycling facility, and Gutman Tannery. The Finkl steel operations were moved to a new facility in the Burnside Industrial Corridor a few years ago, supported with TIF.

While some manufacturers and wholesalers are moving out of the Kinzie and North Branch corridors to other parts of the city, information and technology firms are moving in to take advantage of public transit and proximity to the Loop. These “virtual making” businesses usually employ many more people and prefer buildings set in an environment that offers human-scale amenities as opposed to an environment favoring large equipment and trucks. Meanwhile, in other parts of Chicago’s industrial corridor system, there is demand for wholesale and distribution facilities, especially along I-55 and I 90/94, and any large vacant sites are being remediated for spec industrial buildings.

The Importance of Existing Industrial Buildings within the System^{xvi}

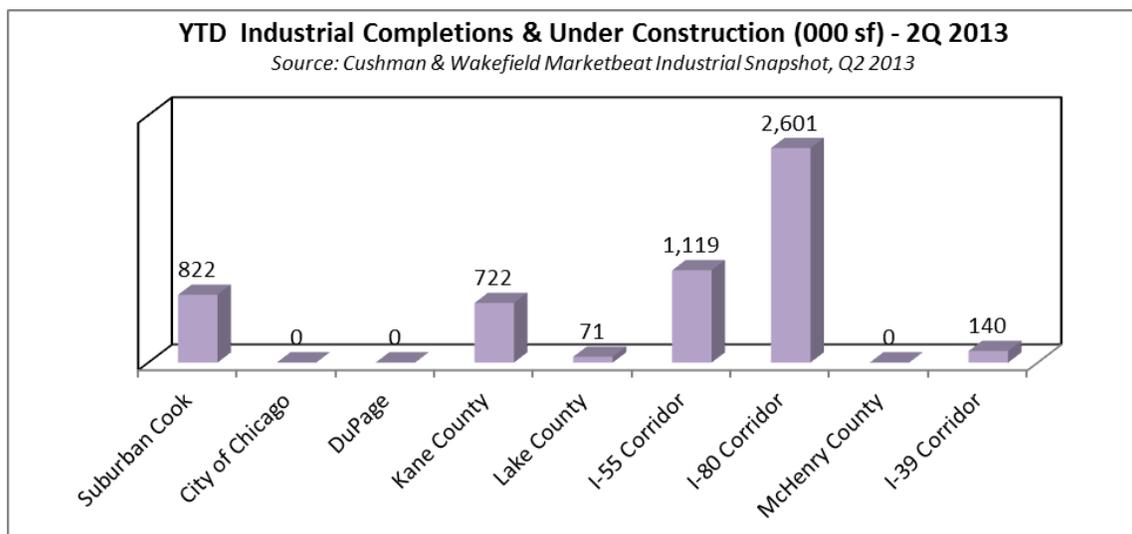
Much of the potential for future industrial growth and investment in Chicago centers on the city’s existing building stock, not only because most of Chicago’s industrial areas are already built-out, but also because ground-up industrial development is nearly always more costly than building reuse, and often not cost-competitive with new development on greenfield sites outside the city. Figure 1 below summarizes the magnitude of new building construction and renovations over the past 10 years in the metropolitan area.

Figure 1

Industrial Space Additions 2003-2013		
	New Construction (Square Feet)	Renovations (Square Feet)
City of Chicago	3,777,133	3,766,506
Suburban Cook County	17,753,645	5,209,138
Lake County	6,479,622	888,241
Will County	52,900,938	1,173,471
Totals	84,579,012	13,015,542
<i>Sources: CoStar; Cushman and Wakefield; CB Richard Ellis; Reed Construction Data; Applied Real Estate Analysis, Inc.</i>		

The data above illustrate that the bulk of industrial space built recently has been in the suburbs (most notably in Will County), but that the relative importance of building *renovations* to total space deliveries is strongest in the city, constituting half of all space delivered. Figure 2 is a snapshot of current new industrial space construction, summarizing the square footage completed and under way as of the end of the second quarter of 2013. This figure further illustrates the dominance of the I-55 and I-80 corridors with regard to new industrial construction in the region.

Figure 2



Opportunities for new industrial space development in the city remain. Build-to-suit development is likely to continue in key locations in Chicago, and the city has a key role in facilitating such opportunities. However, a very large part of the city’s industrial investment potential focuses on Chicago’s existing building stock. Figures 3 below provide a summary of the building age, spatial characteristics, and vacancy rates of the building stock within each of Chicago PMDs and Industrial Corridors.

Figure 3

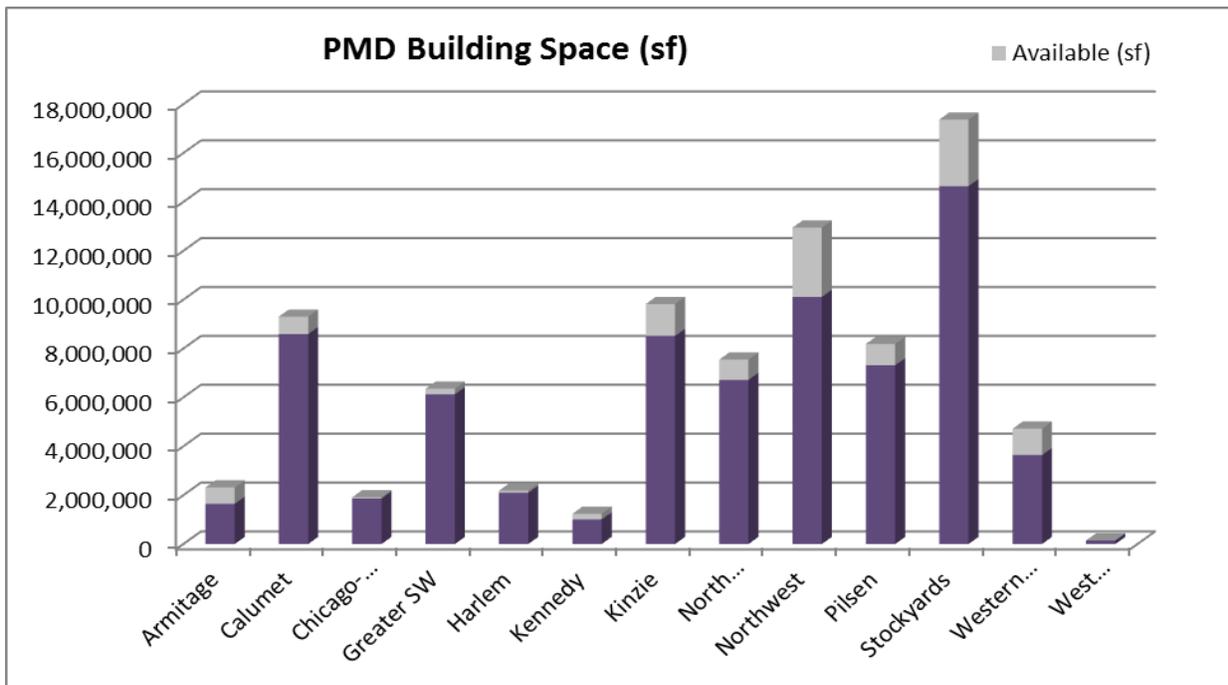
PMD	Total Space (sf)	Available (sf)	Available (%)	>1 story (% bldgs.)
Armitage	2,312,731	667,964	28.9%	22.2%
Calumet	9,304,579	714,098	7.7%	5.9%
Chicago-Halsted	1,915,494	49,891	2.6%	55.6%
Greater SW	6,352,100	224,824	3.5%	6.1%

PMD	Total Space (sf)	Available (sf)	Available (%)	>1 story (% bldgs.)
Harlem	2,185,694	86,150	3.9%	1.7%
Kennedy	1,237,456	229,723	18.6%	6.3%
Kinzie	9,820,199	1,307,515	13.3%	45.5%
North Branch	7,541,341	825,765	10.9%	44.2%
Northwest	12,944,356	2,834,666	21.9%	27.0%
Pilsen	8,189,804	875,841	10.7%	43.1%
Stockyards	17,365,224	2,720,835	15.7%	33.8%
Western Ogden	4,719,121	1,079,098	22.9%	50.0%
West Pullman	147,261	0	0.0%	33.3%
TOTALS	82,119,866	11,566,479	14.1%	35.5%

Source: Costar

The five largest PMDs (Stockyards, Northwest, Kinzie, Calumet, and Pilsen) contain more than 70 percent of all PMD building space, while the smallest five (West Pullman, Kennedy, Chicago-Halsted, Armitage, and Harlem) contain less than 10 percent. Figure 4 below re-states the data visually to give a better sense of the relative magnitudes of industrial building space in each PMD.

Figure 4



The same building data are summarized in Figures 5 and 6 below for non-PMD Industrial Corridors, illustrating the generally smaller scale of non-PMD Industrial Corridors.

Figure 5

Industrial Corridor	Total Space (sf)	Available (sf)	Available (%)	>1 story (% bldgs.)
Addison	2,313,385	479,673	20.7%	9.4%
Brighton Park	6,975,295	1,033,446	14.8%	11.5%
Burnside	3,714,417	644,406	17.3%	0.0%
Elston-Armstrong	997,127	30,387	3.0%	13.6%
Knox	1,794,279	171,725	9.6%	9.1%
Little Village	4,490,541	1,154,962	25.7%	9.3%
Northwest HWY	1,241,494	165,645	13.3%	24.3%
Peterson	1,586,799	133,215	8.4%	15.6%
Pulaski	5,401,166	2,129,889	39.4%	29.7%
Pullman	2,985,911	99,247	3.3%	10.3%
Ravenswood	2,189,580	53,165	2.4%	53.2%
Roosevelt-Cicero	8,707,064	1,282,549	14.7%	29.9%
Stevenson	12,872,084	2,551,616	19.8%	8.1%
Wright	880,265	33,524	3.8%	0.0%
TOTALS	56,149,407	9,963,449	17.7%	16.8%

Source: Costar

Figure 6

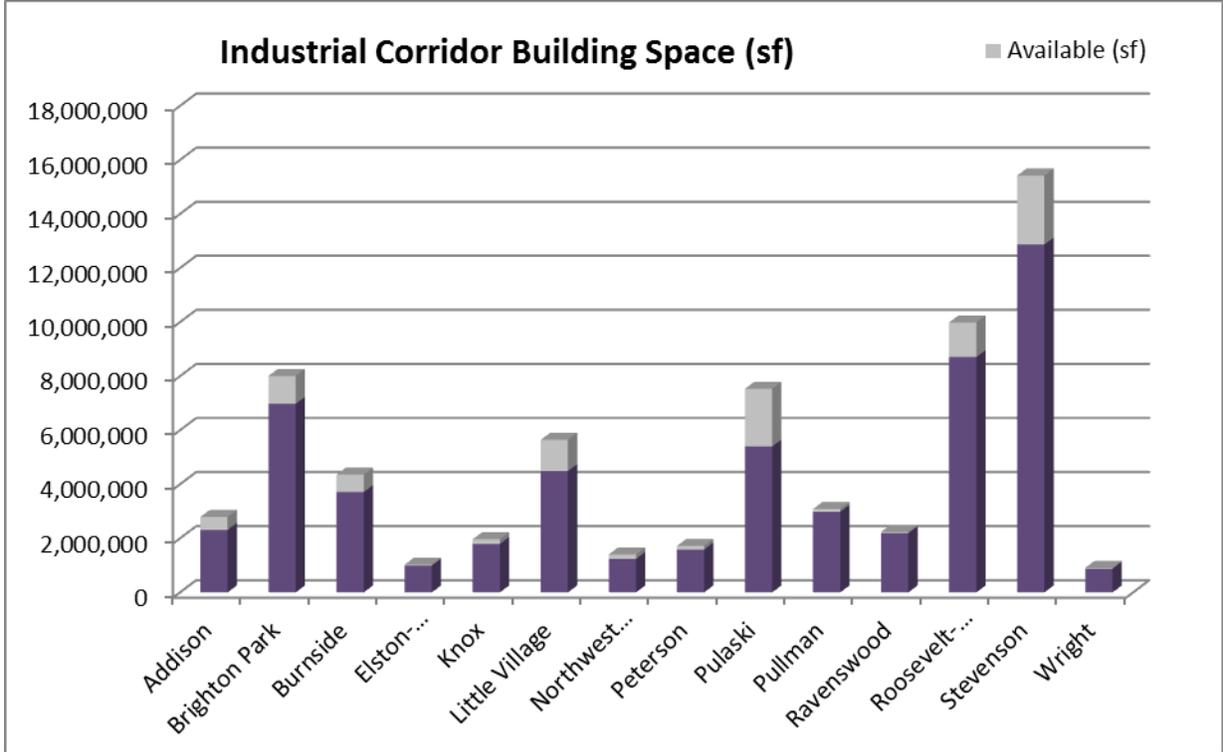


Figure 7 shows the average age of buildings in each PMD and non-PMD industrial corridor, from newest to oldest. It is not surprising that the oldest building stock is general located in industrial areas closest to the Central Business District, where much of the earliest industrial development occurred. Also included in the figure for comparison are select competitive suburban submarkets, illustrating that the city’s building stock is – with some variation -- generally among the oldest. This comparison does not include the newest submarkets farther out along the I-55 and I-80 corridors where the bulk of new distribution space is being built today, as those markets and Chicago are generally not competing head-to-head with Chicago for the same users.

Figure 7

Average Age of Industrial Buildings			
Willowbrook/Willow Springs	1987	Pullman IC	1953
McCook	1983	Stevenson IC	1953
Northbrook	1977	Armitage PMD	1952
Elk Grove Village	1976	Cicero	1952
Alsip	1975	Addison IC	1951
Harlem PMD	1971	Stockyards PMD	1950

Des Plaines	1970		Hammond	1948
Bedford Park	1968		Kennedy PMD	1948
Franklin Park	1966		Brighton Park IC	1946
Summit / Argo	1964		North Branch PMDs	1946
Calumet PMD	1963		Pulaski IC	1945
Peterson IC	1960		Roosevelt-Cicero IC	1942
Elston-Armstrong IC	1955		Pilsen PMD	1941
Burnside IC	1954		Kinzie PMD	1939
Greater SW PMD	1954		Ravenswood IC	1938
Knox IC	1953		Chicago-Halsted PMD	1937
Little Village IC	1953		East Chicago	1934
<i>Source: Costar</i>				
			<i>Chicago PMDs and Industrial Corridors</i>	
			<i>Select Suburbs</i>	

Addressing Impacts to the System

Pressure to convert industrial zoned properties led to the development and implementation of protections through planning and zoning to keep land from being converted. Rezoning within these protected areas can diminish these protections locally, through encroaching uses and on the system by diminishing the land available for industrial uses as a whole.

Industrial land in Chicago can be viewed as a finite economic resource similar to farmland or similar to the way wetlands are viewed as an ecological resource. Examples of mitigation and replacement programs exist for loss of farmland and wetlands due to competing development interests. The Chicago Department of Planning and Development is researching the structure and application of an impact fee designed to maintain and improve the viability of the Industrial Corridor system. The basic premise of such a fee is generally modeled on California’s loss of farmland mitigation and similar wetlands mitigation fees.

A proposed fee would be assessed on properties in areas undergoing a transition from primarily industrial uses to an area that functions as a modern job center. Such areas could include a wider mix of uses such as larger office and commercial spaces and potentially residential uses all of which would complement job generating businesses. The rationale for an industrial fee would be that rezoning within Industrial Corridors and Planned Manufacturing Districts weakens the City-wide system by reducing the amount of land available for industrial uses. Therefore, preserving and/or improving the function of industrial land in other corridors would mitigate the loss of industrial land in converting areas. While preserving and enhancing land is

essential, as noted above, the Industrial Corridor System includes land, buildings and infrastructure, all of which contribute to the viability of the system. A proposed fee would need to address the loss of all of these components and would include elements to replace them in other parts of the system. Principles governing this fee are:

Principle 1 - The industrial corridor system is an essential element in the region's economy. Losing industrial land within a corridor negatively impacts affects the entire system. A fee assessed on properties converting from an industrial use enable the Ccity to strengthen the system elsewhere.

Principle 2 – The industrial corridor system contains buildings that were specifically developed for industrial uses over the last 100 years. Buildings that are reused for job generating activities would be exempt from a fee.

A proposed fee would be charged per square foot for potential redevelopment of industrial property to nonindustrial use. Such a fee would be based on the cost per square foot to replace industrial property lost to redevelopment or to improve industrial property within the industrial corridor system which includes the following variables.

Acquisition – The median cost per square foot to acquire industrial property in the Industrial Corridor System.

Rehabilitation or construction – The average cost of rehabilitating industrial buildings or preparing property for industrial redevelopment within the industrial Corridor System.

Environmental remediation – The average cost of environmental site remediation.

Local industrial street improvements – An estimated cost of reconstructing or improving a local industrial street.

Developer's share – The cost of replacing or maintaining the integrity of the industrial system is not entirely the responsibility of the developer. Developers would only pay a reasonable amount of the cost to replace industrial property that doesn't exceed the cost of mitigation but represents a reasonable contribution.

Updates to fee

The Department of Planning and Development would update the fee with current data every five years. This may include identifying new data sources and methods to improve the fee calculation or may also include changes to fee administration or application of funds.

Eligible uses of funds

Funds generated through the proposed fee would be used to increase jobs and enhance the viability of Chicago's industrial Corridor System. Eligible costs could include:

Acquisition – costs to acquire land and buildings for industrial development and use.

Environmental remediation – costs for environmental site assessment and remediation.

Site preparation – costs to demolish substandard, obsolete or vacant buildings and structures, dynamic compaction, and grading.

Building rehabilitation – costs to rehabilitate and repurpose underutilized and out-of-date industrial buildings for modern industrial uses and current industry needs.

Support infrastructure – costs to provide key support infrastructure where it is missing, such as water sewage, electricity, and road access.

Approval of expenditures

Only industrial projects would be eligible. Any grant or loan of funds for a private project, regardless of size, would require City Council approval.

ⁱ Plan for Economic Growth and Jobs. World Business Chicago. March 2012.

ⁱⁱ The Encyclopedia of Chicago, Economic Geography. Edited by James R. Grossman, Ann Durkin Keating, and Janice L. Reiff.

ⁱⁱⁱ Locating American Manufacturing: Trends in the Geography of Production. Susan Helper, Timothy Krueger and Howard Wial. Metropolitan Policy Program at Brookings. April 2012.

^{iv} Locating Chicago Manufacturing: The Geography of Production in Metropolitan Chicago. Howard Wial. February 2013. Published by the Center for Urban Economic Development at the University of Illinois at Chicago.

^v The Politics of Place – A History of Zoning in Chicago, Appendix A. Joseph P. Schwierterman and Dana M. Caspell. 2006. Lake Claremont Press, Chicago IL.

^{vi} Analysis of the Local Industrial Retention Initiative on behalf of the City of Chicago Department of Planning and Development. Heidi B. Sally, Research Associate, Center for Urban Economic Development, University of Illinois at Chicago. August 23, 2006.

^{vii} <http://www.nist.gov/mep/about/>

^{viii} Ibid

^{ix} Corridors of Industrial Opportunity-A Plan for Industry on Chicago's West Side. Adopted by the Chicago Plan Commission March 12, 1992; Corridors of Industrial Opportunity-A Plan for Industry on Chicago's North Side.

Adopted by the Chicago Plan Commission, November 10, 1993. Corridors of Industrial Opportunity-A Plan for Industry on Chicago's South Side. Adopted by the Chicago Plan Commission March 1995. City of Chicago Department of Planning and Development.

^x Corridors of Industrial Opportunity-A Plan for Industry in Chicago. City of Chicago Department of Planning and Development. Adopted by the Chicago Plan Commission November 18, 2004.

^{xi} Curbing Industrial Decline or Thwarting Redevelopment? An Evaluation of Chicago's Clybourn Corridor, Goose Island, and Elston Corridor Planned Manufacturing Districts. A report prepared by The University of Wisconsin-Milwaukee Center for Economic Development. November 2005.

^{xii} Chicago Sustainable Industries Phase One: A Manufacturing Work Plan for the 21st Century. City of Chicago Department of Planning and Development. March 2011.

^{xiii} Chicago Sustainable Industries – A business plan for manufacturing. City of Chicago Department of Housing and Economic Development. November 2013

^{xiv} http://rpwrhs.org/w/index.php?title=S%26C_Electric_Company. Rogers Park/West Ridge Historical Society.

^{xv} <http://beltmag.com/manufacturing-consent-chicagos-oldest-steel-mill-will-soon-demolished-will-replace-gone/>

^{xvi} The text for this section has been taken from the "Planned Manufacturing District Modernization Report" prepared by U.S. Equities Realty for the City of Chicago Department of Housing and Economic Development, September 9, 2013.