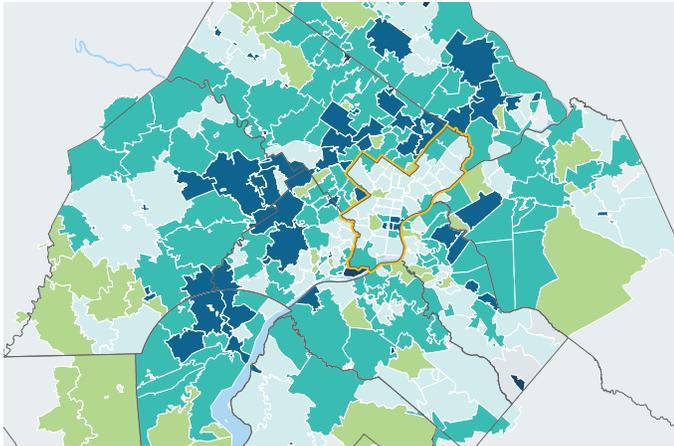


Firing on All Cylinders:

Growing Jobs and Small Business by Expanding the Traded Sector

Where the Jobs Are In the Region

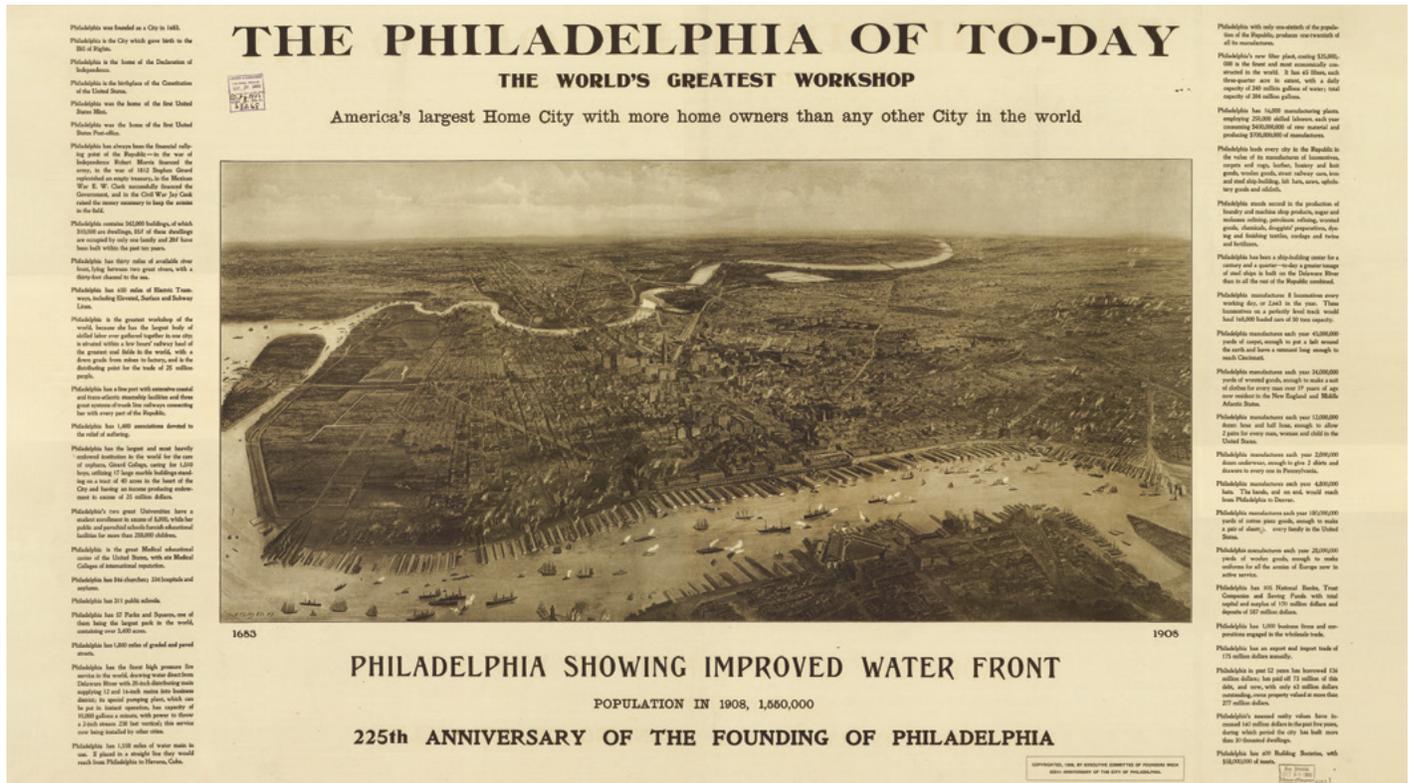


*A larger version of this map can be found on page 12.

REPORT HIGHLIGHTS

- **The next mayor needs to broaden Philadelphia's approach to economic development** to retain and attract major employers who sell services on a national and global level and who pay family-sustaining wages. These are the businesses that flourish in many of our peer cities and in surrounding counties, but not in Philadelphia. As a result of decades of job loss, Philadelphia has fewer firms of this kind and fewer jobs per resident than comparable cities and our own suburbs. This is a major cause of the city's high unemployment and poverty rates.
- **In the first decades of the 20th century, Philadelphia contained thousands of manufacturing firms that produced and exported goods nationally** – locomotives, ships, radios, hats, carpets, men's and women's clothing and refined sugar. Termed "traded industries," these establishments not only employed workers to create products for export, they created demand for more local businesses to support their production processes, giving the city the moniker "the workshop of the world." **By the end of the 20th century, nearly all those jobs were gone.**
- The post-industrial economy is comprised of numerous "traded" firms that conduct business nationally and globally. **There are six major employment sectors that tend to cluster in cities, but Philadelphia lags in four of them,** particularly among the traded office sector firms that offer more family-sustaining jobs in information, financial, professional, technical and business services. As the map above suggests, many such businesses have a strong presence in Philadelphia's suburbs but not in the city. We are like a six-cylinder engine car firing on only two of its cylinders.
- **The two stand-out exceptions are education/health care and hospitality.** The first group is largely exempt from Philadelphia's real estate and business taxes. The second sector nationally pays lower wages on average than other industries and is thus less impacted by our wage tax.
- Philadelphia has made a three-decade commitment to the growth of the hospitality industry, not only because it builds on our existing historic assets, but because it also supplies many jobs for local residents who may lack college degrees. However, it is now widely understood that **while Philadelphia excels in the growth of entry-level jobs, we fall far short in family-sustaining jobs.**
- **Success in hospitality has been achieved through major capital investments** in the convention center, arts, cultural and sports facilities, as well as a dedicated hotel tax to support marketing for conventions, trade shows and tourists. This helped generate construction jobs, an 80% increase in leisure and hospitality jobs and the creation of many, new local businesses, including restaurants and event promoters.
- **Post-industrial firms that provide many more family-sustaining are less expensive to attract since they require few targeted municipal, capital investments.** What they value most is traditional public sector investments in transportation infrastructure, public safety, sanitation, schools and amenities that benefit all businesses and residents. These firms have the flexibility to locate almost anywhere. Situated in our suburbs, they can still access our workforce. To locate within Philadelphia, they need a stronger public commitment to competitive tax policies, especially in the current environment of hybrid and remote work in which suburban residents who are directed to work from home are fully exempt from the wage tax.
- In June 2022, Philadelphia City Council reached a new consensus that **competitive tax policies play an important role in supporting Black- and brown-owned establishments and neighborhood small businesses,** creating more job opportunities and inclusive growth.
- But these smaller businesses cannot reach their full potential, nor will we generate sufficient family-sustaining jobs without taking **the next critical step: creating an even more competitive setting** so medium-sized and larger establishments that sell services or products outside the city and region choose to locate and grow here.
- This report compares Philadelphia to five other urban areas in United States: Baltimore, Boston, Denver, New York and San Francisco. It documents how Philadelphia lags in many other traded employment sectors, but suggests that **if Philadelphia devotes to the retention and attraction of traded industries the same energies long devoted to conventions, festivals and sports, and commits to ever more competitive tax rates, we can replicate the success achieved by others, growing more family-sustaining jobs and a prosperous network of small, local businesses.**

FIGURE 1:
Industrial Philadelphia: 1908



*A digital version of this aerial rendering, that can be enlarged to read the marginal text, can be found at loc.gov/resource/g3824p.pm008311

WHAT IS THE TRADED SECTOR? WHY DOES IT MATTER?

In 1908, when this aerial rendering was published, Philadelphia was among the largest and most diversified manufacturing centers in North America, producing locomotives, railroad cars, ships, saws, radios, textiles, hats, men’s and women’s clothing, carpets, curtains and refined sugar at quantities far in excess of what was consumed within the city.¹

Philadelphia’s population in 1908 was 1,550,000, almost identical to today. Let’s imagine each resident in that era buying one hat per year, regardless of their age. The text in the margin boasts that Stetson was making 4,800,000 hats each year, while the mills in Kensington were producing enough suits to clothe every male over the age of 19 in New England and the Mid-Atlantic states plus 45 million yards of carpet – “enough to put a belt around the Earth and leave a remnant long enough to reach Cincinnati.” What happened to this huge surplus? The bustling piers in the rendering and two railroad giants, the Reading and the Pennsylvania, delivered it to companies and consumers across the country. Economists call industries that export goods and services “traded”, while those that serve primarily regional and local customers, are designated “local” industries.

Why was trade good for Philadelphia? Local passenger rail lines may have only needed to buy 20 new locomotives each year, but Baldwin and others were producing more than 2,600 for export, creating the need for a substantial complement of additional manufacturing workers to fulfill the external demand as well as longshoremen and freight railroad workers to transport the product.

Industry sectors that export goods and services are known as “traded” industries; those that primarily serve regional and local customers are termed “local” industries. Traded sector establishments tend to create more jobs that pay family-sustaining wages.

1: As Philip B. Scranton, Ph.D., writes in *Workshop of the World*, “From roughly 1880 through the 1920s, Philadelphia’s industrial districts supported an array of mills and plants whose diversity has scarcely been matched anywhere in the history of manufacturing.” workshopoftheworld.com/overview/overview.html

These giants of traded industry earned Philadelphia the moniker: *workshop of the world* and fueled citywide job and population growth. The gears that still pull the cable cars in San Francisco were made in Philadelphia, as were the locomotives that opened up the west in the 19th century, the stoves in the Biltmore Mansion in North Carolina and the ships and cannons that helped win World War II. In 1930, there were nearly 300,000 workers employed in manufacturing in the city, compared to 18,000 today.

These industrial giants and the people they employed spurred the expansion of other businesses that primarily served local markets. Factory workers earned wages that enabled them to shop at local groceries, bars, barbershops and department stores such as John Wanamaker, Lit Brothers and Strawbridge & Clothier. Manufacturing enterprises such as Baldwin Locomotives, Stetson Hats, Philco Radio and Somerset Knitting Mills purchased materials and equipment – machine tools, gears, pulleys and conveyor belts – from a huge local network of smaller manufacturers in the city to keep their assembly lines humming.

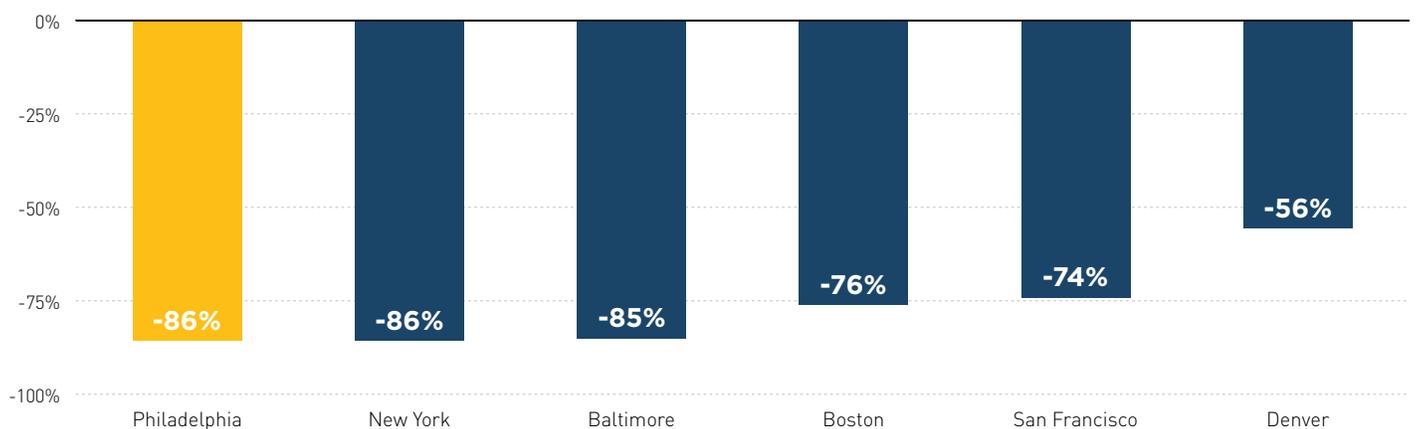
A vibrant city needs many local businesses to serve local needs. But the virtuous circle sustained by the large concentration of traded enterprises during Philadelphia’s industrial heyday, supported the creation of both jobs and demand for more “local” enterprises and therefore, even more jobs. In the post-industrial economy, manufacturers have been replaced by professional and business services, telecommunications companies, internet

entrepreneurs, nationally ranked universities, and arts and cultural institutions. Establishments in these sectors serve customers throughout the region and the nation, drawing resources into the city that generate jobs directly and create the demand for many local enterprises. Growth in these post-industrial sectors is now the primary driver of economic activity in cities throughout the U.S.

Recall however, in 2020 and 2021, when medium and large size businesses in cities across the nation directed all of their employees to work from home, thousands of nearby small businesses suffered and many were forced to close. Locally, we celebrate and support our diverse culture of small businesses and seek to support them. But these firms could be even more successful if there were a greater number of medium-sized and larger establishments in Philadelphia in the traded sector, expanding the overall market they serve, creating additional demand for their services, more need for employees and more contracting opportunities for local small businesses,

The loss of manufacturing as the primary driver of city growth is not unique to Philadelphia. In 1908, when the image in Figure 1 was published, about one-third of all city jobs were in manufacturing. Between 1975 and 2016, Philadelphia lost 86% of its remaining manufacturing jobs, reducing this sector to just a 3.4% share of all city jobs by 2016. The comparison cities suffered a similar industrial decline [see Figure 2].

FIGURE 2:
Manufacturing Employment in Cities, Percentage Change, 1975–2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

TRADE IN THE POST-INDUSTRIAL AGE

Today, many Philadelphia businesses sell outside the region, though we don't see their products stacked in large containers on ships sailing down the Delaware. When a local consulting firm contracts with a client in Chicago, Miami or London, that is *traded* sector work, which enables them to increase local staff, purchase more work stations and office supplies and contract for more services from lawyers and accountants. The business they and their employees generate for other businesses in the Philadelphia economy is *local sector* work.

Just like a manufacturer, a service sector firm can conduct traded or local activity, based on what they do and to whom they sell. Both Comcast and Aramark sell services to local residents and businesses. But their corporate headquarters in Philadelphia are centers for *traded sector* activity because they also sell services globally and require significant management, technical and administrative staff here to oversee a broad network of operations in other places. If Aramark were not selling services across North America and in twenty other nations, their management staff in Philadelphia would likely be smaller. When both firms contract with local suppliers and their employees eat in restaurants, take SEPTA, cabs, Uber and Lyft – they spur local sector activity.

Colleges and universities are also classified in the traded sector because they educate students from across the nation and around the globe. Students on campus create the need for building and landscape maintenance, administrative staff, computer

technicians and faculty. Off-campus they rent apartments and make retail purchases supporting local businesses: real estate agents, baristas who brew coffee and pharmacists who fill prescriptions. A college or university also purchases goods and services, ranging from utilities and construction services to auditing and financial advice, to food services and building security.

Quite simply, the greater the concentration of traded sector industries in a city and the larger they grow, the more local job opportunities are created and the greater the opportunity or new firms to form and nearby existing businesses to thrive. To the extent that many large businesses and institutions now deliberately direct their supply chain purchases locally to Black- and brown-owned businesses, they can support even more small business development and growth. But absent establishments engaged in traded activity, the opportunities for most local firms are limited to local demand. A nail salon or convenience store in a low-income neighborhood may have loyal customers, but its growth will be largely limited by those who live nearby. Its business will grow primarily if the local population grows. An accountant or lawyer living in that same community however, will have the opportunity to sell services not only to local residents and businesses, but also to businesses in traded sectors that require more help because they are expanding their sales beyond the city limits.

HOW DOES PHILADELPHIA COMPARE?

This report seeks to answer the questions: how well has Philadelphia succeeded in replacing its lost manufacturing dominance with post-industrial, traded industries and how do we compare with other cities? The analysis focuses on employment growth during the period 1998-2016 within six of the major industry categories that are defined as "supersectors" by the Bureau of Labor Statistics (BLS), analyzing activities that are classified as both traded and local.² These sectors, which tend to favor urban areas, are: professional and business services; financial activities; information; trade, transportation and utilities; education and health services; and leisure and hospitality.³

The comparison cities are Baltimore, Boston, Denver, New York, and San Francisco. They were chosen because they are among the most populous in the nation and also because detailed employment data were available for each city within the County Business Patterns database, since each, along with Philadelphia, is geographically a county as well as a city.⁴ For each of the six cities, we also compare city and regional employment trends.

The analysis focuses on 1998 to 2016, because the data source used provides sufficient detail on industry specific employment during this period to classify all jobs as traded or local. Other data sources suggest that there was not a substantial change in trends from 2017 to 2020 and in the future, this analysis can be extended beyond 2016. For more details, see Appendix B.

²: See Appendix B for the methodology that is used to compare cities and to classify industries as traded or local.

³: The Bureau of Labor Statistics also defines four other supersectors: natural resources and mining, construction, manufacturing, and other services. This report does not focus on these sectors because they represent a relatively small portion of the economies of the cities analyzed.

⁴: The one exception is Boston. Employment data for Suffolk County, Massachusetts was used to represent trends in Boston. The city of Boston is entirely contained within Suffolk County and according to the 2020 census, is home to 85% of the county's population.

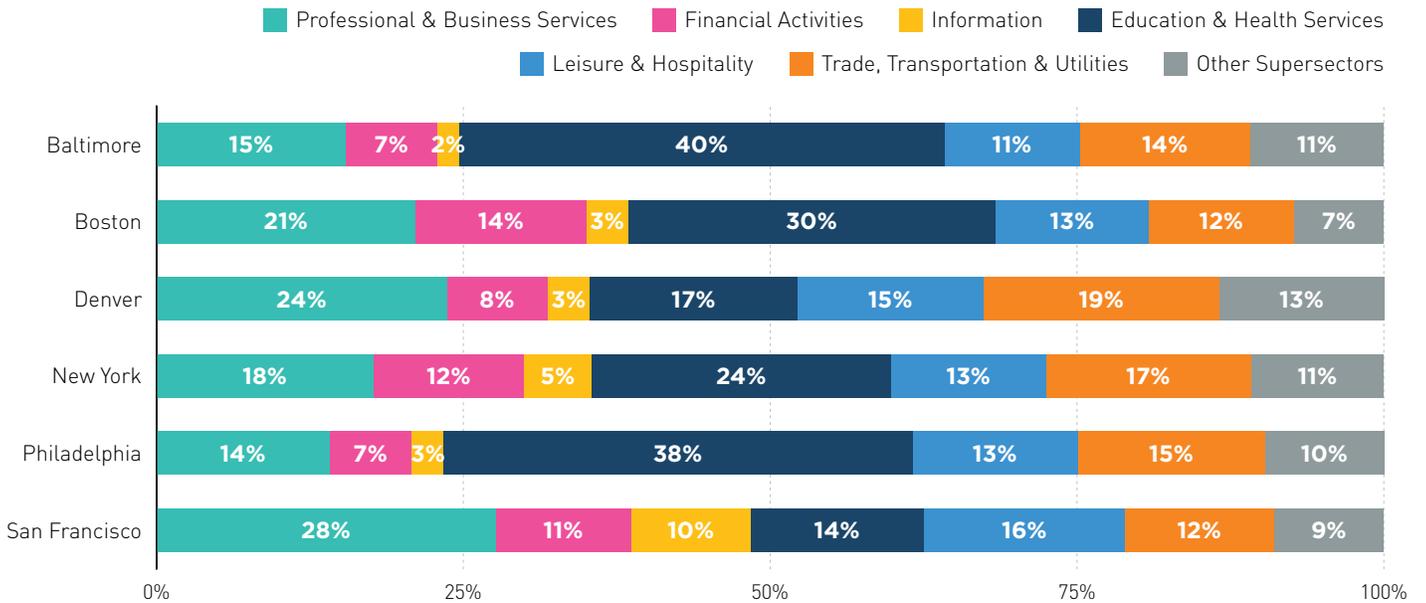
⁵: See Appendix B for details on data sources.

PHILADELPHIA'S PORTFOLIO OF INDUSTRIES

In 2016, employment in Philadelphia and the five comparison cities was highly concentrated in the six major supersectors that tend to locate within metro areas: trade, transportation and utilities; information services; financial activities; professional and business services; education and health services; and leisure and hospitality. Yet the proportion of jobs within each of these sectors varied significantly among the cities. Information services for example, accounted for 10% of all jobs in San Francisco but just 2% in Baltimore. Financial activities accounted for 14% of jobs in Boston, but just 7% in Philadelphia (Figure 3). Whatever their past history, all of these cities now have a very small share of manufacturing jobs. Thus, an important measure of success in the 21st century is a city's ability to nurture or draw traded sector establishments in the maximum number of post-industrial sectors and to maintain a diversified portfolio that protects against downturns in any specific sector.

Philadelphia stands out in Figure 3 with a high proportion of jobs in education and health services, strength in leisure and hospitality, but a low share in professional and business services, financial activities, and information. Establishments in all these sectors have broad representation in the region in proportions that correspond closely to national averages. But they are not located in significant numbers within the city.

FIGURE 3:
Distribution of Private Employment in Cities by Supersector, 2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

A PATTERN OF SLOW AND UNEVEN GROWTH

After losing jobs throughout the second half of the 20th century, total private sector employment in Philadelphia increased by 7% from 1998 to 2016, fifth slowest among the six comparison cities (Figure 4). For most large American cities, the first two decades of the 21st century were a period of robust expansion when employment gains ranged from 23% in New York, 21% in San Francisco, 15% in Denver, 14% in Boston, 7% in Philadelphia to a decline of 1% in Baltimore. Data from the U. S. Bureau of Economic Analysis indicate that many of these cities, before the pandemic, *had more wage and salary jobs in all sectors, including government, than they did in 1970, while Philadelphia had 22% fewer jobs.*⁶

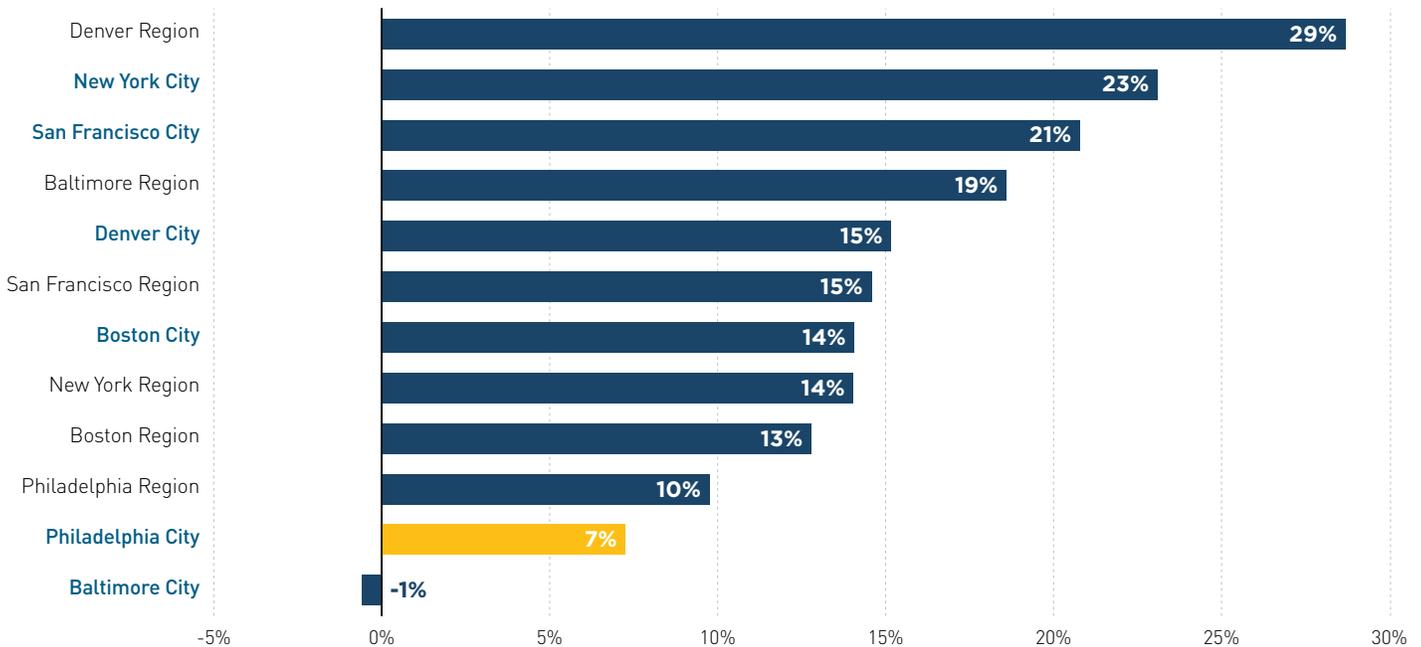
Employment in traded industries from 1998 to 2016 increased in the five comparison cities: San Francisco (35%), Denver (15%), Boston (10%), Baltimore (7%), and New York (6%), *but decreased 3% in Philadelphia.* Philadelphia's traded sector employment *declined* over this period in every supersector except education and health care, leisure and hospitality and other services. The overall decline in traded employment reflected significant long-term losses in manufacturing, financial activities, and business and professional services, which outweighed increases in other sectors.

Pulling the camera back to focus on the period from 1975 to 2016, Philadelphia's weak performance in key post-industrial, office-based sectors is apparent in Figure 5.

The finance, insurance and real estate sectors, which helped replace many lost manufacturing jobs and were key to robust growth in Denver, Boston, New York and San Francisco, contracted in Philadelphia, leaving the city's modest employment rebound to be driven primarily by education, health services, leisure and hospitality, with the majority of job growth coming in sectors that are often exempt from Philadelphia's real estate and business taxes or which pay lower average wages nationally and are thus less impacted by our wage tax.

Philadelphia is also the only city among the six analyzed for the period 1998-2016 that lost jobs in *traded* professional and business services (Figure 6). Between 2017 and 2020, all comparison cities continued to add jobs, but Philadelphia's growth was strongly weighted towards lower-wage jobs.

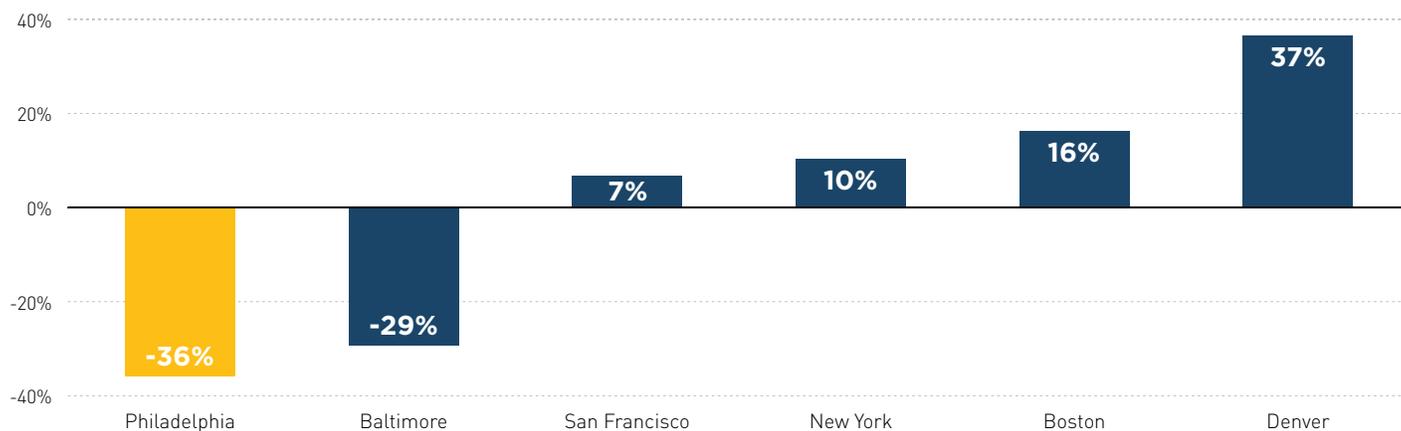
FIGURE 4:
Total Private Sector Employment in Cities and Regions, Percentage Change, 1998–2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

⁶ See US Bureau of Economic analysis website: bea.gov/data/employment/employment-county-metro-and-other-areas.

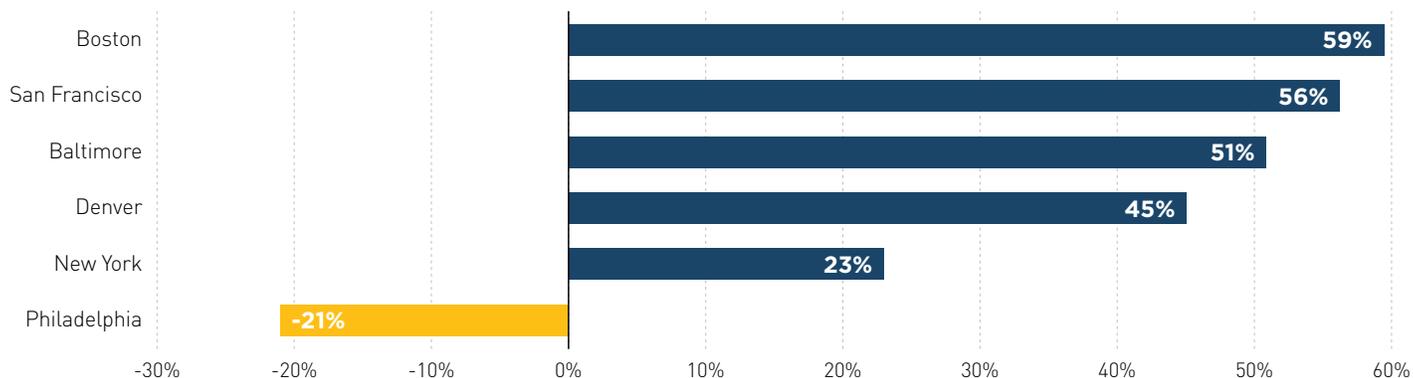
FIGURE 5:
Finance, Insurance and Real Estate Employment in Cities, Percentage Change, 1975-2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

While other cities grew traded sector office jobs in professional and business services, Philadelphia lost 21% of these jobs from 1998 to 2016.

FIGURE 6:
Employment in Traded Sectors in Professional and Business Services in Cities, Percentage Change, 1998-2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

FIGURE 7:
Largest Employers in Philadelphia, Q4 2021



Philadelphia County 4th Quarter, 2021

Combined Government Ownerships

Rank	Employer	Rank	Employer
1	Trustees of the University of PA	26	Excel Companion Care LLC
2	Federal Government	27	Aramark Campus LLC
3	City of Philadelphia	28	Wawa Inc
4	School District of Philadelphia	29	Accenture LLP
5	The Children's Hospital of Philadelphia	30	Target Corporation
6	Temple University	31	Prime Now LLC
7	Thomas Jefferson University Hospital	32	ACME Markets Inc
8	Comcast Cablevision Corp (PA)	33	ACE American Insurance Company
9	Southeastern PA Transportation Authority	34	Philadelphia Gas Works
10	Temple University Hospital Inc	35	AmeriBest Home Care LLC
11	American Airlines Inc	36	Vital Support Home Health Care Agcy
12	Drexel University	37	Piedmont Airlines Incorporated
13	Thomas Jefferson University	38	Ernst & Young US LLP
14	Universal Protection Service LLC	39	Rite Aid of Pennsylvania Inc
15	State Government	40	PNC Bank NA
16	Albert Einstein Medical Center	41	Resources for Human Development Inc
17	Presbyterian Medical Center	42	PECO Energy Power Company
18	Independence Blue Cross LLC	43	PricewaterhouseCoopers LLP
19	Pennsylvania Hospital	44	Wells Fargo NA
20	Patriot Home Care, Inc	45	Bayada Home Health Care Inc
21	United Parcel Service Inc	46	Pennsylvania CVS Pharmacy LLC
22	Wal-Mart Associates Inc	47	Community College of Philadelphia
23	Aria Health	48	The American Oncologic Hospital
24	Jefferson University Physicians	49	Saint Joseph's University
25	Marshalls Distribution Center	50	KPMG LLP

Source: Quarterly Census of Employment and Wages

Center for Workforce Information & Analysis

(877) 4WF-DATA • www.workstats.dli.pa.gov • workforceinfo@pa.gov

May 2022

IMPLICATIONS OF DIMINISHED STRENGTH IN TRADED INDUSTRIES

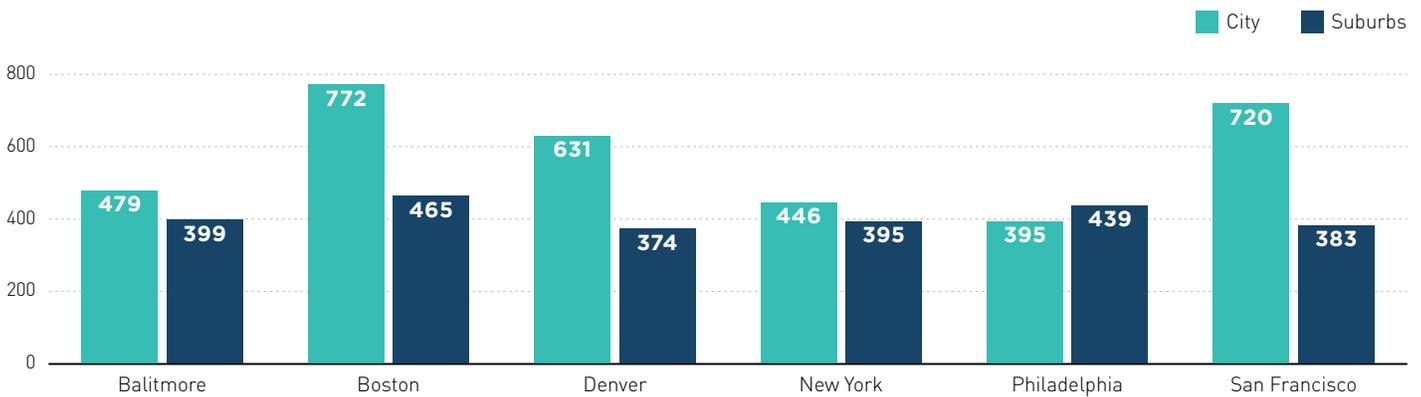
The net result of these trends creates three significant disadvantages for Philadelphia. First, only one establishment among the 10 largest employers in the city, and just four in the top 20, are taxable, private sector firms, according to the Commonwealth of Pennsylvania’s summary of the top 50 employers (Figure 7). A diminished private sector results in lower levels of real estate taxes coming from business properties to support local government and public schools. It can also mean fewer charitable contributions to nonprofits and recurring requests to the same small group of corporate donors.

A second significant impact of Philadelphia’s incomplete recovery from industrial decline is evident when comparing the number

of jobs per thousand residents in the city and the suburbs to the other five regions (Figure 8). Philadelphia not only has fewer jobs per resident, it is the *only metro with fewer jobs per resident in the city compared to the suburbs*, making opportunity more remote for city residents, especially for those without cars. Proximity to jobs is one of the most reliable ways to reduce unemployment for lower-income workers.⁷

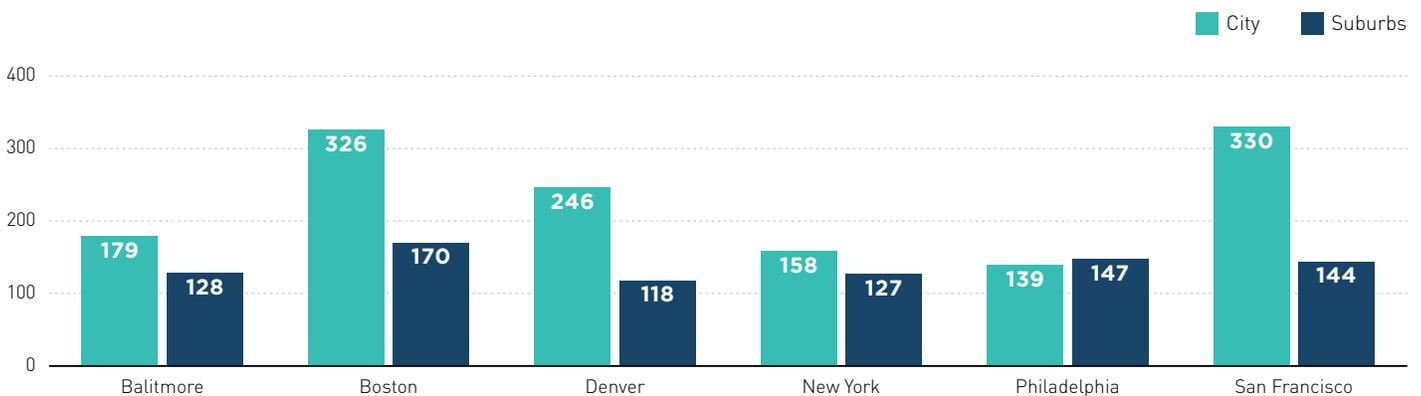
The disparities are even more pronounced when focusing on traded sector jobs. Figure 9 shows that jobs in traded industries are located in the Philadelphia suburbs at densities similar to other metros. But businesses in these sectors have chosen not to locate within Philadelphia at rates comparable to the other five cities.

FIGURE 8:
Total Employment in All Industries per 1,000 Population, Cities and Suburbs, 2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database; Population data from US Census Bureau Population Estimates Program.

FIGURE 9:
Employment in Traded Sectors in All Industries per 1,000 Population, Cities and Suburbs, 2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database; Population data from US Census Bureau Population Estimates Program.

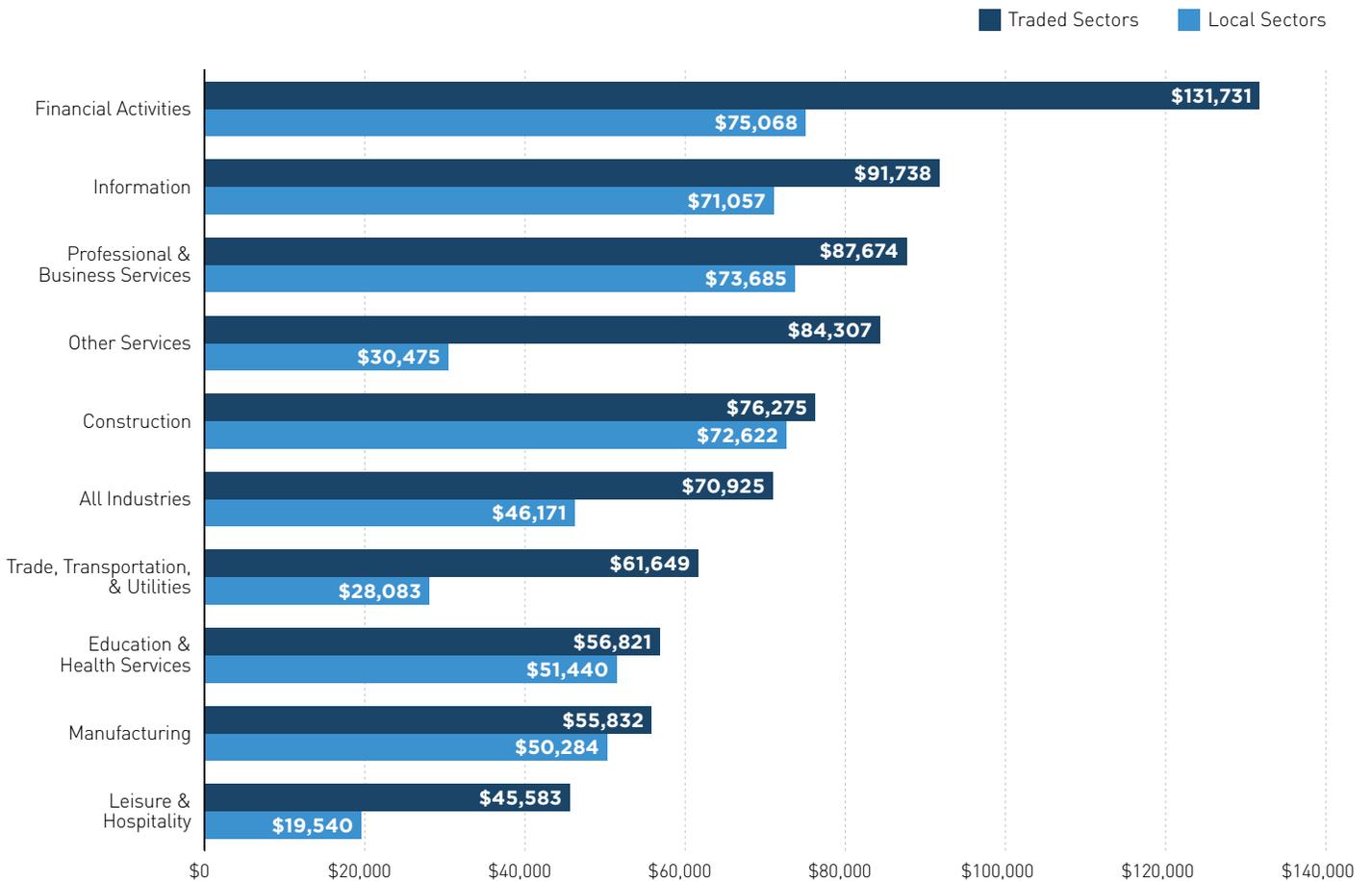
7: Fredrik Andersson, John C. Haltiwanger, Mark J. Kutzbach, Henry D. Pollakowski, & Daniel H. Weinberg, "Job Displacement and the Duration of Joblessness: The Role of Spatial Mismatch," *The Review of Economics and Statistics*, Vol. C, No. 2, (May 2018).

Finally, establishments engaged in traded sector activity pay higher average wages per employee compared to firms engaged only in local activity. Figure 10 uses County Business patterns data to compare the average wages paid by sector by Philadelphia firms that primarily sell locally to the wages paid by those in the same sector that conduct traded activities. On average, wages and salaries paid to Philadelphia employees within each sector in 2016 were higher in traded industries than in local industries. This likely reflects many factors, including skill level and productivity within industries, as well as the city's composition of employment within each sector. But it underscores the importance of growth in traded sectors for overall incomes of Philadelphia residents and their opportunities for family-sustaining careers.

Appendix A contains a detailed analysis of employment trends in each supersector in Philadelphia and in the comparison cities for the period 1998 to 2016.

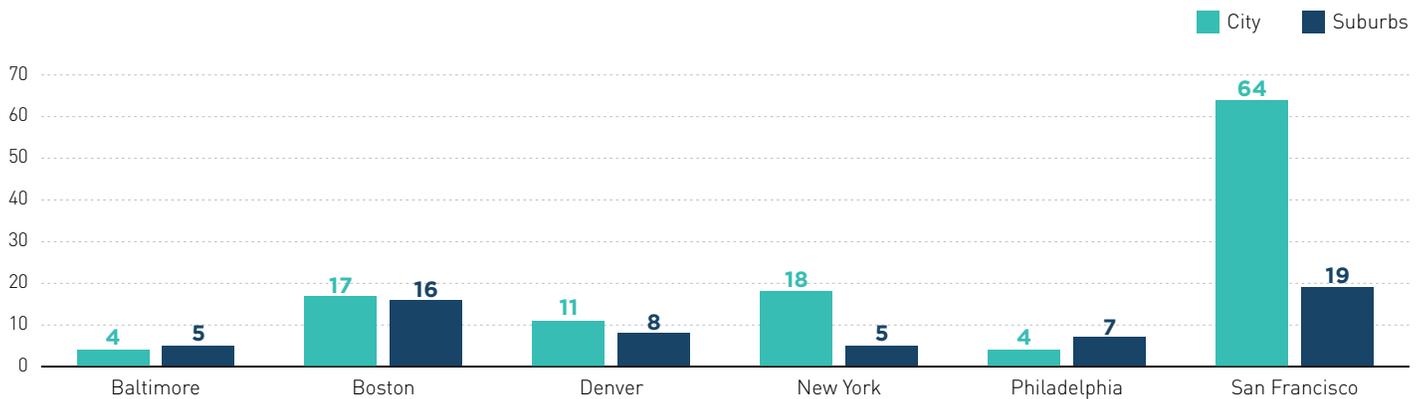
To bring home the importance to a city of traded sector establishments, consider the huge presence of information companies in San Francisco (Figure 11). Every Philadelphia resident and business using Apple, Dropbox, Facebook, Google, Intel, Salesforce, Oracle or Uber is transferring money to support traded firms and employment in the Bay Area. Considering that scientists at the University of Pennsylvania invented the first computer, ENIAC, this highlights the importance of capturing the benefits of local innovation and translating them into more Philadelphia based traded industries.

FIGURE 10:
Philadelphia Average Wage per Employee by Supersector, Traded and Local Industries, 2016



Note: Data reflect only those industries for which employment and payroll data are disclosed. Across all industries, 3% of employment and 6% of payroll are within non-disclosed industries. Source: CCD estimates based on County Business Patterns.

FIGURE 11:

Employment in Traded Information Industries per 1,000 Population, Cities and Suburbs, 2016

Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database; Population data from US Census Bureau Population Estimates Program.

WHAT NEEDS TO BE DONE

Appendix A highlights how for more than three decades, Philadelphia has had a deliberate strategy to grow jobs in leisure and hospitality, not only because they build on our existing historic assets, but because this sector provides so many jobs for local residents, including those who may lack college degrees. However, it is now well understood that while Philadelphia excels in the growth of entry-level jobs, we fall far short in higher-wage, family-sustaining jobs.⁸

The analysis, *Growing More Family Sustaining Jobs in Philadelphia*, documented that Philadelphia employers paid wages comparable to similar businesses in other cities who employed similar workers. However, both our suburbs and peer cities grew far more family-sustaining jobs than did Philadelphia in the decade that followed the Great Recession.⁹ This analysis ties the limited growth in family-sustaining jobs directly to the loss of professional and business services, information and financial services jobs and particularly those establishments that sell services far beyond our region.

Most of these traded establishments exist in the region, they are just not located in Philadelphia. The density of businesses per thousand residents is not only significantly lower in Philadelphia than in comparison cities, Philadelphia is unique in having a significantly lower business density of all types of firms than

both our surrounding suburbs and peer east coast cities.¹⁰ Figure 12 helps visualize how outside Center City and University City, businesses and the job opportunities they offer are concentrated in the suburbs in a corridor that begins in Wilmington and extends north through King of Prussia and central Bucks County as well as in South Jersey.

This problem is more pronounced with the decentralization of traded businesses within the region. A dry-cleaner, shoemaker or supermarket needs to locate in close proximity to its customers and therefore the jobs it creates will be near its customers. Traded firms, by definition, serve much larger markets and therefore can consider a broader geography when selecting their business location.

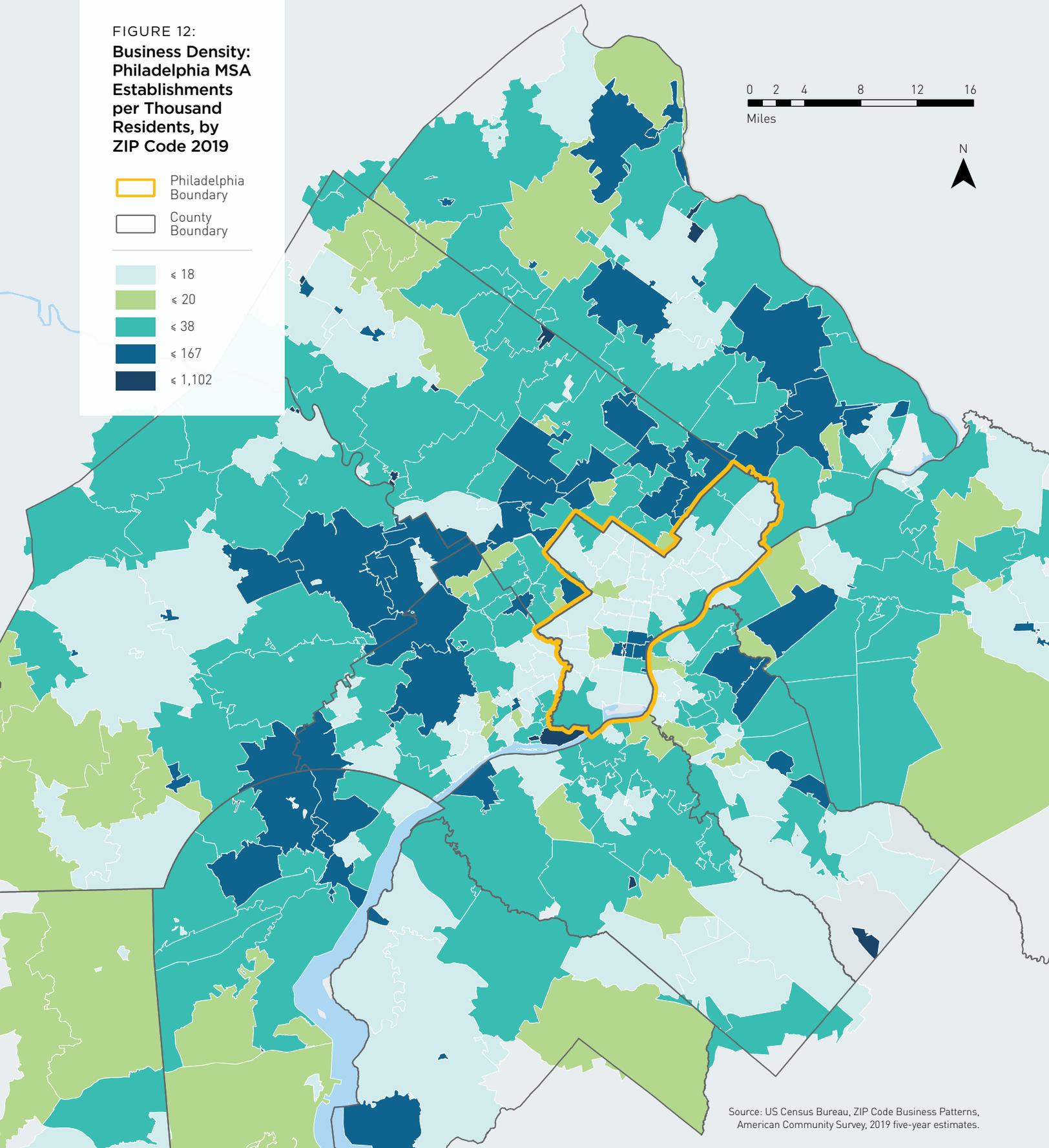
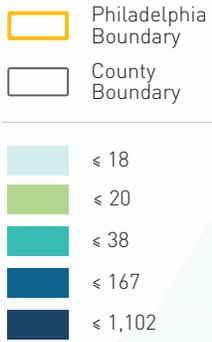
All post-industrial firms need talented and skilled workers for productivity and innovation. But few require the access to the railroads or rivers that were essential in the industrial age. They can rely on auto commuters and increasingly, remote workers. So, assuming access to talent and financing within a region, the quality of life, public safety, business climate and competitive tax rates in different municipalities within the region are paramount factors for business location decisions.

8: *Growing More Family Sustaining Jobs in Philadelphia*, CCD October 2019 centercityphila.org/research-reports/growing-more-family-sustaining-jobs-in-phila.

9: *Growing More Family Sustaining Jobs in Philadelphia*, CCD October 2019, see Figure 8

10: *Business Density and the Role of Black and Minority Owned Businesses*, CCD August 2020 centercityphila.org/research-reports/getting-more-philadelphians-back-to-work-business-density-and-the-role-of-black-and-minority-owned-businesses.

FIGURE 12:
**Business Density:
Philadelphia MSA
Establishments
per Thousand
Residents, by
ZIP Code 2019**



Source: US Census Bureau, ZIP Code Business Patterns, American Community Survey, 2019 five-year estimates.

A look at financial services, both local and traded, is illustrative (Figures 13, 14).

In all comparison cities, except Philadelphia, there are more traded financial services jobs per thousand residents in the city than in their suburbs. This suggests that while there are competitive advantages for such firms to be in this region, there may be distinct reasons for not being in this city – especially since they do choose to locate within our comparison cities. It also follows that the low density of traded financial services in the city reduces the presence of businesses in local industries that support this sector.

Regional private-sector firms in all sectors that locate outside Philadelphia get relatively easy access to Philadelphia’s skilled workforce, especially since 35% of the working residents from each City Council district reverse commute to jobs in the suburbs.

Other factors like schools and public safety matter. But employers who locate in surrounding suburbs are not subject to the business income and receipts tax (BIRT) or the use-and-occupancy tax. Those two taxes alone can add \$10-\$15 per square foot in occupancy costs on top of an estimated \$30 per square foot in downtown office rents, particularly for firms structured as partnerships. Their employees also face the choice of a 1% wage tax if they live and work in the Pennsylvania suburbs (or no local wage tax in some municipalities), a 3.4% wage tax if they live in the suburbs and work in the city, or a 3.8% wage tax if they live in the city and work anywhere in the region. For those who question whether these taxes may be a factor in location decisions, suggesting they rarely hear such complaints, Figure 12 suggests that many of those employees and firms may have left some time ago. Just as tax policy matters for small businesses, it can be an even more significant factor in the site location decisions of larger, traded establishments.

FIGURE 13:
Financial Activities: Traded Sector Employment per 1,000 Population in 2016

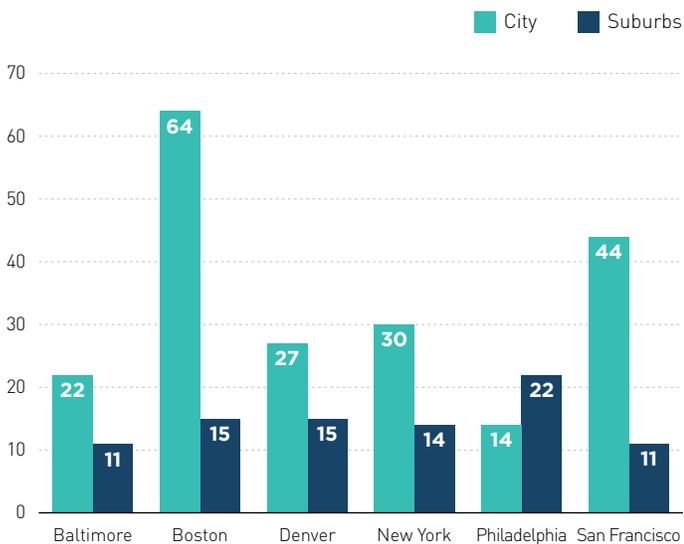
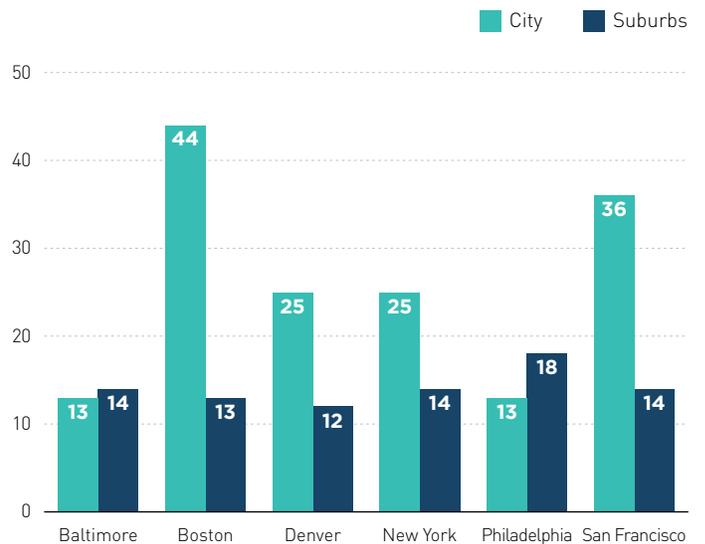


FIGURE 14:
Financial Activities: Local Sector Employment per 1,000 Population in 2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database; Population data from US Census Bureau Population Estimates Program.

THE LIFE SCIENCES OPPORTUNITY

The recent growth in life sciences in Philadelphia is a direct result of the decisions by several major education and health care institutions to support and invest in the commercialization of research conducted in their institutions, resulting in the launch and expansion of firms whose sales can have a global reach. Spark Therapeutics, for example, was formed in 2013, building on two decades of applied research and practice at Children’s Hospital of Philadelphia and the University of Pennsylvania. It focuses on gene therapies that counter the inevitability of genetic diseases like blindness, hemophilia and neurodegenerative disorders and, through their affiliation with Roche, their

technologies can reach international markets. In nine years, they have grown from an idea to 368 employees.

The recently announced partnership of the University of Pennsylvania and Longfellow Real Estate Partners in a \$365 million life sciences and bio-manufacturing building at 34th Street and Grays Ferry Avenue is an excellent example of how not to replay the ENIAC experience, but rather to capture the local benefit of recent innovation. The new facility will have 387,000 square feet of research and lab space with 65,000 square feet of bio-manufacturing space and it joins several million square feet of life sciences space in University City and Center City.

A recent report by CBRE ranks Philadelphia eighth out of the top 25 life science labor markets in the country with the third-highest number of biochemists and biophysicists of any U.S. metro, after Boston/Cambridge and New York/New Jersey. Philadelphia also enjoys the fifth-most favorable ratio of life sciences researcher salaries compared to the local cost of living.¹¹

In reality, a similar analysis can be done for much of Philadelphia's business, professional and financial services sectors.¹² There are strong competitive advantages for most establishments to be in our region, but clearly they are choosing not to locate in the city at densities comparable to other cities. So there is a risk, as there was with emerging technology firms at the beginning of the early 2000s, to latch on to the life sciences as the newest, new thing, as if it proves Philadelphia's basic competitiveness for business.

Most of these are startup businesses, fueled by venture capital, and not yet by operating income and profit. This is not to minimize the extraordinary importance of life sciences to the future of the city. However, as this report documents in Appendix A, in only two of the six supersectors defined by the BLS that make up a significant portion of jobs in competitor cities is Philadelphia's

performance with more mature, traded industries a standout among peers. Life science researchers may now need to be near local hospitals, universities and graduate students. But as they mature, move into production and become profitable, proximity to universities and hospitals may become less important, while quality of life for employees and competitiveness of the overall cost structure (including local taxes) may determine their ultimate location. And if they do relocate, the lawyers, accountants, and other professionals who provide support to their business activity will gravitate closely to them.

This report has documented that Philadelphia's total number of jobs per thousand residents lags behind the other five comparison cities and we are the only one to have a lower density of jobs than our suburbs. Just as the absence of sufficient jobs at all skill levels is a major factor in our high unemployment and poverty rates, the absence of traded establishments in the city is a major reason why we have grown so few family-sustaining jobs. In thinking about Philadelphia's economic performance, consider how well a car with a six-cylinder engine would perform if only two cylinders are fully firing.

Philadelphia's economic performance has been like an automobile with a six cylinder engine that is firing fully on only two of its cylinders.

TAX POLICY FOR INCLUSIVE GROWTH

The recent passage of wage tax and BIRT reductions by City Council, with impetus provided by a new generation of leaders, is a sign of the growing understanding about the adverse impacts of Philadelphia's unique way of financing local government.¹³ Funding local services is essential, but the way we have chosen to do so during the last five decades has been counterproductive to employment and business growth.

While much of the justification and momentum for the tax changes came from Philadelphia's vibrant community of Black- and brown-owned small businesses, this report highlights the equally important task of fashioning a long-term growth plan for medium-sized and larger businesses, particularly in the traded sectors, since they will create so much more demand for the skills and services of smaller firms.

There are others in City Council focused appropriately on the huge challenges of poverty, homelessness, housing affordability and public education. But attempting to address these challenges by focusing only on local redistributive tax policies is a self-defeating strategy. Businesses, as well as middle- and upper-income residents, can and have voted with their feet, resulting in fewer family-sustaining jobs in the city compared to our suburbs and our peer cities. We already have one of the lowest median incomes of all major American cities and, as noted, very low business density.

With significant pressures pushing employers to offer remote or hybrid options, Philadelphia's tax structure provides even more

impetus for firms to direct employees to work from home, to downsize or simply let go of office space in the city. If they do that, it further diminishes the impact that traded sector businesses have on local firms and employment opportunities for Philadelphia residents and decreases tax revenues that support city services and schools.

Philadelphia once was an industrial powerhouse with huge, innovative firms that dominated national markets, creating hundreds of thousands of union-scale jobs. Our crisis of housing and neighborhood decline, joblessness and poverty, is a byproduct of their loss, as are the wage and business taxes we layered on in the 1970s and 1980s to compensate for declining jobs and falling property values. Looking back, learning from our past, provides evidence and motivation for how best to expand our base of jobs.

(1) Steadily lower wage and business taxes to encourage growth of existing firms and draw new ones to the city where they benefit by being at the center of our transit system with regional access to skilled workers and remarkable amenities. (2) The same energy we commit to conventions, festivals and sports needs to be devoted to the retention and attraction of businesses that sell nationally and globally. This will expand the real estate tax base of the city so we can afford to fund the services we need and build a thriving future of opportunity and inclusion for all residents. Once again, Philadelphia can be called the *workshop of the world*.

11: CBRE, Life Sciences Research Talent 2022, The Search to Sustain an Industry Boom, [cbre.com/en/insights/reports/us-life-sciences-talent-2022](https://www.cbre.com/en/insights/reports/us-life-sciences-talent-2022)

12: [phillyworks.com](https://www.phillyworks.com)

13: A Small Down Payment on Growth, June 2021 [centercityphila.org/research-reports/a-small-down-payment-on-growth](https://www.centercityphila.org/research-reports/a-small-down-payment-on-growth)

APPENDIX A:

Employment Trends by Industry Sector: Philadelphia and the Comparison Cities

This appendix details employment trends within each supersector from 1998 to 2016 in Philadelphia and the comparison cities, focusing on changes within traded and local industries, and relative job density in each city. Appendix C available at centercityphila.org/tsereportappendix includes tables that present city level data for employment within each supersector, including the traded and local component, and detailed information on employment by industry within Philadelphia.

Construction:

Five out of the six comparison cities lost construction jobs from 1998 to 2016 with most jobs classified as local. Philadelphia's employment contracted by 18% with the largest losses in commercial and institutional building construction and specialty trade contractors. Among the comparison cities, only New York gained local construction jobs.

There were only seven construction jobs for every 1,000 residents in Philadelphia in 2016, the lowest of the comparison cities and considerably below the suburban density of 22 jobs per 1,000 residents. Suburban construction job density in the Philadelphia region is comparable to that in other regions, while the city's is lower than other cities, suggesting that this industry has decentralized in the Philadelphia region to a high degree.

Manufacturing:

Total manufacturing employment in Philadelphia declined 53% from 1998 to 2016, a loss that was not unusual compared to other cities. Among the six comparison cities, manufacturing job losses ranged from 33% in Denver to 66% in San Francisco. As in each of the other cities, Philadelphia's loss on a percentage basis was greater for traded manufacturing sectors than for local sectors, with traded sector employment declining 54% in the city and local sector employment declining 46%. The losses within the traded component were widely spread across industries, with significant losses in: apparel manufacturing; paper manufacturing; printing; machinery manufacturing; electrical equipment, appliance, and component manufacturing; and transportation equipment manufacturing. Within the local sector, the largest declines were in retail and commercial bakeries.

Trade, Transportation, and Utilities:

This supersector is comprised of four industry categories: retail trade, wholesale trade, transportation and warehousing, and utilities. In Philadelphia, employment within this supersector declined 3% from 1998 to 2016, not an unusual outcome among the comparison cities, where three of the six cities lost jobs during the period. The city's employment in local industries declined just 1%, while traded employment declined 9%.

Information:

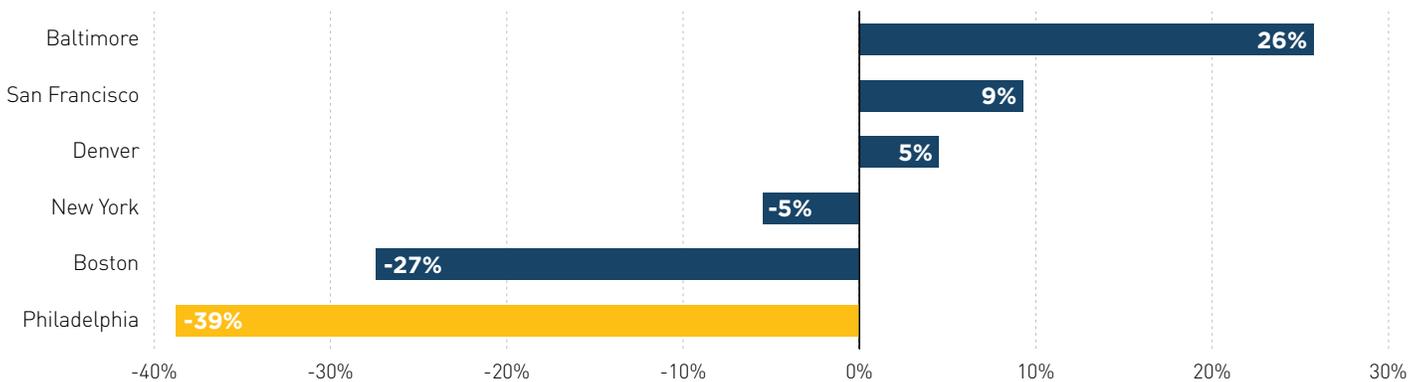
Philadelphia's information sector employment declined 15% from 1998 to 2016. Among the comparison cities, only San Francisco and New York gained jobs in this sector during this period. Employment in local information industries, which include newspaper publishers, movie theaters, radio and television broadcasting and telecommunications carriers, declined in every city from 1998 to 2016, with losses ranging from 63% in San Francisco to 17% in New York. Philadelphia's local information sector job loss was relatively modest at 19%. By contrast, Philadelphia's performance was comparatively weak in the traded information industries, which include book, periodical, and software publishing, motion picture and sound recording industries, cable and other subscription broadcasting, and data processing. Four of the six cities gained jobs in these sectors, while Philadelphia's employment declined 10%. Figure 11 has already highlighted San Francisco's huge dominance in traded information sector jobs. While Philadelphia has just one Comcast, the Bay Area has more than a dozen major information firms, making the area a mecca for tech workers pre-pandemic.

Financial Activities:

Total financial activities employment in Philadelphia declined 27% from 1998 to 2016. While employment declined in five of the six comparison cities, Philadelphia's was the largest on a percentage basis. This stems from losses in traded financial activities, where the city's employment declined 39%, with the greatest losses among insurance carriers, savings institutions, non-depository credit intermediation, and securities, commodity contracts, and other financial investments (Figure 15). Employment in the traded component of financial activities declined in three of the six cities, with Philadelphia's percentage decline the largest. Within local financial activities industries, Philadelphia jobs declined 8%, primarily due to reductions in commercial banking, insurance agencies and brokerages, and consumer goods rental. Four of the comparison cities, including Philadelphia, lost jobs in the local component of financial activities.

These trends left Philadelphia with a very low job density in financial activities compared to the other cities. With only 26 financial services jobs per 1,000 residents, the city has the lowest job density among the six comparison cities. In the other five cities, job density in financial activities ranges from 108 per 1,000 residents in Boston to 35 per 1,000 in Baltimore. Among the comparison cities, Philadelphia is the only city where the density of financial services jobs is lower in the city than in the surrounding suburbs.

FIGURE 15:

Employment in Traded Sectors in Financial Activities in Cities, Percentage Change, 1998–2016

Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

Professional and Business Services:

This category includes three broad industry clusters: professional, scientific, and technical services; management of companies and enterprises; and administrative and support and waste management and remediation. Overall employment in professional and business services declined 14% in Philadelphia from 1998 to 2016, while employment increased in all the other comparison cities, with increases ranging from 6% in Baltimore to 39% in San Francisco.

The decline in professional and business services in the city was driven by a 21% loss in the traded component, while other cities gained traded sector jobs at rates ranging from 23% in New York to 59% in Boston. Philadelphia's decline was a result of losses of engineering services, along with smaller losses in payroll services, architectural services, advertising and public relations, professional employer organizations, telephone call centers, travel arrangement services, and waste collection.

Local industries within professional and business services declined 5% in Philadelphia, while four of the six other cities gained jobs. Some of the largest job losses in the local component in Philadelphia occurred in temporary help services, business service centers, and collection agencies.

While Philadelphia maintains a concentration of law and accounting firms, whose work is mostly classified as local, by 2016, Philadelphia had 55 professional and business services jobs

per 1,000 residents, the lowest density of all comparison cities by a substantial margin. (Figure 16) Among the other five cities, job density ranged from 74 per 1,000 residents in Baltimore to 199 per 1,000 in San Francisco. Philadelphia and Baltimore were the only cities where the number of professional and business services jobs per resident was lower in the city than in the suburbs.

Philadelphia's employment density in traded professional and business services was 27 jobs per 1,000 residents in 2016, well below every other city, where the metric ranged from 42 jobs per 1,000 residents in Baltimore to 130 jobs per 1,000 residents in San Francisco (Figure 17). Philadelphia also had the lowest job density for local professional and business services, but here the difference between Philadelphia and others was smaller, with Philadelphia at 28 jobs per 1,000 residents, Baltimore at 32 jobs per 1,000 and New York at 34 jobs per 1,000.

Another measure of the comparatively small number of traded professional and business and service jobs in Philadelphia is the fact that in 2016, just 47% of professional and business services jobs in Philadelphia were in traded sectors, while the proportion ranged from 61% to 75% in the comparison cities. Philadelphia and Baltimore were the only two among the six comparison cities where professional and business services job density, for both the traded and local industries, were lower in the city than in the suburbs.¹⁴

14: There is a significant concentration of financial activities jobs in Wilmington, Delaware, part of New Castle County, one of the 10 suburban counties in the Philadelphia region. When New Castle County is excluded, suburban job density in the region for all financial services jobs in 2016 drops from 40 per 1,000 to 34 per 1,000 residents. Traded financial services job density drops from 22 per 1,000 to 19 per 1,000, and local financial services density drops from 18 per 1,000 to 15 per 1,000. Philadelphia remains the only region among the comparison group where the city's job density is lower than that of the suburbs.

FIGURE 16:
**Professional and Business Services:
 Total Employment per 1,000 Population in 2016**

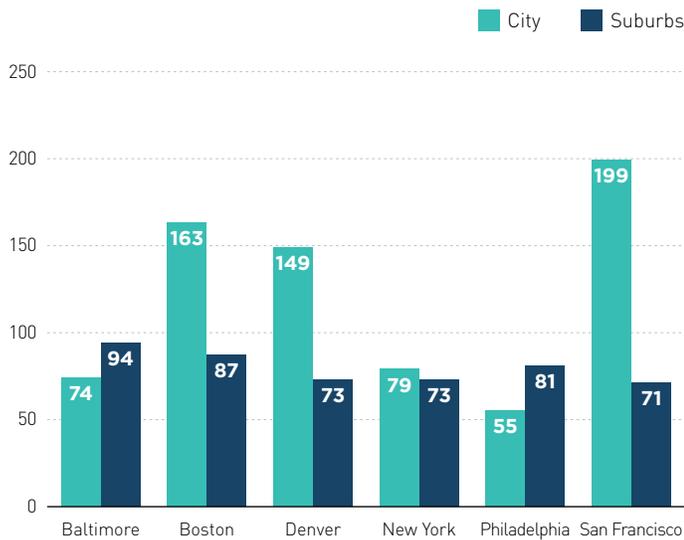
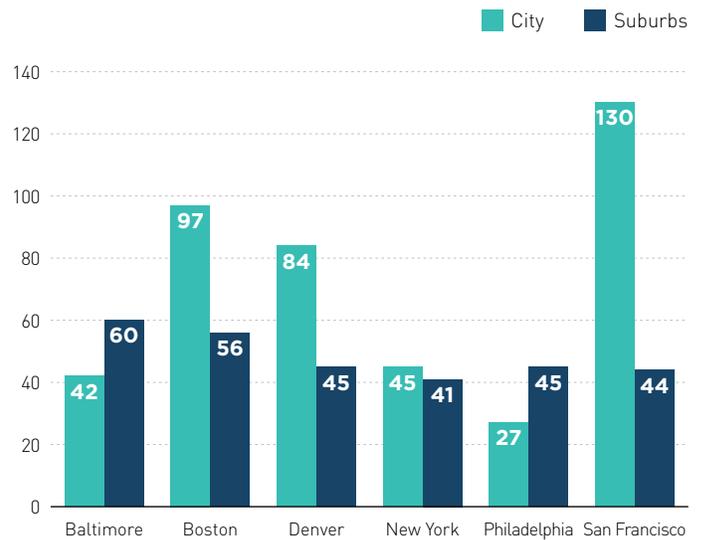


FIGURE 17:
**Professional and Business Services:
 Traded Sector Jobs per 1,000 Population in 2016**



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database; Population data from US Census Bureau Population Estimates Program.

Philadelphia’s growing life sciences sector is a direct result of decisions by education and health care institutions to invest in the commercialization of their own research.

Education and Health Services:

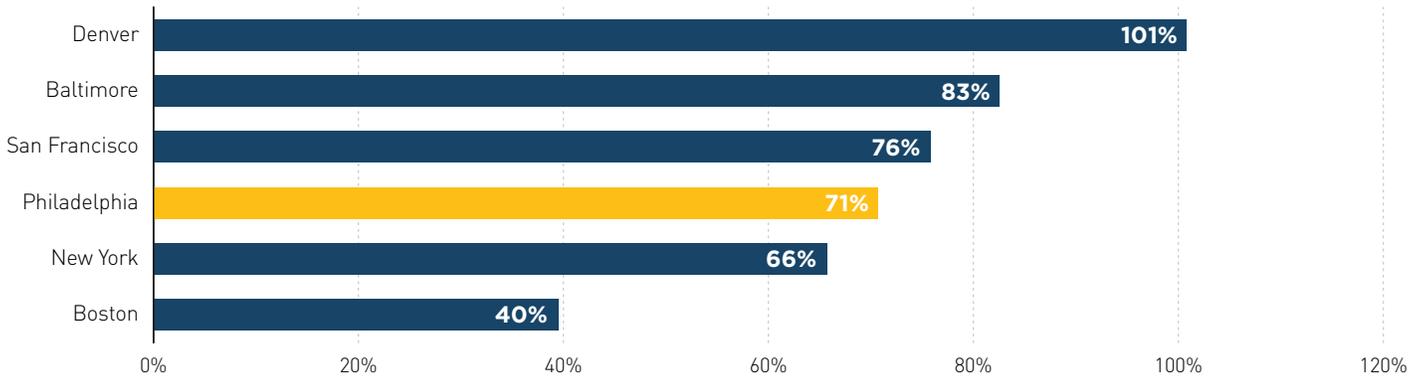
This is Philadelphia’s strongest suit with employment in this sector increasing by 39% from 1998 to 2016, third fastest of the six comparison cities. The traded component, largely comprised of employment at colleges and universities, increased 71%, fourth fastest out of six (Figure 18). The local component, which includes health care and social assistance, elementary and secondary schools, some technical and trade schools, fine arts schools, and some other education categories, increased 30%, ranking third among the cities.¹⁵ Overall employment in education and health services increased by 67,023 jobs from 1998 to 2016.

While education and health services grew robustly from 1998 to 2016, Philadelphia’s growth was not unusual among comparison cities. Nationally, jobs in this sector increased 43% during the eighteen-year period. Philadelphia does have a high concentration in the education and health services sector, with a location quotient of 2.07 – indicating that the city’s share of jobs in this sector is more than twice the national average.¹⁶ This high concentration is driven by the traded component, where Philadelphia’s location quotient is 5.99, second only to Baltimore.

15: The entire health care and social assistance sector, including hospitals, is classified as local, reflecting that clients of health care institutions, nursing facilities and social service organizations tend to be local residents. At the same time, many patients of city hospitals come from outside the region for the specialized care available at the major research and teaching hospitals, and in this sense a portion of their activity in all cities could be classified as traded.

16: The location quotient is a measure of how the concentration of jobs in a particular sector locally compares to the national average. It is calculated as the share of the local areas jobs in a particular industry divided by the share of national jobs in that industry. A location quotient greater than 1 indicates the share of local employment in that industry is higher than the share of national employment – a sign of comparative strength. Conversely, a location quotient less than 1 for an industry indicates that the share of local employment in that industry is less than the national share.

FIGURE 18:
Employment in Traded Sectors in Education and Health Services in Cities, Percentage Change, 1998–2016



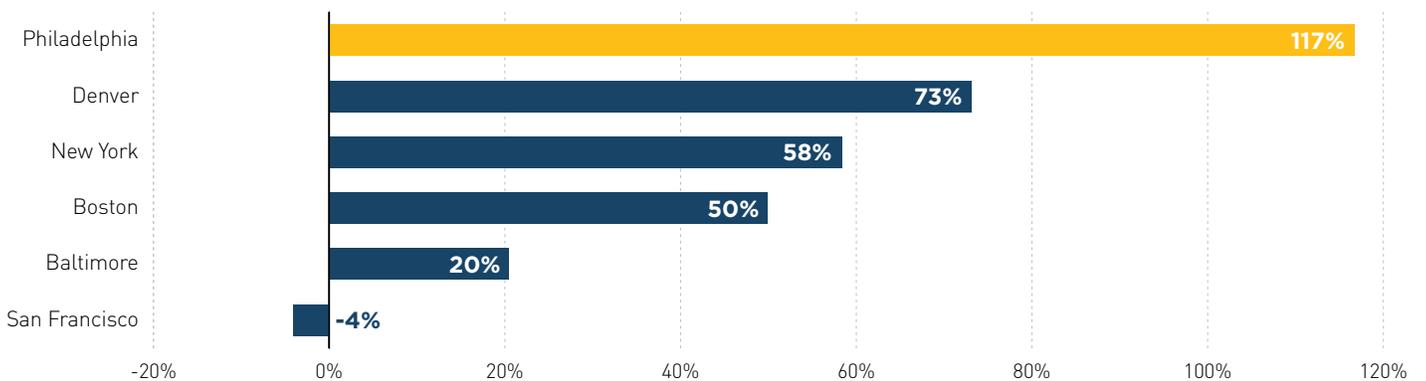
Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

Leisure and Hospitality:

The leisure and hospitality sector is Philadelphia’s other strong suit, composed of the arts, entertainment and recreation sector and accommodation and food services. Philadelphia’s employment in this sector increased 77%, third highest of the six cities. Traded sector employment increased 117%, the highest among the six cities, while local sector jobs increased 63%, ranking fourth (Figure 19). The growth within the traded sector in Philadelphia was driven by increases in performing arts and spectator sports, museums and historical sites, and gambling industries. The growth in the local sector reflected increases in restaurants, bars and other food services, and fitness and recreational sports centers.

These impressive numbers are the direct result of deliberate and sustained investments by state and local government, the private sector, and foundations in the Pennsylvania Convention Center, historic area attractions, new hotels, casinos, the building and renovation of arts, cultural, entertainment and sports venues and the creation of dedicated revenue streams for convention and tourism marketing. It suggests the potential for other deliberate, sustained strategies focused on other traded sectors where we have competitive advantages. If we can do so well in education, health care and hospitality, what will it take to produce similar results in other sectors?

FIGURE 19:
Employment in Traded Sectors in Leisure and Hospitality in Cities, Percentage Change, 1998–2016



Source: CCD tabulation of Eckert, Fort, Schott, and Yang, County Business Patterns Database.

APPENDIX B:

Data Sources and Definitions

Employment Data Source: The data used to analyze traded and local sector employment in Philadelphia and other cities from 1998 to 2016 is drawn from the County Business Patterns Database, an online database created by the economists Fabian Eckert, Teresa C. Fort, Peter K. Schott, and Natalie J. Yang, available at fpeckert.me/cbp. These data are based on the US Census Bureau's County Business Patterns (CBP), an annual data series for employment and earnings by industry for every county in the United States. CBP includes information on business establishments with paid employees, with certain exclusions, including railroad employees, employees of insurance and employee benefit funds, trust, estates, and agency accounts, and private households. Government employees are also excluded with certain exceptions. CBP employment data represent the number of employees on the payroll during the week of March 12 of each year.

The CBP data present two challenges for research. First, the Census Bureau suppresses publication of county level data for certain industries to avoid disclosing information about individual employers. But this occurs equally for all cities. Second, the industry classifications utilized by CBP data change periodically, so that comparisons of employment for particular industry sectors over time are not necessarily accurate unless the CBP data are adjusted to reflect the changes in industry definitions.

The Eckert, Fort, Schott and Yang (EFSY) database was developed to address these problems. EFSY uses advanced computational methods to impute suppressed values of county-level employment by industry. In addition, EFSY uses the Census Bureau's published information about changes in industry classifications since 1975 to ensure its data are comparable over time at an industry level. A complete description of the methods used by EFSY is available at: nber.org/papers/w26632.

Classification of Traded and Local Industries: The classification of industries as traded or local is drawn from the US Cluster Mapping Project, an initiative of the Harvard Business School, the U. S. Department of Commerce and the U.S. Economic Development Administration to provide data on local industry clusters to businesses and public officials. The project classifies industries at the six-digit NAICS level as traded or local, and then further classifies them into clusters of related industries. In this research, CCD used the project's definition of each six-digit NAICS industry as traded or local as the basis for analyzing the overall growth trend of traded and local industry employment in Philadelphia and other cities. The Cluster Mapping Project's definitions are available at: clustermapping.us/content/cluster-mapping-methodology

Definition of Supersectors: The broad industry categories used in the analysis are those defined as "supersectors" by the U.S. Bureau of Labor Statistics. Each two-digit NAICS sector is classified into one of 10 supersectors. The classification is available at: bls.gov/sae/additional-resources/naics-supersectors-for-ces-program.htm

Time Period: The EFSY database is available for the period 1975 to 2018. However, the focus of the research in this report is on the period from 1998 to 2016, due to limitations of the data. Within the EFSY database, industry detail prior to 1998 is limited because prior to that time, the CBP industry definitions were based on the Standard Industrial Classification (SIC) codes. Beginning in 1998, CBP industry definitions reflect the North American Industry Classification System (NAICS). Only the data based on NAICS are sufficiently detailed at the industry level to allow for a full classification of industries as traded or local. In addition, due to a change in the Census Bureau's methodology for protecting confidentiality after 2016, the EFSY data are not sufficiently detailed for a full classification of industries as traded or local. EFSY indicate that in future work they intend to address this change in Census methodology, which should allow for extending the analysis of traded and local employment beyond 2016.

This report was written by Paul R. Levy, President and CEO, and edited by JoAnn Loviglio, Senior Director of Communications and Publications. Stephen Camp-Landis, Vice President of Policy and Research, and Joanne Chen, Research Associate, were the lead researchers. The report was designed by Amy Genda, Senior Creative Director, and Natasha Levandoski, Graphic Designer.

