METROPOLITAN CHICAGO'S TRADED INDUSTRY CLUSTERS

Strengthening the industries that sustain regional growth



EXECUTIVE SUMMARY

CMAP



Key takeaways

Metropolitan Chicago is falling behind economically because our past economic drivers — our traded industry clusters — are declining without being replaced by new sources of growth.

Traded clusters propel the regional economy and provide better jobs. They account for around one-third of the region's total jobs but more than half of its wages.

Most traded clusters are not keeping up with peer regions or national averages. Declines are concentrated in traded clusters that employ more people of color and workers without a college degree.

Metropolitan Chicago needs a regional economic strategy that prioritizes investment in our traded clusters. Doing so will require a deep understanding of what businesses need to compete successfully in a modern economy.

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Visit this executive summary and the full technical report at **http://cmap.is/TradedClusters**.

Challenge: Slow economic growth has reduced opportunities for all

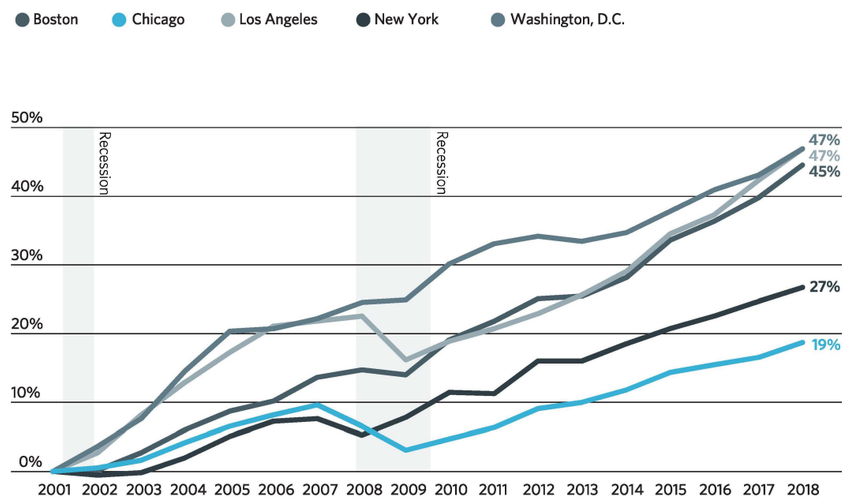
Economic data show that metropolitan Chicago has been in a period of prolonged slow growth since 2001. We are growing at less than half the rate of the U.S. overall and falling further behind peer regions. By almost any measure—like job growth, earnings, innovation, and population change—the story remains the same: our region is not fulfilling its economic potential and is failing to ensure adequate opportunities for all of its residents, particularly people of color. As our labor market lags behind peer regions, low- and moderate-income residents are leaving to seek economic opportunity elsewhere.

Economic growth in metropolitan Chicago has lagged behind our peers.

Cumulative change in real gross regional product in select metropolitan areas, 2001-18

Note: Index year 2001.

Source: Chicago Metropolitan Agency for Planning analysis of U.S. Bureau of Economic Analysis data.



The Chicago region has the highest black unemployment among the top 25 metropolitan areas.

CHICAGO
PHILADELPHIA
DETROIT
SAN DIEGO
LOS ANGELES
HOUSTON
ST. LOUIS
ORLANDO
BOSTON
MIAMI
NEW YORK
RIVERSIDE
PHOENIX
SAN FRANCISCO
SEATTLE
WASHINGTON, D.C.
CHARLOTTE
MINNEAPOLIS
ATLANTA
DENVER
BALTIMORE
DALLAS
TAMPA
SAN ANTONIO
PORTLAND

Note: Unemployed as a percentage of total civilian workforce in metropolitan statistical areas, age 16-64, expressed as font size.

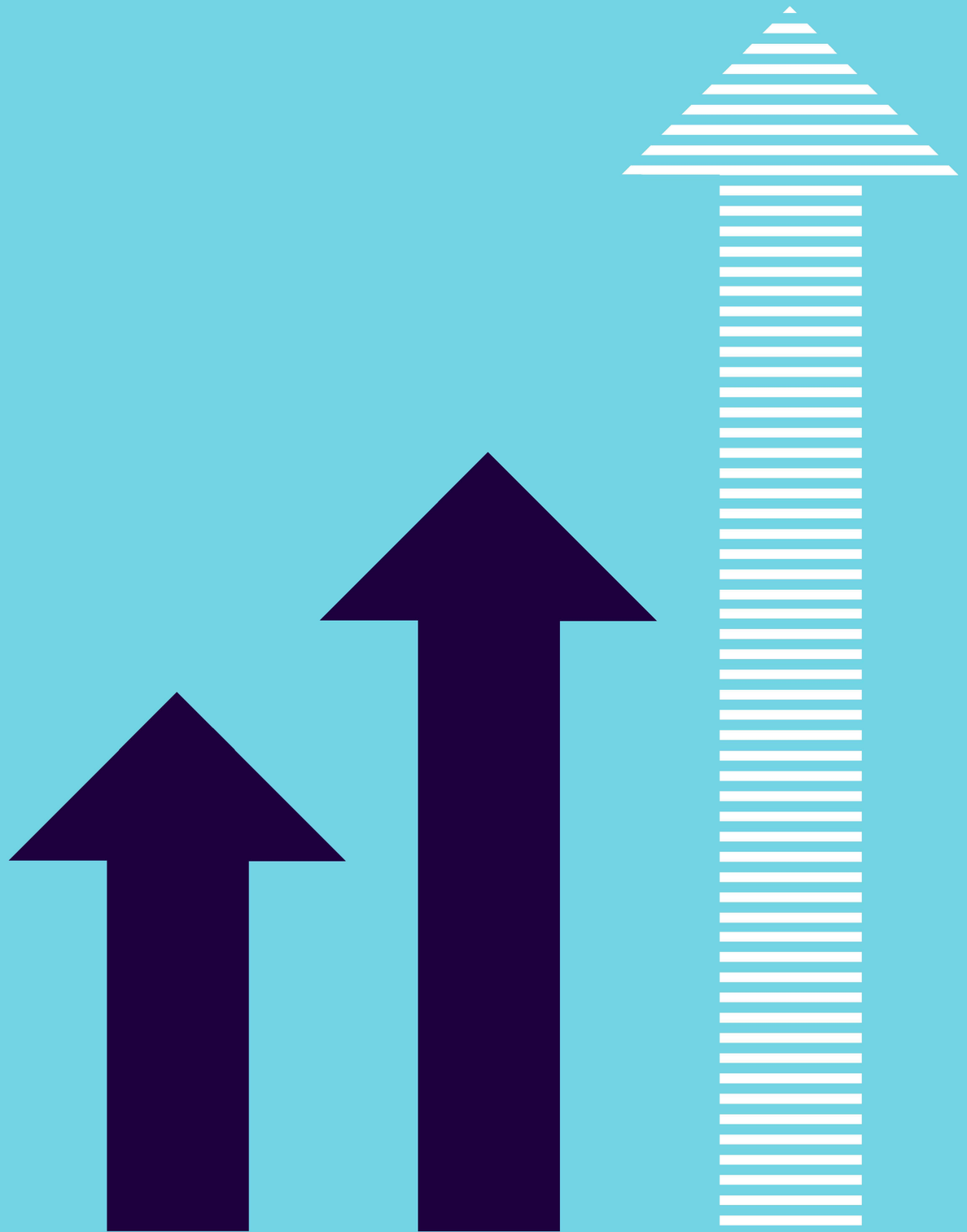
Source: Chicago Metropolitan Agency for Planning analysis of 2018 American Community Survey data.

1 in 5

Latino adults in metropolitan Chicago have an associate's degree or higher, compared with more than half of white adults

47¢:$1

Typical earnings for black households compared with white households in the Chicago region



Opportunity: Traded clusters propel regional economies

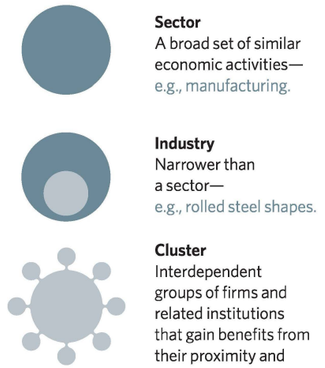
To restart economic growth that benefits the entire region, research suggests focusing on growing our traded industry clusters—groups of interlinked businesses that sell goods and services in markets outside the region. With 22 specialized clusters, the Chicago region is the most diversified large U.S. metropolitan economy. This diversity positions us to seize new opportunities in sectors like energy storage, transportation technology, global finance, and product manufacturing.

Metropolitan Chicago's long-range comprehensive plan, ON TO 2050, calls for supporting the region's traded clusters in the face of shifting global markets and climate change. To sustain broad prosperity, we need an economic strategy that uses a cluster-based approach to focus our investments and policies. Coordinated action is needed to adapt our workforce, infrastructure, land development, and public services to better support industries with staying power.

What is a traded industry cluster?

Clusters are groups of related businesses that gain productive advantages from their proximity to one another, their interactions, and their economies of scale. Examples of clusters in metropolitan Chicago are Biopharmaceuticals, Finance, Business Services, and Food Processing.

Traded clusters—those that export goods and services to non-local markets—provide better jobs that tend to pay more and have greater advancement opportunity. They have the greatest potential to grow our economy because they connect the Chicago region to the global economy, bringing in new business activity that otherwise would not occur here.



Sector
A broad set of similar economic activities—
e.g., manufacturing.

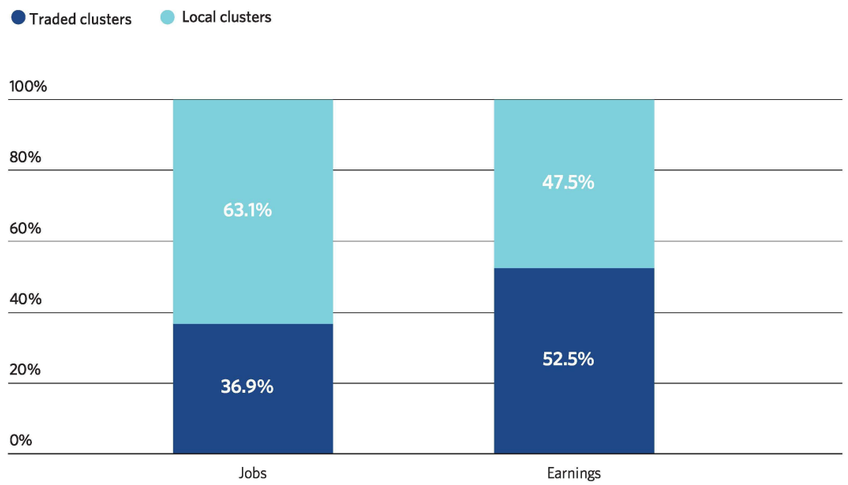
Industry
Narrower than a sector—
e.g., rolled steel shapes.

Cluster
Interdependent groups of firms and related institutions that gain benefits from their proximity and interactions—
e.g., metalworking technology.

Traded clusters provide better jobs. They account for around one-third of the region's total jobs but more than half of its wages.

Traded and local clusters as a share of regional private business activity, 2017

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialists International data (Emsi 2018.4).



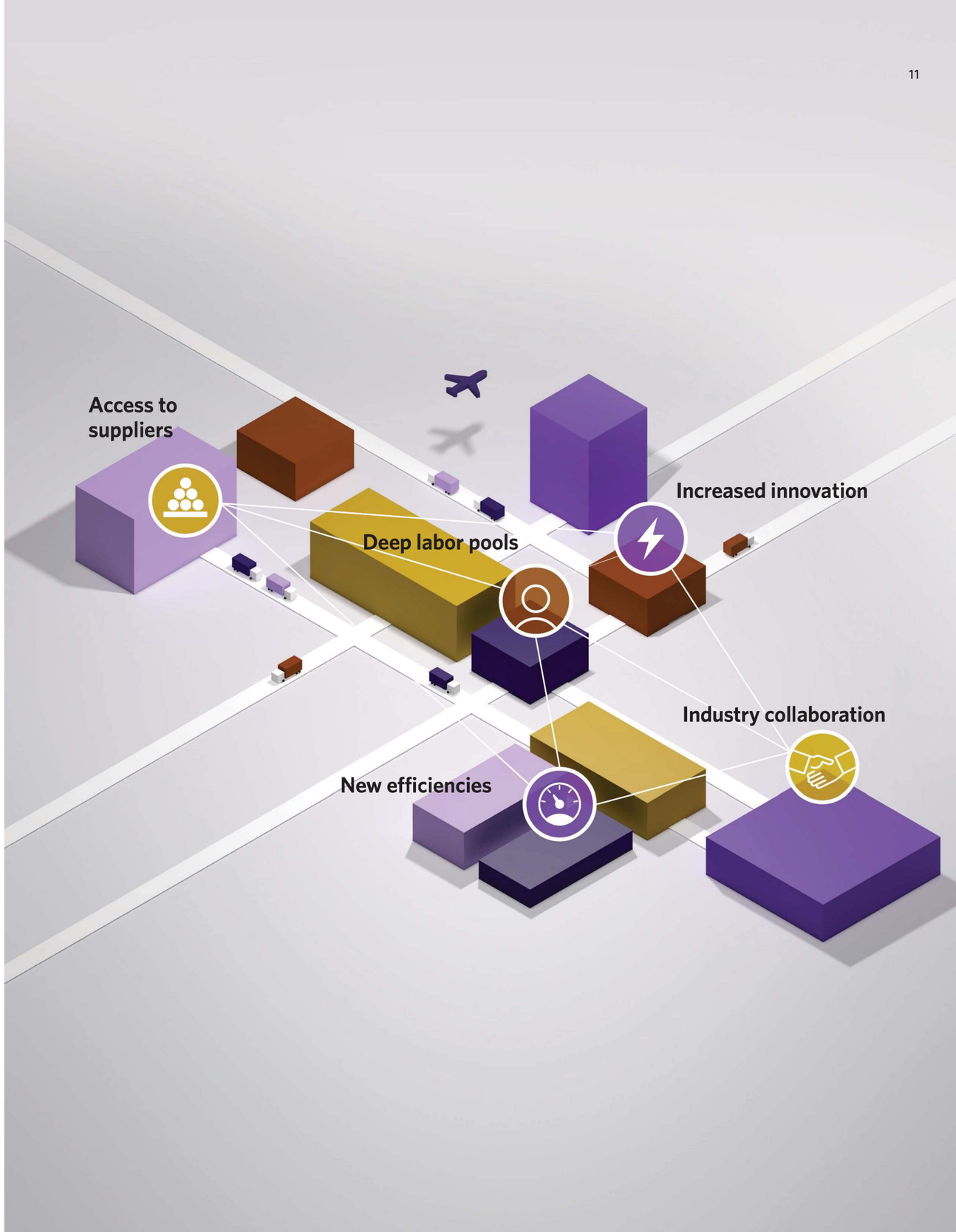
Traded cluster jobs provide $15,200 more in median wages and better health insurance coverage than industries serving local customers.

Median wages and employer-sponsored insurance coverage, 2017

	Median hourly wages	Median annual wages	Share of workers with employer-sponsored insurance
Traded clusters	**$23.99**	**$49,902**	**74%**
Hourly wage required to afford a two bedroom rental home	**$22.69**	**$47,195**	—
All Chicago metropolitan area jobs	**$19.23**	**$39,998**	**71%**
Local clusters	**$16.66**	**$34,654**	**67%**

Note: Annual estimates assume full-time employment for 2,080 hours per year. Housing wage reflects fair market rents as determined by U.S. HUD and considers spending more than 30 percent of income on housing as unaffordable.

Source: Chicago Metropolitan Agency for Planning analysis of U.S. Census Bureau, U.S. Bureau of Labor Statistics, National Low Income Housing Coalition, and Economic Modeling Specialists International data (Emsi 2018.4).



Our traded clusters are declining

Metropolitan Chicago is falling behind economically because our longtime economic drivers are declining without being replaced by new sources of growth. Most traded clusters are not keeping up with peer regions and national averages. Overall, they lost a total of 144,000 regional jobs (9 percent) during 2001-17. Goods-producing clusters — the best source of good jobs for workers without a college degree — are declining the most. But our traded clusters are not monolithic, and the conditions they face are not uniform. Aggregate data can confuse trends in specific segments for larger, economy-wide shifts. The full technical report offers drill-down data on the region's major traded clusters to inform smart strategies for restarting robust, inclusive economic growth.

While metropolitan Chicago remains highly specialized in most traded clusters, recent declines — particularly among goods-producing clusters — have narrowed our economic base.

Employment change in the Chicago region and select peer metropolitan areas, 2001-17

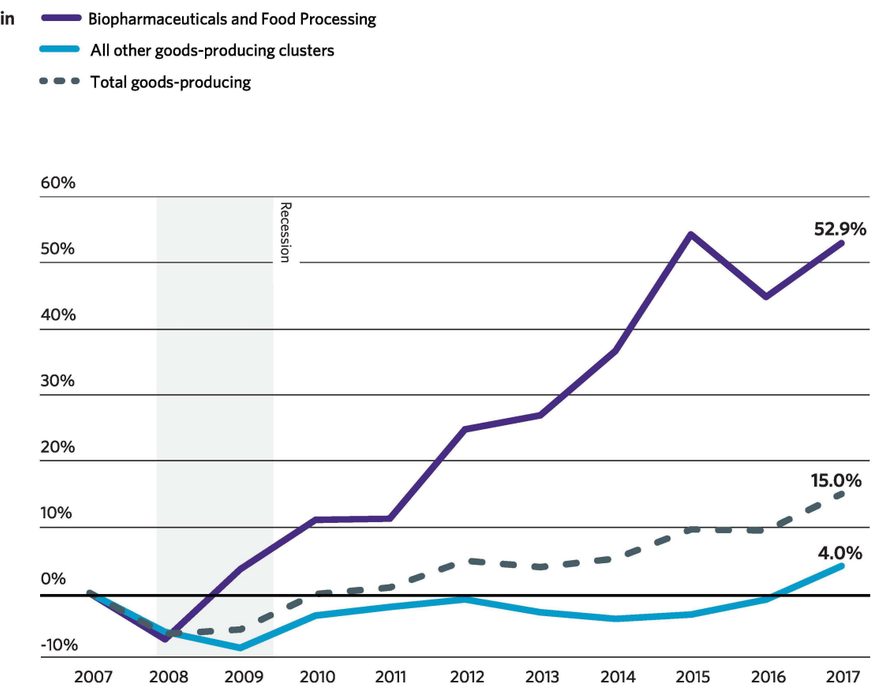
Largest losses — Biggest gains

	Traded Clusters		
	Total	Goods	Services
Houston	17.4%	-2.3%	27.9%
Washington, D.C.	10.9%	-30.9%	14.5%
New York	-3.7%	-41.9%	4.7%
Los Angeles	-7.8%	-35.6%	4.9%
Boston	-1.7%	-28.4%	7.1%
CHICAGO	**-9.0%**	**-29.2%**	**-1.3%**
Detroit	-30.4%	-45.5%	-19.4%

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialists International data (Emsi 2018.4).

Just two clusters — Biopharmaceuticals and Food Processing — account for three-quarters of the manufacturing sector's growth in output during 2007-17. The rest of the sector only regained its 2007 pre-recessionary levels in 2016, nearly a decade later.

Cumulative change in real annual output, 2007-17



Note: Index year 2007.

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialists International data (Emsi 2018.4).

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specialized traded clusters lost jobs between 2001-17

Understanding traded cluster performance

Regional economies are organized around industry clusters that can grow and change over time. These shifts illustrate our region's competitiveness relative to other parts of the U.S. Understanding their performance can improve the many investments and public policies directed toward economic development.

This graph is a snapshot of metropolitan Chicago's economy. It reveals many details about our traded industry clusters, including their sector, size, and job change between 2001-17. It also shows the extent of a cluster's specialization. A region is considered specialized in a specific cluster—and therefore can count it as an economic strength—when it has a higher share of workers in the cluster than the national average.

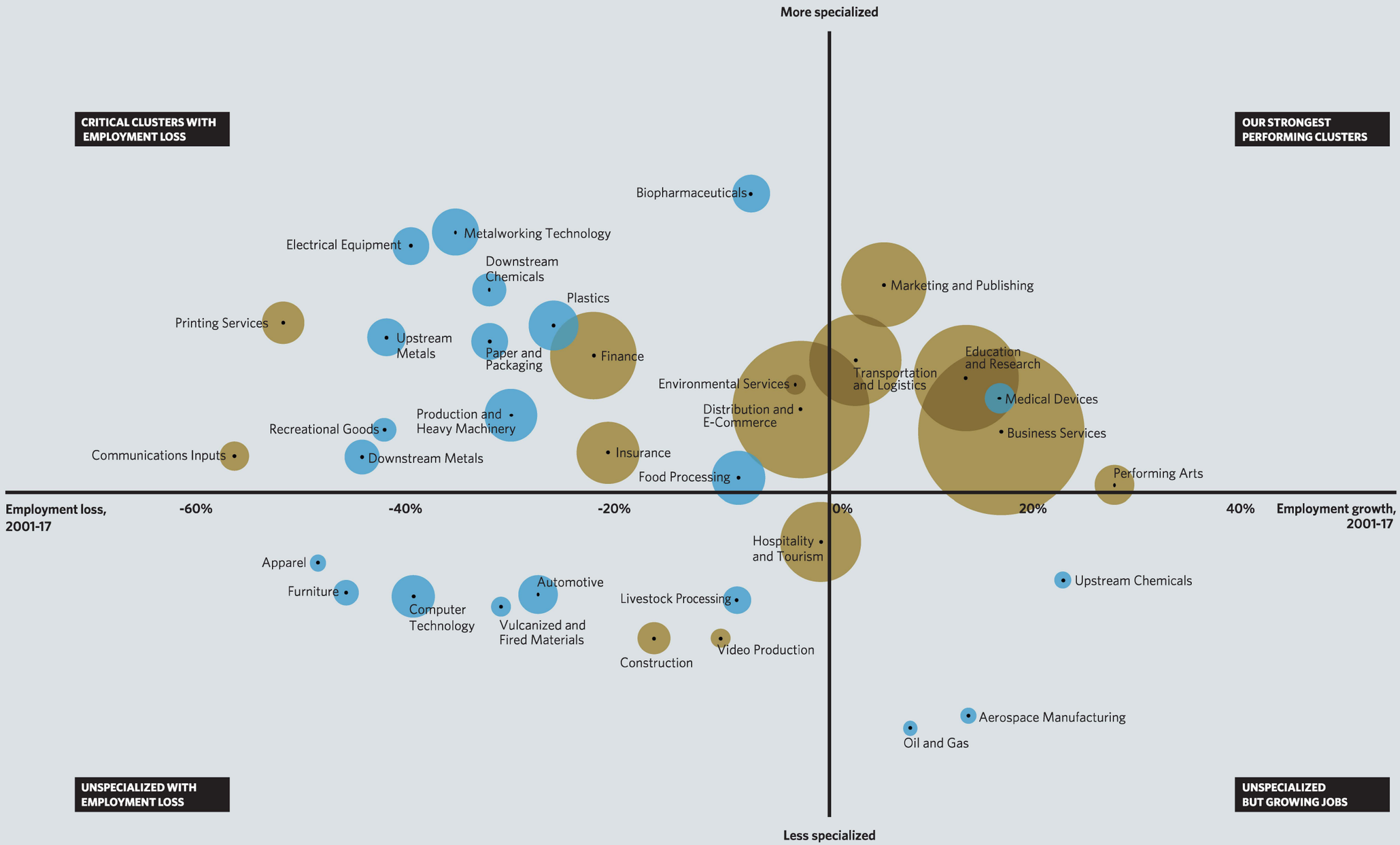
Our region's specialized traded clusters are the primary drivers of our economy. We need to preserve the full diversity of our economy to ensure broad-based and inclusive growth.

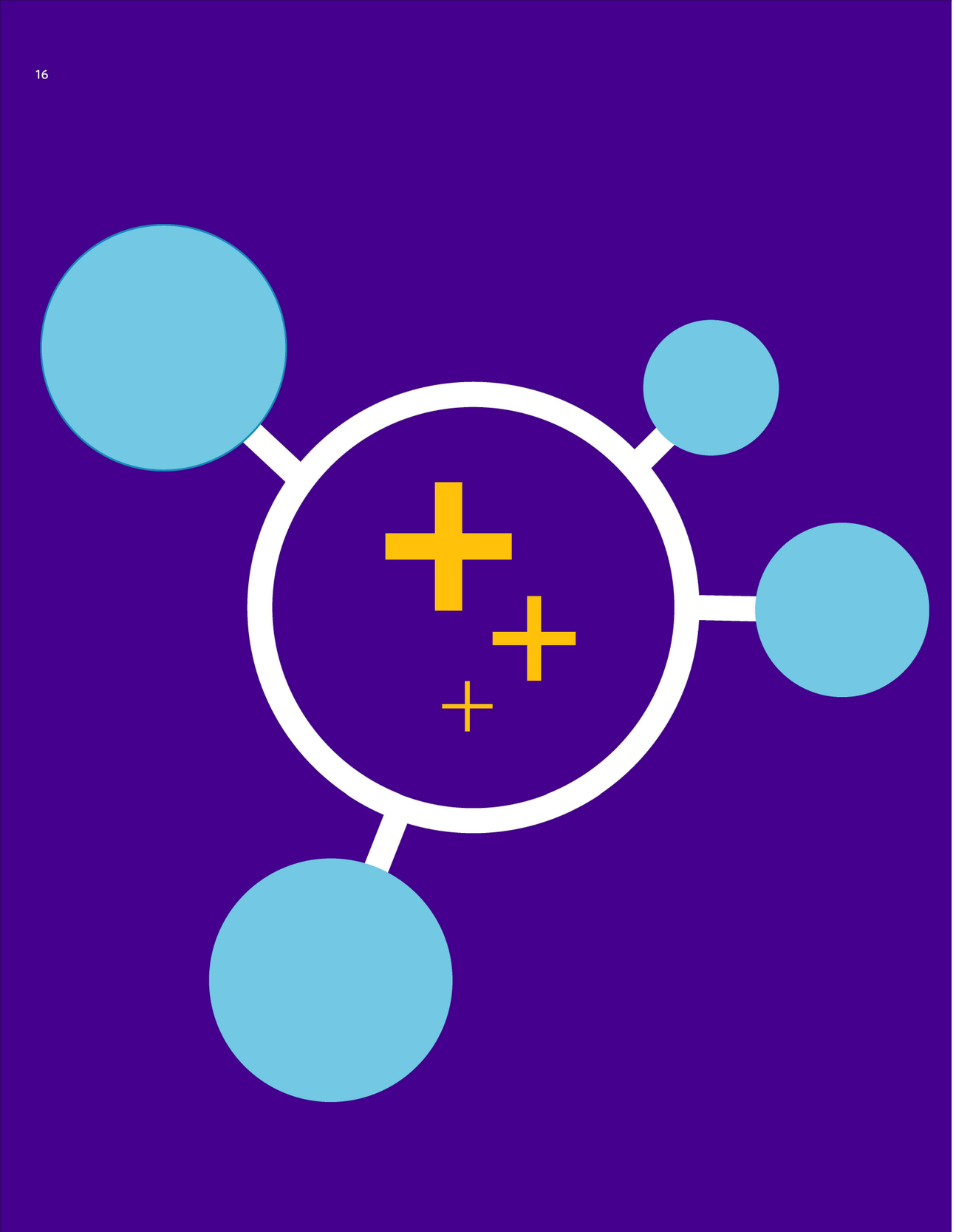
Regional employment change in traded clusters, 2001-17 and specialization, 2017

- **Goods-producing clusters**
- **Service clusters**

Note: Size signifies the relative number of employees in 2017. Specialization refers to employment concentration relative to the national average.

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialists International data (Emsi 2018.4).





Investing in the region's traded clusters

Cluster growth requires an educated, trained workforce

Growing the region's traded clusters will require strategies to foster a diverse and skilled workforce. Specific job qualifications vary widely: some clusters require formal higher education, while others provide lengthy on-the-job training. Strengthening our economy will depend on strategies to improve access to the education, training, and job opportunities needed to build meaningful careers in traded clusters.

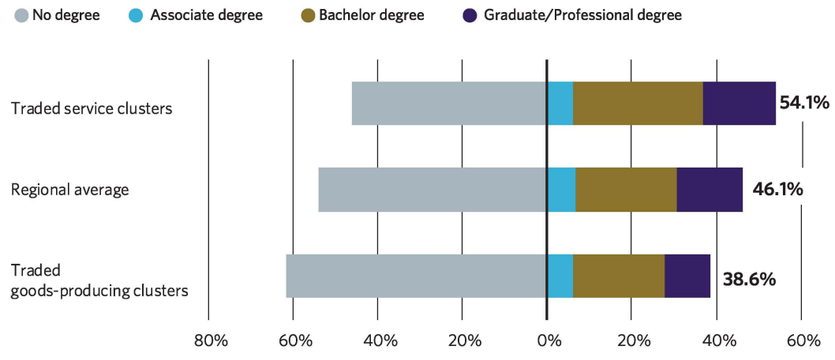
Goods-producing traded clusters, which are less reliant on college-educated workers, shed 29.2 percent of jobs during 2001-17. By comparison, traded service clusters are more likely to require a bachelor or advanced degree and experienced only a 1.3 percent decline in jobs. Even workers who secure an entry-level position in a growing clusters may face costly barriers to reach higher-paying jobs. Pursuing inclusive growth while meeting businesses' evolving skills demand will mean improving how workers enter and progress within specialized traded clusters.

Current patterns suggest workers without a college degree may face steepening requirements for training and work experience to stay competitive, as the region continues to shift to a more service-dominated economy.

Educational attainment of employees in the Chicago region by sector, 2017

Note: Estimates include only employees working 20 hours per week or more.

Source: Chicago Metropolitan Agency for Planning analysis of Integrated Public Use Microdata Series, 2017 American Community Survey data.

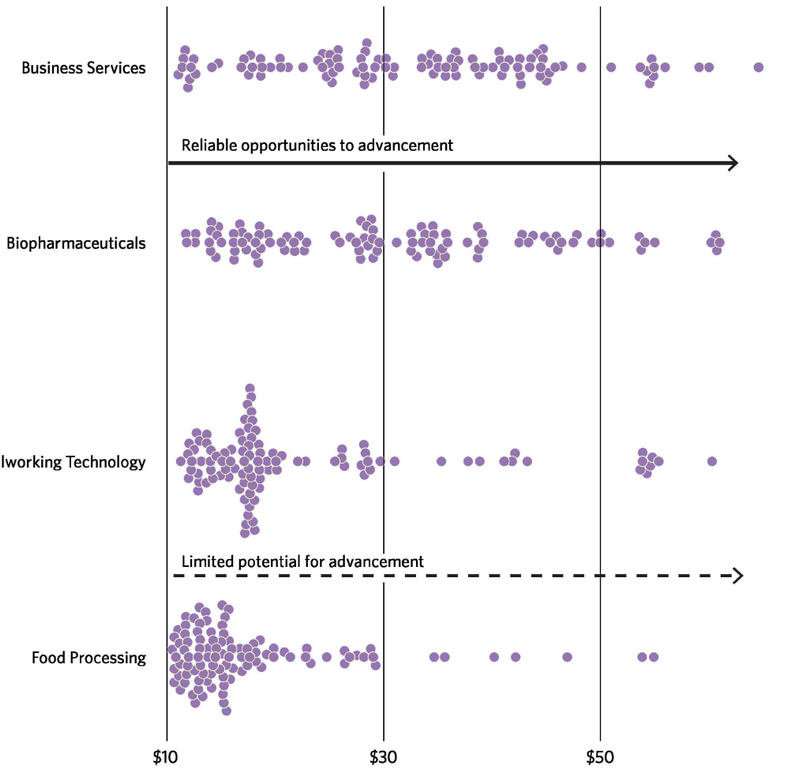


Imagine randomly selecting 100 workers in each cluster and comparing their hourly wages. The resulting wage distributions help to reveal the opportunities that workers can expect for career advancement and wage gains within a cluster.

Distribution of hourly wages in select Chicago regional traded clusters, 2017

Note: Distributions are a probability sample of 100 workers in each cluster. Hourly wages include only base pay.

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialists International data (Emsi 2018.4).

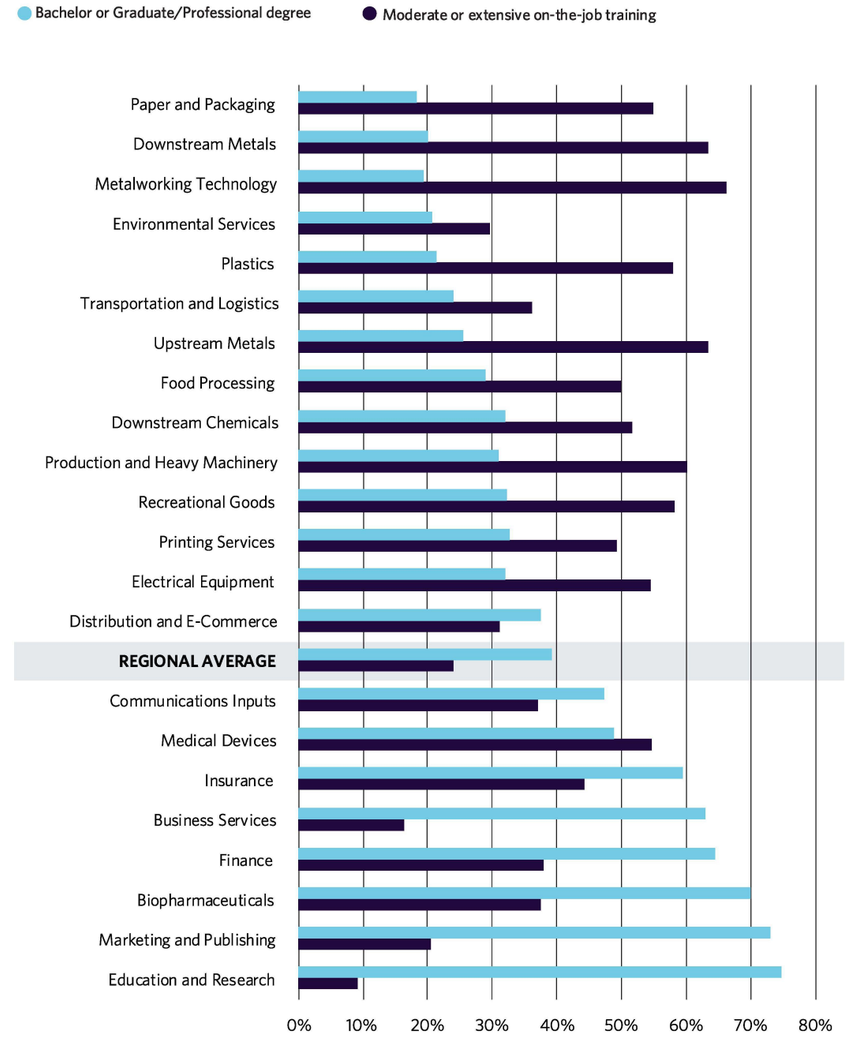


Careers in traded clusters often require workers to blend on-the-job training, undergraduate education, and work experience over time.

Share of regional employment by highest degree held and typical on-the-job training requirements, 2017

Note: On-the-job training estimates based on staffing patterns and U.S. Bureau of Labor Statistics' classifications for occupations that require up to 12 months (moderate) or greater (extensive) training to attain necessary skills.

Source: Chicago Metropolitan Agency for Planning analysis of Economic Modeling Specialist International (Emsi 2018.4), U.S. Bureau of Labor Statistics, and Integrated Public Use Microdata Series, 2017 American Community Survey data.



Growing key clusters can build a more resilient and inclusive economy

Specialized traded clusters support greater labor productivity, wages, benefits, and career advancement than local industries for workers with all levels of education and training. Yet, our region's economic strengths are interlaced with a history of discrimination and disinvestment that contributes to inequality among workers, businesses, and communities. A growing body of research shows that metropolitan economies limit their own potential growth when they leave people and places behind.

Half of metropolitan Chicago's specialized traded clusters employ a higher share of non-white workers than the region overall—each one lost jobs between 2001-17. By comparison, many of the region's largest, most specialized, and fastest growing clusters remain disproportionately white, particularly those that offer higher wages and require greater education and training. Creating a more inclusive economy will require a two-pronged approach: fostering a more diverse, skilled workforce and improving access to key clusters for people of color, women, and those without a college degree.

39%

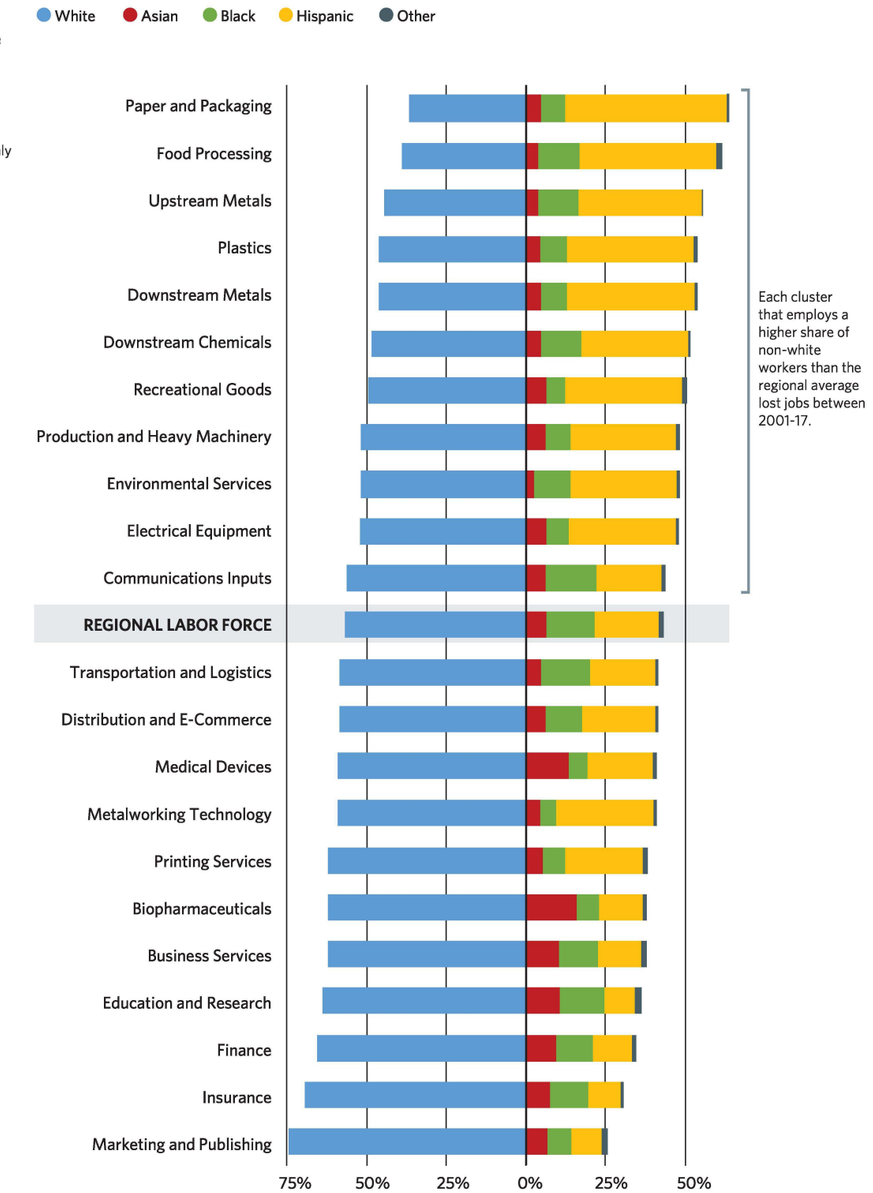
of the region's black workers are employed in traded clusters, compared with

53%

of white workers.

Levels of racial and ethnic diversity range widely among traded clusters, as persistent barriers to good jobs reinforce the region's racial disparities and inequality.

Share of regional employment by race and ethnicity, 2017



Note: Estimates include only employees working 20 hours per week or more.

Source: Chicago Metropolitan Agency for Planning analysis of Integrated Public Use Microdata Series, 2017 American Community Survey.

Moving commuters and freight efficiently supports our traded clusters

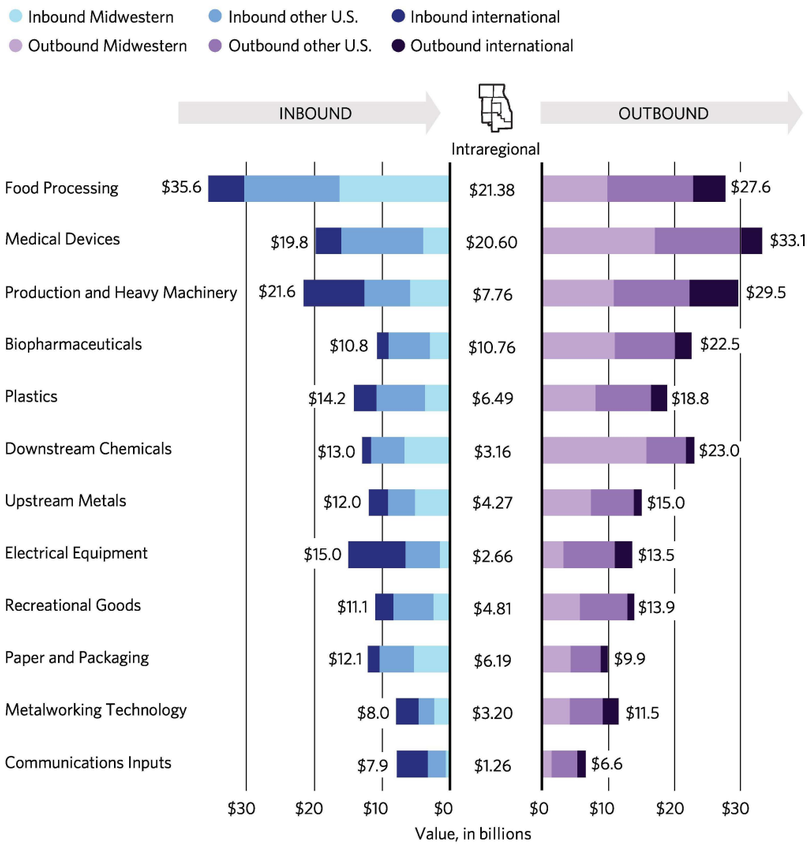
An effective transportation system offers businesses more connections to markets and workers, more choice in freight mode, better travel times, and lower shipping costs. Metropolitan Chicago's highest employment concentrations continue to be in clusters that produce goods and move tens of billions of dollars in freight each year. For these industries to continue to thrive, we must prioritize investments in the continued modernization of our region's freight infrastructure to relieve congestion, improve reliability, and support a multimodal system. This report also reiterates ON TO 2050's call to improve commute options in the region. For more people to access the good jobs available in our traded clusters — as well as ongoing education and training opportunities — strategies will need to improve access to transit and the reliability of all transportation modes.

Metropolitan Chicago is a global center for goods production and movement with trading partners extending across the U.S. and around the world. Regional firms add significant value to the diverse commodities and products flowing into and out of the region.

Top Chicago regional traded clusters for freight movements by value, 2016, in billions

Note: Data for metropolitan Chicago includes only the Illinois portion of the U.S. Census Bureau combined statistical area. Data for the Midwest includes the rest of Illinois and all of Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.

Source: Chicago Metropolitan Agency for Planning analysis of Freight Analysis Framework data (FAF 4.4.1).



Traded cluster snapshots

Understanding metropolitan Chicago's industry clusters can improve how the region pursues economic development. ON TO 2050, the region's comprehensive plan, calls for better coordination of supports for these core industrial assets. To advance this recommendation, the full technical report provides extensive analysis on their defining characteristics and performance since 2001.

Detailed data and findings are available for download at **http://cmap.is/ClusterSnapshots.**

Understanding clusters' staffing patterns and skills demand helps training providers to bridge the gaps between workers and employers.

Differences between trends here and leading national peers help to illustrate the region's relative competitiveness in a changing national and global economy.

Specialized clusters — those with a competitive advantage in the region — are more likely to drive regional economic growth in the future.

As our labor force grows older and more diverse, the region needs to improve opportunities for all residents to contribute to and benefit from strong regional industries.

Regional leaders can improve workers' well-being and quality of life by prioritizing clusters that better support upward economic mobility.

Determining how producers use our intermodal freight system can inform smart investments that enable greater choice, more connections, and lower costs for moving goods.

Downstream Metals

This cluster manufactures metal containers, prefabricated metal structures, and end-user metal products, like ammunition, kitchenware, hardware, and metal home finishings. The technical report, *Metropolitan Chicago's traded industry clusters*, offers extensive data on the characteristics and performance of the Chicago region's core industrial assets since 2001, available for download at https://www.cmap.illinois.gov/programs/industry-clusters.

In the Chicago region in 2017, this cluster consisted of

$1.6 billion total output

14,000 jobs

460 establishments

+12% more jobs than national average

Source: CMAP analysis of Economic Modeling Specialists International data (Emsi 2018.4).

Workers in this cluster tend to be **more** racially diverse than the regional labor force.

54% non-white
23% female
39% over age 50

4% commute by transit

Source: CMAP analysis of Integrated Public Use Microdata Series, 2017 American Community Survey data.

Largest occupations

Assemblers
Machinists
Welders and Solderers
Machine Setters
First-Line Supervisors

In recent years, the cluster's competitive position **weakened** as it became **less specialized** in the national context.

-44% jobs **-25%** total output

Chicago

-6% jobs **+5%** total output

Houston

-9% jobs **-8%** total output

Dallas

Source: CMAP analysis of Economic Modeling Specialists International data (Emsi 2018.4). Note: Job change is from 2001-17, and total output change is from 2001-12.

Middle-skill workers have **greater** opportunity than the regional average.

$32,754 25th **$36,568** 50th **$57,916** 75th

wage percentiles

24% of workers have an associate's degree or higher

63% of jobs typically require at least 2 months of on-the-job training

Source: CMAP analysis of Integrated Public Use Microdata Series, 2017 American Community Survey and Economic Modeling Specialists International data (Emsi 2018.4).

In 2016, this cluster generated approximately

$8.5 billion

in freight shipments that originate, terminate, or circulate regionally.

Freight mode share, by value

71% Truck **24%** Multimodal **1%** Rail

Freight trade geography, by value

15% Chicago region **31%** Midwest **35%** Rest of U.S. **19%** Global

Source: CMAP analysis of Freight Analysis Framework data (FAF 4.4.1). Note: Data includes only the Illinois portion of the U.S. Census Bureau combined statistical area. Freight data is not provided for service clusters.

Recommendations and strategies

Metropolitan Chicago needs regional strategies to spur economic growth

The Chicago region has long benefitted from a diverse economy and skilled workforce. Yet many of our historically strong industries have lost jobs in the past decade. This shrinking labor market has especially affected people of color. Meanwhile, our toughest competitors — regions that are outpacing us on every front, from household earnings to total production — are embracing the knowledge that economies are stronger overall when they focus on growing key industry clusters while ensuring everyone can fully participate in and benefit from economic opportunities.

To lay the foundation for that approach, our region first needs an economic vision that identifies priorities and sets targets. Establishing regional priorities is always challenging, but it is imperative. Metropolitan economies prioritize nothing when they prioritize everything. By contrast, regions with a shared, focused vision are able to align the many actors, policies, and investments needed to restart economic growth.

With regional economic strategies in place, metropolitan Chicago can prioritize investment in clusters that have the most potential to increase productivity and job opportunities. Yes, we can play to historic strengths, but we also must adjust our industries, infrastructure, policies, and workforce to changing global markets and opportunities to mitigate climate change. The full technical report begins to build the case for clusters that support upward economic mobility, improve residents' well-being and quality of life, and reduce inequality.

Faced with a shifting global economy and lagging economic growth, the Chicago region has little choice but to adapt. CMAP calls on regional leaders to take serious steps toward realizing a more resilient and inclusive region. Our civic, business, and elected leaders must work together to adopt cluster-based regional economic strategies — our best bet for sustaining regional prosperity.



Metropolitan Chicago should pursue increasingly targeted strategies that draw on a cluster-based approach and a shared vision for growing its economy.

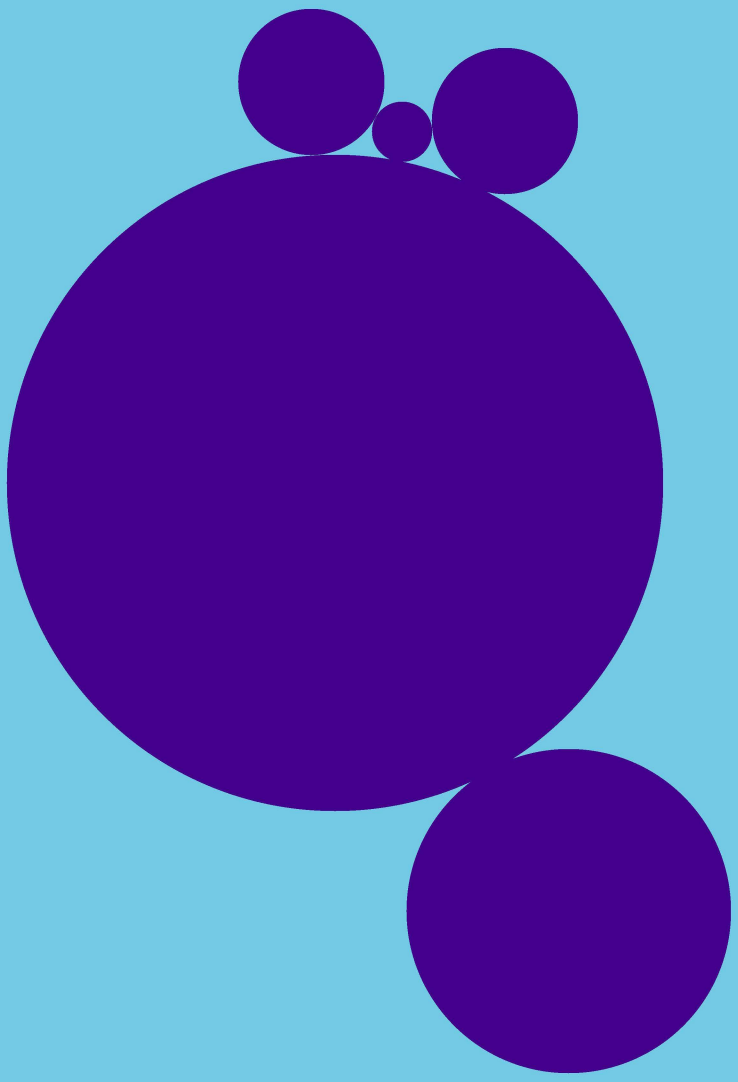
Lead implementers	Next steps
Chicago Regional Growth Corporation or similar entity, local officials, and economic development leaders	Develop a regional economic vision that aligns state, regional, and local objectives with the region's competitive strengths, especially its diverse talent pool and specialized industries. Advance racial and economic equity by prioritizing assistance to traded clusters that promote equitable growth in different parts of the region. Secure robust funding for a limited number of cluster initiatives based on their regional economic importance and demonstrated potential to drive inclusive growth.
Cluster organizations and other industry groups	Foster dense, specialized, collaborative networks for identifying customers, talent, startup and growth capital, ideas, and other business inputs. Provide technical and financial assistance in implementing new product and process innovations, developing market strategies, and reaching global markets.

Lead implementers	Next steps
State of Illinois and local governments	Identify and plan for the distinct needs of the state's regional economies, allocating resources and developing policies that reflect their specialized traded clusters. Leverage opportunities to mitigate shifts in global markets and climate change by targeting industry and infrastructure investments, and adjusting economic policies.
CMAP and partners	Conduct further drill-down analysis on the unique transportation, land use, business assistance, innovation, and human capital needs of high-priority traded clusters. Consider economic gains and regional goals regarding inclusive growth, resilience, and traded clusters in assessing transportation investments. Provide guidance to local partners on best practices for incentives, zoning, development, transportation investments, and other tactics to foster growth in specific clusters.
Workforce Investment Boards, education and training providers, and employers	Articulate and invest resources in high-quality career pathways where knowledge, skills, and work values are transferable across multiple occupations and industries within a cluster, tailoring those resources to the needs of the diverse workforce. Develop and deepen information networks among employers to share job postings, qualifications, and skills competencies with workforce training and assistance providers.

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Visit this executive summary and the full technical report at **http://cmap.is/TradedClusters.**

The Chicago Metropolitan Agency for Planning (CMAP) is our region's comprehensive planning organization. The agency and its partners developed and are now implementing ON TO 2050, a new long-range plan to help the seven counties and 284 communities of northeastern Illinois implement strategies that address transportation, housing, economic development, open space, the environment, and other quality-of-life issues.



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