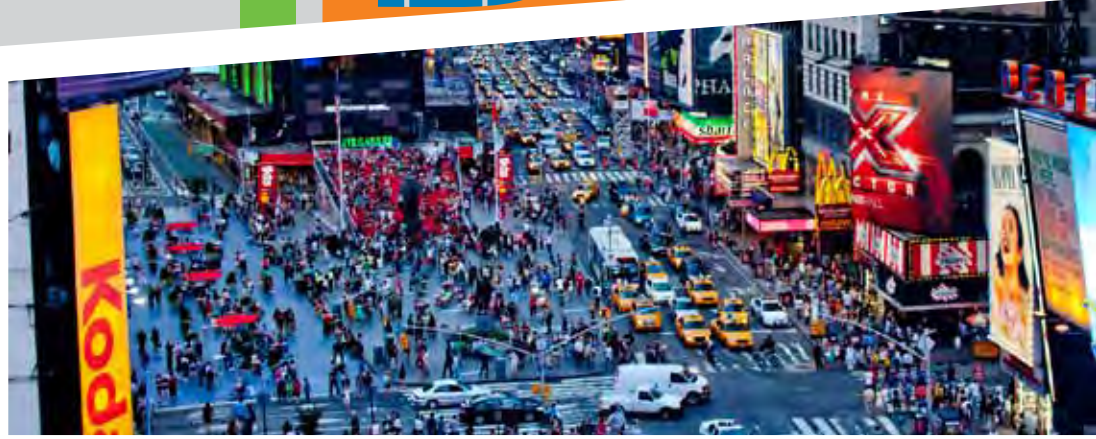


International
Downtown
Association



**DOWNTOWN REBIRTH
DOCUMENTING THE
LIVE-WORK DYNAMIC IN
21ST CENTURY U.S. CITIES**

Prepared for the International Downtown Association
By the Philadelphia Center City District
Paul R. Levy and Lauren M. Gilchrist



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ABOUT THE INTERNATIONAL DOWNTOWN ASSOCIATION

Founded in 1954, the International Downtown Association connects diverse practitioners who transform cities into healthy and vibrant urban places. Representing more than 3,000 practitioners across 500 organizations worldwide, from cities and towns both small and large, IDA provides the critical tools and resources to help make every downtown a healthy and dynamic heart of its community. As expectations grow for downtown practitioners to transform their cities into hubs of economic and cultural vibrancy, IDA is the organization professionals turn to for the industry's best networking, educational, and professional development opportunities.

ABOUT THE CENTER CITY DISTRICT

The Center City District (CCD) is a \$20 million, private-sector sponsored business improvement district authorized under the Commonwealth of Pennsylvania's Municipality Authorities Act. Covering 233 blocks in the heart of downtown Philadelphia, the CCD helps create a clean, safe, attractive, and well managed public environment in order to support business and economic development in Center City Philadelphia. In addition to public space management and services, the CCD also conducts extensive public policy and market research.

The International Downtown Association and the Center City District thank the Penn Institute for Urban Research for their generous contribution to printing costs for this report.



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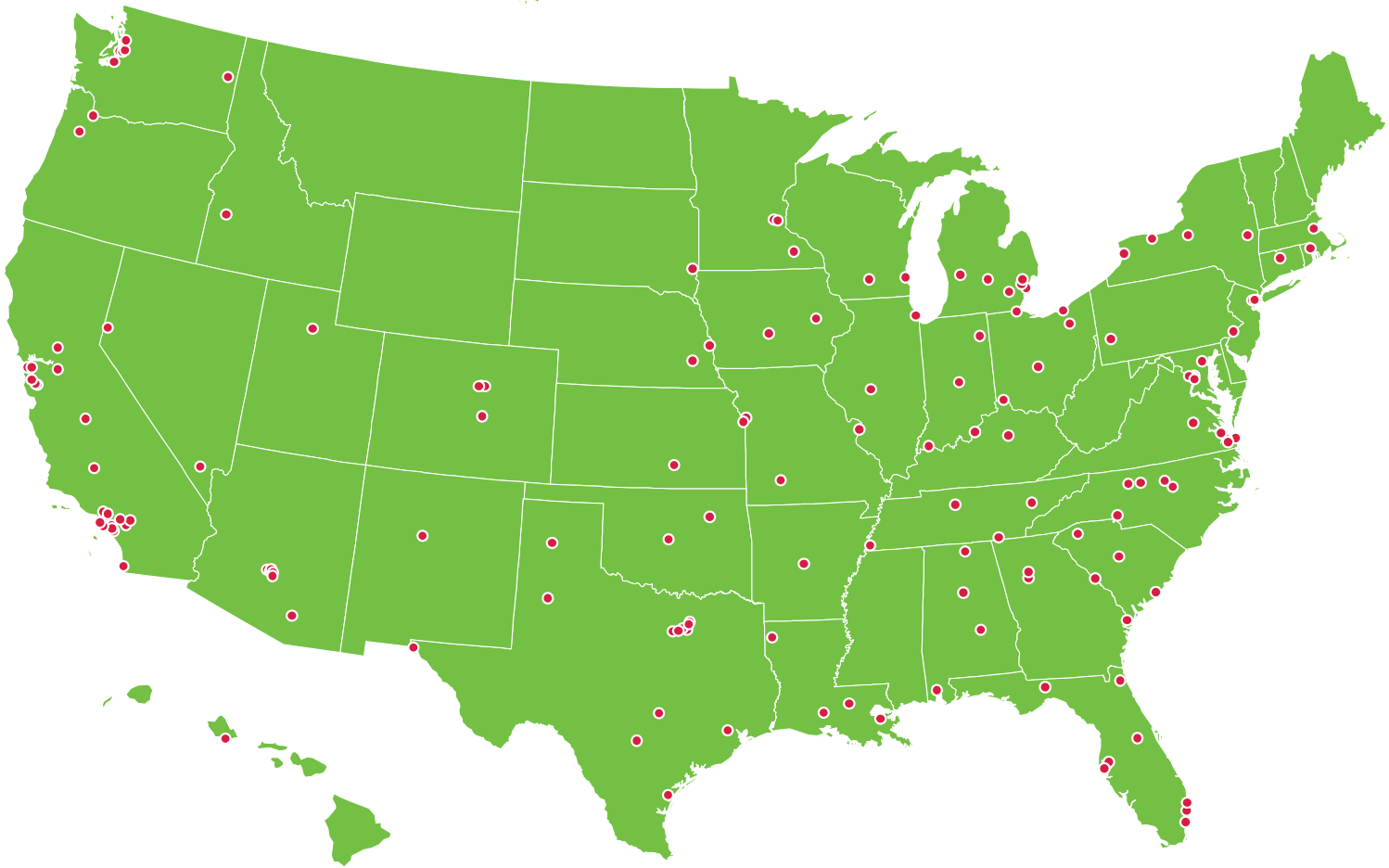
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CITIES ANALYZED
(Figure 1)

America's 150 largest cities hold **30%** of all jobs in the country, and the **231 major** employment centers within them contain **18.7 million jobs — 14.4%** of U.S. employment.



- | | | | | | |
|------------------|----------------------|------------------|-------------------|--------------------|--------------------|
| Akron, OH | Chandler, AZ | Greensboro, NC | Madison, WI | Plano, TX | Shreveport, LA |
| Albany, NY | Charleston, SC | Greenville, SC | Memphis, TN | Portland, OR | Sioux Falls, SD |
| Albuquerque, NM | Charlotte, NC | Hartford, CT | Mesa, AZ | Providence, RI | Southfield, MI |
| Alexandria, VA | Chattanooga, TN | Honolulu, HI | Miami, FL | Raleigh, NC | Spokane, WA |
| Amarillo, TX | Chesapeake City, VA | Houston, TX | Milwaukee, WI | Redmond, WA | Springfield, IL |
| Anaheim, CA | Chicago, IL | Huntsville, AL | Minneapolis, MN | Reno, NV | Springfield, MO |
| Anchorage, AK | Cincinnati, OH | Indianapolis, IN | Mobile, AL | Richardson, TX | St. Louis, MO |
| Ann Arbor, MI | Cleveland, OH | Irvine, CA | Montgomery, AL | Richmond, VA | St. Paul, MN |
| Arlington, TX | Colorado Springs, CO | Irving, TX | Nashville, TN | Riverside, CA | St. Petersburg, FL |
| Arlington, VA | Columbia, SC | Jackson, MS | New Orleans, LA | Rochester, MN | Stockton, CA |
| Atlanta, GA | Columbus, OH | Jacksonville, FL | Newark, NJ | Rochester, NY | Syracuse, NY |
| Augusta, GA | Corpus Christi, TX | Jersey City, NJ | Newport News, VA | Sacramento, CA | Tacoma, WA |
| Aurora, CO | Dallas, TX | Kansas City, MO | Norfolk, VA | Salem, OR | Tallahassee, FL |
| Austin, TX | Denver, CO | Knoxville, TN | Oakland, CA | Salt Lake City, UT | Tampa, FL |
| Bakersfield, CA | Des Moines, IA | Lafayette, LA | Oklahoma City, OK | San Antonio, TX | Tempe, AZ |
| Baltimore, MD | Detroit, MI | Lakeview, CO | Omaha, NE | San Bernardino, CA | Toledo, OH |
| Baton Rouge, LA | Durham, NC | Lansing, MI | Ontario, CA | San Diego, CA | Torrence, CA |
| Bellevue, WA | El Paso, TX | Las Vegas, NV | Orlando, FL | San Francisco, CA | Troy, MI |
| Birmingham, AL | Evansville, IN | Lexington, KY | Overland Park, KS | San Jose, CA | Tucson, AZ |
| Boca Raton, FL | Everett, WA | Lincoln, NE | Palo Alto, CA | Sandy Springs, GA | Tulsa, OK |
| Boise, ID | Fort Lauderdale, FL | Little Rock, AR | Pasadena, CA | Santa Ana, CA | Tyson's Corner, VA |
| Boston, MA | Fort Wayne, IN | Long Beach, CA | Philadelphia, PA | Santa Clara, CA | Virginia Beach, VA |
| Buffalo, NY | Fort Worth, TX | Los Angeles, CA | Phoenix, AZ | Savannah, GA | Washington, DC |
| Burbank, CA | Fresno, CA | Louisville, KY | Pittsburgh, PA | Scottsdale, AZ | Wichita, KS |
| Cedar Rapids, IA | Grand Rapids, MI | Lubbock, TX | | Seattle, WA | Winston-Salem, NC |

★ Appendix II, Table 1 on page 34 contains the list of all 231 job nodes in these 150 cities listed in descending order by number of jobs.

EXECUTIVE SUMMARY

DENSITY AND DIVERSITY: A NATIONAL TREND

Downtowns across the United States are thriving. From Boston to San Diego, Seattle to Miami, cities are diversifying their economies and land use, restoring and enlivening public spaces. During the last three decades, city centers have been adding arts, culture, dining, education, medical, and research institutions, along with hospitality, leisure, and sports venues. Simultaneously, there has been a dramatic and sustained increase in residents, living both within business districts and adjacent neighborhoods.

Places once shunned as empty and unsafe at night are being redeveloped at higher density and are thriving after dark. They have become preferred places for work, entertainment, and living. Patrons of downtown regional destinations mingle with office workers, resident young professionals, empty-nesters, and, in many cities, an expanding number of families with children. The trends of diversification, animation, and residential revival are occurring as well on and around urban colleges, universities, medical centers, research parks, and other urban commercial zones.

Downtown revitalization has been written about extensively. But it has proved difficult to arrive at standard definitions that make it easy to quantify and compare employment and population trends across the broad range of American cities. A relatively new data-merging and mapping effort from the U.S. Census Bureau and state labor market information (LMI) agencies, called the Local Employment Dynamics data and OnTheMap, now make it possible to conclude:

- While employment across the United States has been decentralizing for decades¹ and now averages only 0.05 jobs per acre (34.1 jobs per square mile), **28 major urban employment centers have achieved densities in excess of 100 jobs per acre, while another 24 have between 75 and 99 jobs per acre.** (See Appendix II, Table 1 for all 150 cities and their 231 job nodes and Table 2 for Job Densities.)
- Total wage and salaried employment in America's 150 largest cities² (on the basis of jobs) now accounts for **30%** of all wage and salaried employment in the United

★ Footnotes begin on page 56.

Figure 2: Total Jobs in Major Employment Nodes in America's Largest Cities (Based on Number of Jobs)

City Jobs Rank	Job Node	Total Jobs in Major Employment Nodes
1 3,776,719 jobs	New York, NY	2,318,523
	Midtown Manhattan	1,441,281
	Downtown Manhattan	527,118
	Brooklyn*	350,124
2 1,679,859 jobs	Los Angeles, CA	660,670
	Downtown Los Angeles	372,337
	Westwood/UCLA	140,986
	Hollywood	76,118
	Wilshire/Koreatown	71,229
3 1,590,436 jobs	Houston, TX	561,605
	Downtown Houston	200,383
	Greenway Plaza	103,963
	Uptown	129,929
4 1,261,865 jobs	Chicago, IL	734,903
	Downtown Chicago	609,902
	University of Illinois	94,935
	University of Chicago	30,066
5 828,284 jobs	Phoenix, AZ	187,410
	Downtown Phoenix	107,859
	North Downtown	79,551
6 798,088 jobs	Dallas, TX	357,799
	Downtown Dallas	167,514
	University of Texas Medical Center	190,285
7 717,240 jobs	San Diego, CA	181,199
	Downtown San Diego	100,905
	UCSD & Medical Center	80,294
8 665,585 jobs	Philadelphia, PA	367,595
	Center City	288,227
	University City	79,368
9 649,930 jobs	San Antonio, TX	181,155
	Downtown San Antonio	96,643
	University of Texas Medical Center	84,512
10 634,183 jobs	Washington, DC	444,581
	Downtown Washington, DC	397,036
	Georgetown	28,017
	VA Medical Center	19,528
Total Jobs in Major Employment Nodes		5,995,440

*Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract.

States (38,883,551 jobs). Within these cities, the one-mile area surrounding and including the 231 densest job nodes accounts for **48.1% of the jobs in these cities.** (See Figure 1 and Appendix II, Table 1.) **These 231 major employment nodes and the one-mile area surrounding them thus hold 14.4% of U.S. jobs (18,696,018 jobs).**

- Major employment centers vary greatly across the country based on local industry specialization, but in the 150 largest cities, employment centers may be broadly grouped into three categories:
 - (1) Nearly two-thirds are **commercial downtowns and town centers** filled with professional, business, insurance, and financial services firms; real estate, communications, energy, and technology employers; as well as leisure, retail, and hospitality industries.
 - (2) Twenty percent are education, healthcare, and research campuses with classrooms, dormitories, administrative buildings, museums, hospital beds, doctors' offices, treatment centers, and laboratories, termed here **anchor institution districts.**
 - (3) **Office and research parks** in suburban-style, auto-oriented campuses make up the balance.
- American cities vary greatly in terms of the geographic distribution of their economic activity. In general, the cities studied here are one of four types:
 - (1) Sixty-one percent are cities with **one dominant downtown employment node.**
 - (2) Thirteen percent have a **dominant downtown employment node, plus a significant secondary employment node,** typically built around one or more educational or medical facilities.
 - (3) Cities with **multiple, roughly equal, employment nodes** account for 8% of the sample.
 - (4) Ten percent are cities with **decentralized employment** throughout the city area.

In these 231 major employment centers and within the one-mile radius that surrounds each of them, **12.9 million people (4.2% of the U.S. population)** now make their primary residence in live-work environments that define thriving 21st century cities.

EMPLOYMENT NODES WITH THE HIGHEST LIVE-WORK PERCENTAGES

A live-work environment is one in which commuting times and costs are significantly reduced. (Contrast a 50-minute commute by car with a 15-minute walk to work.) **Thirty-four major, urban employment nodes are at the center of zones in which 30% or more of the working residents living within these employment centers, or within the surrounding one-mile radius, also work within this area.** Another 58 major, urban employment nodes are at the center of zones in which 20% to 29% of working residents living within these employment centers, or within the surrounding one-mile radius, work within this area. Five employment centers — Midtown Manhattan, downtown Chicago, downtown Washington, DC, Las Vegas' major casino strip, and Rochester, MN — have live-work quotients in their downtown residential neighborhoods in excess of 50%. (See Appendix II, Table 3 for all 150 cities and 231 job nodes.)

Figure 3: Highest Live-Work Percentages

Employment Node	% of Workers Living Within One Mile of Downtown Who Work Within One Mile of Downtown
Midtown Manhattan, NY	55.9%
Downtown Chicago, IL	51.8%
Downtown Washington, DC	50.5%
Strip - Las Vegas, NV*	50.5%
Downtown Rochester, MN	50.2%
Downtown Ann Arbor, MI	49.3%
Downtown Honolulu, HI**	44.5%
Downtown Portland, OR	43.5%
Downtown Seattle, WA	41.0%
Center City - Philadelphia, PA	40.7%

*Because Downtown Las Vegas and the Las Vegas Strip fall into different cities, the live-work relationship for these areas was calculated by examining the commuting patterns of workers who live in both places.

**Honolulu statistics were calculated using Honolulu County as the city area rather than Urban Honolulu.

DOWNTOWNS WITH THE LARGEST NUMBER OF RESIDENTS

In many major cities, the residential population living in and within a mile of major employment zones is growing faster than the rest of the city, sometimes faster than adjacent suburbs. Between 2000 and 2010, nearly all of the most heavily populated downtowns saw double-digit population growth in and around their city centers, with Chicago doubling population

Figure 4: Population Change Around Job Nodes with Largest Residential Populations

Employment Node	Commercial Downtown		Population Within Half Mile		Population Within One Mile	
	2010 Population	2000-2010 % Change	2010 Population	2000-2010 % Change	2010 Population	2000-2010 % Change
Midtown Manhattan, NY	78,579	12.5%	378,553	6.7%	586,652	8.9%
Downtown Manhattan, NY	65,714	64.8%	148,396	15.6%	173,179	13.1%
Center City - Philadelphia, PA	57,239	16.3%	107,853	16.2%	170,467	8.9%
Downtown Chicago, IL	53,832	95.6%	101,885	45.5%	144,051	46.0%
Downtown San Francisco, CA	52,008	15.7%	117,312	14.6%	134,312	13.9%
Downtown Seattle, WA	42,423	25.4%	86,427	15.5%	119,590	13.3%
Downtown Miami, FL	40,414	68.2%	90,142	33.5%	140,889	27.7%
Downtown Boston, MA*	33,828	16.8%	77,610	17.7%	170,934	10.4%
Downtown Jersey City, NJ	31,538	58.2%	77,015	20.3%	160,186	10.3%
Downtown Sacramento, CA	30,544	-1.7%	52,684	2.2%	73,225	19.4%

*Downtown Boston population was estimated based on locally accepted boundaries because no LED data are available for the Commonwealth of Massachusetts.

in its downtown core. Population growth in and within a one-mile area of each of these 10 downtowns grew an average of 17.2% between 2000 and 2010, while the national population grew by 9.7% in this decade.

These findings are based on 2011 LED data and 2010 Decennial Census data, the most recent years for which the LED employment and full census counts are available. These complete counts, rather than more recent estimates, were used to ensure comparability across geographic areas.³ However, the Census Bureau’s Population Estimates program, as well as the anecdotal evidence from local real estate trends, suggest that downtown population numbers are steadily increasing, and, as the national economy continues to recover, jobs are being added. Between the 2010 Census on April 1, 2010, and July 1, 2012 (the date of the Census Bureau’s most recent population estimates), the top 10 cities featured in this

report added an estimated 532,525 people, or 2.2%, to their total population, with Washington, D.C. posting the largest growth rate at 5.1% citywide. As long as energy costs remain high and demographic, cultural, and development trends favoring cities continue, the resurgence of downtowns and anchor institution districts is likely to grow stronger.

But nothing is guaranteed about their success. Sustained economic growth requires focused place management, competitive tax policies, entrepreneurial talent, capital, smart local governance, workforce quality, and good global connections. LED provides a new resource for downtown managers and civic leaders to benchmark their progress on this path. It would be extraordinarily helpful to those who manage, govern, or develop in these places if the U.S. Census Bureau could adopt this methodology for future reports on downtowns and other urban employment nodes.



Downtown Austin, TX

INTRODUCTION

For more than three decades, downtowns in the United States have diversified their economies and land use, restoring and animating public spaces. City centers, primarily places to work and shop in the mid-20th century, have been adding arts, cultural, dining, education, medical, and research institutions, along with hospitality, leisure, and sports venues. Simultaneously, there has been a dramatic and sustained increase in residents living both within business districts and in adjacent neighborhoods.

Downtowns, once shunned as empty, unsafe places at night, are now being redeveloped at higher density and are thriving after dark. Patrons of downtown regional destinations mingle with office workers and resident young professionals, empty-nesters, and, in many cities, an expanding number of families with children. The trends of diversification, densification, and adjacent residential revival are also occurring on and around urban colleges, universities, medical centers, and research parks as well as around other major employment nodes outside the traditional downtown.

Today, America's 150 largest cities (on the basis of jobs)⁴ contain **30%** of all jobs in the United States (38,883,551 jobs), and their 231 densest, major employment nodes and the one-mile area surrounding them account for **48.1% of the jobs in these cities**. While jobs in the United States have been decentralizing for decades and now average only 0.05 jobs per acre nationally (34.1 jobs per square mile), 28 major urban employment centers have job densities in excess of 100 jobs per acre, while another 24 have densities between 75 and 99 jobs per acre. Even the least dense of the 231 employment centers analyzed in this study have job densities 20 times the national average.

Within these major employment centers and within the surrounding one-mile radius, **12.9 million people (4.2% of the U.S. population)** now make their primary residence in live-work environments that are becoming the hallmark of successful 21st century cities. In nearly all major cities, the residential population in these areas is growing faster than the rest of the city, sometimes faster than adjacent suburbs. Within each employment node in the top 10 cities for jobs, 63% of all residents 25 and older hold at least a

Bachelor's degree, and 30% hold a graduate or professional degree; 55.7% of the population is under 35 years old, and household incomes average \$123,345 annually.⁵ While jobs attract residents, the availability of a skilled, well-educated population is now also a powerful draw for some employers. Other research also suggests that as educational levels rise in a metropolitan area, all individuals working there experience increases in their earnings, regardless of education level.⁶

Journalists were first to write about the residential part of this trend, notably in cities such as Boston, New York, Philadelphia, Chicago, and San Francisco, which experienced "back to the city" movements as early as the 1970s. Academic case studies of individual cities followed, but until the first decade of this century, there was no systematic effort to quantify the magnitude of the live-work trend, in part because the dominant urban narrative for so long had been the story of decline. More significantly, the geographic units that the national government uses to record jobs and population make it hard to arrive at standard definitions that work for all cities to enable the systematic tracking of these trends.

Neither the U.S. Census Bureau, nor the Bureau of Economic Analysis, nor the Bureau of Labor Statistics counts the number of jobs located in the places North Americans call "downtown."⁷ While employment data are typically computed at the county level and population statistics are available for areas as small as Census Blocks, there is no common definition for a *downtown residential neighborhood* or agreement on how, or if, it differs from other city neighborhoods.

At the local level, employment estimates for downtowns are often derived from data tabulated by national, commercial brokerage firms that track the quantity, rent, and occupancy rates of leased office space. Clusters of major commercial buildings are aggregated to define central business districts (CBDs). Within these areas, accepted industry measures of workers per square foot are used to estimate employment. But CBDs do not usually include the emerging retail, entertainment, or hotel zones that diversified so many American downtowns by the end of the 20th century, nor do

they count employment in institutionally-owned cultural, medical, or educational buildings.

By the 1990s, business improvement districts (BIDs) and other place-management organizations were calculating population and employment across multiple sectors within their service areas, using local tax records or capitalizing on relationships with property owners, managers, and business or institutional

leaders to secure data not otherwise available. Several BIDs support research staffs to document their economic and demographic trends. But few BIDs cover all of the geography of downtown commercial areas. In many big cities, multiple BIDs operate within areas broadly perceived as one central business district, creating the potential for overlapping or incomplete data and conflicting narratives about downtown, particularly in the absence of a standard methodology.

HISTORICAL BASIS FOR DEFINITION CHALLENGES

The challenge of defining downtown emerges in part from the unique development path that American cities took beginning in the second half of the 19th century. As Robert Fogelson writes in *Downtown: Its Rise and Fall*, the colonial American city was a walking city where home and work were close together. As in Europe, *city* or *town center* was the way to describe the most commercialized zones. The term *downtown* appeared first in New York City as a geographic reference to the southern portion of the island of Manhattan, where commercial buildings, clustered close to the port, grew denser and squeezed out homes. Downtown was the lower, business part of the island, while uptown initially referred to the residential blocks above Wall Street and then above 14th Street, where the affluent moved to escape from noise, congestion, and commercial density.

Without the weight of tradition or an authoritarian government that imposed height limits or property restraints, commercial developers kept buying adjacent houses, replacing them with ever larger commercial structures. As this phenomenon occurred in other cities, downtown ceased to be a geographic reference and acquired a functional meaning: downtown = the high-density business district.

As the U.S. industrialized in the 19th century, horse-drawn carts on fixed rail, then electric-powered trolleys, then elevated railroads and subways extended commuting distances. Downtowns grew denser, acting as magnets pulling labor to the central workplace. But even in the decade immediately after the Civil War, most buildings in American business districts were still four- to six-story brick or masonry structures. The innovation of steel frame buildings, which occurred first in Chicago following its disastrous fire in 1871, and the invention of the Otis elevator meant buildings could rise higher, making “huge” 18- to 20-story structures possible. In the pre-automobile city with land at a premium, the impulse was to go up. By 1910, a tight cluster of skyscrapers became the defining characteristic of the American downtown—“the heaven storming audacity of a young nation,” as one startled English visitor noted on arriving in the port of New York (Robert M. Fogelson, *Downtown: Its Rise and Fall*, 1880-1950, page 138).

Around these skyscrapers emerged giant department stores catering to downtown workers and regional, transit-dependent shoppers. In the next geographic ring came warehouses and establishments that served downtown; farther out, as density dropped, were residential neighborhoods. Distributed elsewhere in the city, within walking distance of manufacturing establishments, railroad depots, or ports, were working-class neighborhoods.

By contrast, in the center of nearly all European cities, commercial enterprises and offices intermingled with middle- and upper-class residences. Customary or formal height limits, such as those in Paris, prohibited anything taller. Skyscrapers and single-use office districts did not appear until after the Second World War, emerging first in places like Rotterdam where the traditional city had been blitzed. Between the 1960s and 1980s, these districts emerged in separate precincts outside city centers, such as La Defense in Paris, Canary Wharf in London, and, by the 1990s, in the “aerotropolises” that lined highways adjacent to airports outside of Madrid, Amsterdam, and other European capitals.

The term “central business district,” Fogelson notes, is also an American creation, first appearing in the 1920s as a defensive response to the decentralizing power of the automobile. As other auto-oriented business centers emerged in regions, downtown civic leaders asserted their primacy as the central business district.

And so they remained until post-World War II rapid suburbanization. With gas less than 30 cents per gallon and car ownership attainable for nearly all, middle-class residents, followed by retail, and then offices, decamped for the suburbs. Between 1955 and 1977, 15,000 regional shopping centers were built in the U.S: all were in suburbs. As late as 1970, 70% of commercial office space in the United States was still in central business districts. By 2000, downtown’s average regional office market share had dropped to 30%. In 2009, Brookings calculated that only 21% of employees in the top 98 metro areas worked within three miles of traditional downtowns while 45% worked more than 10 miles away from historic city centers (Kneebone, *Job Sprawl Revisited*). In 1960, 31% of the U.S. population lived in suburbs; by 2010 this percentage had grown to 51% (Leigh Gallagher, *The End of the Suburbs*, page 9).

RESURGENT 21ST CENTURY DOWNTOWNS

The post-World War II narrative of urban decline was a tale of contracting, single-use office districts left empty after dark; obsolete, historic structures demolished for surface parking or interstate highways; and falling real estate values and abandoned housing. It is the decline from which American downtowns are rebounding as they restore economic and land-use diversity, reclaim old buildings, and redevelop empty lots. With post-industrial work neither noisy nor polluting and auto fuel costs 68% higher than 1960s levels (adjusting for inflation), city centers are capitalizing on their energy efficiency, economic sustainability, and walkable live-work environments.

Edward Glaeser's 2011 *Triumph of the City* celebrates, on a global scale, the innovative, entrepreneurial, job- and wealth-creating function of these mixed-use centers. The essence of cities, writes Glaeser, is "the absence of physical space between people and companies. [Cities] are proximity, density, closeness. They enable us to work and play together, and their success depends on the demand for physical connection."⁸ When cities succeed, they "create a virtuous cycle in which employers are attracted by the large pool of potential employees and workers are drawn by the abundance of potential employers."⁹ In thriving cities, densities far in excess of suburban levels create a critical mass where inventors, entrepreneurs, investors, talented workers, and customers intermingle to create opportunity and growth.

In the wake of the Great Recession, it became clear that many of the restored, culturally-rich, dense, and walkable environments of cities in the United States fared better than their low-density, suburban counterparts. Reflective of deeper demographic, cultural, and energy trends, office occupancy levels and housing values are now often higher in downtowns than in surrounding suburbs.¹⁰

It is not that American suburbs have become obsolete: many have embarked on diversifying their commercial districts and enhancing pedestrian environments. It is simply that downtowns have rebounded from the competitive disadvantages that plagued them in the decades following World War II. As technology obliterates boundaries between home, work, entertainment, and shopping, the densest, most animated urban centers are now competing on equal footing with suburbs as preferred places to work and as regional, choice residential neighborhoods. "Walkable urbanism," suggests Christopher Leinberger, whether in cities or suburbs, has become the new development ideal.¹¹

But can we move beyond anecdotal reporting and idiosyncratic local boundaries to quantify the number of people working and living in restored American downtowns, new urban business centers, and in similarly diversified urban college, university, and medical districts?



Downtown Houston, TX

DEFINING THE NEW DOWNTOWN

Most data used at the local level are derived from federal surveys. Counties, not always congruent with city boundaries, are the primary sub-state units for employment information from the U.S. Bureau of Labor Statistics and Bureau of Economic Analysis. Within counties there is no sub-category for downtowns or central business districts. To count population, the U.S. Census Bureau uses more fine-grained geographies, but its Census Tracts (and other geographic areas) do not always correspond to local neighborhood or downtown boundaries.¹² While individual cities may piece together geographies to approximate these boundaries, there is no standard methodology that enables comparisons between cities and regions.

Despite these challenges, several researchers have made progress. The most sophisticated work on defining downtown residential neighborhoods and tracking population change was done by Eugenie L. Birch, Professor of City and Regional Planning at the University of Pennsylvania. Dr. Birch's 2005 study "Who Lives Downtown," published by the Brookings Metropolitan Policy Program, analyzed population changes in America's 44 largest downtowns from 1970 to 2000. The study was based on detailed conversations with either local planning officials or downtown managers and used locally accepted definitions for downtown neighborhoods. Dr. Birch compared trends within these boundaries to citywide trends and sorted downtowns into five categories: first were



Downtown Philadelphia, PA



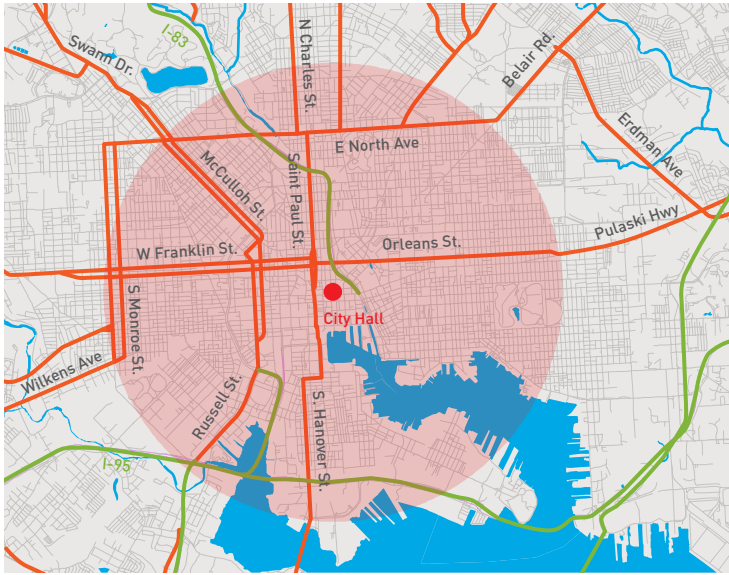
Downtown St. Louis, MI

fully-developed downtowns, which had been steadily adding households for 30 years, outperforming their cities, and which had a very high concentration of college-educated and more affluent adults. Along a continuum followed *emerging downtowns*, *downtowns on the edge of takeoff*, *slow-growing downtowns*, and *declining downtowns*. In the ensuing decade, most of these downtowns continued or accelerated their paths of population change.

But Birch's work was limited to population trends, making no attempt to quantify the number of downtown jobs that were a driving force behind residential location choices for these well-educated households. The analysis also did not try to determine whether the residents who lived in or adjacent to downtowns actually worked in the economic centers of their cities.

The Census Bureau, too, recently attempted to quantify population change in central cities. In its September 2012 report, "Patterns of Metropolitan and Micropolitan Population Change: 2000 to 2010," downtown areas were

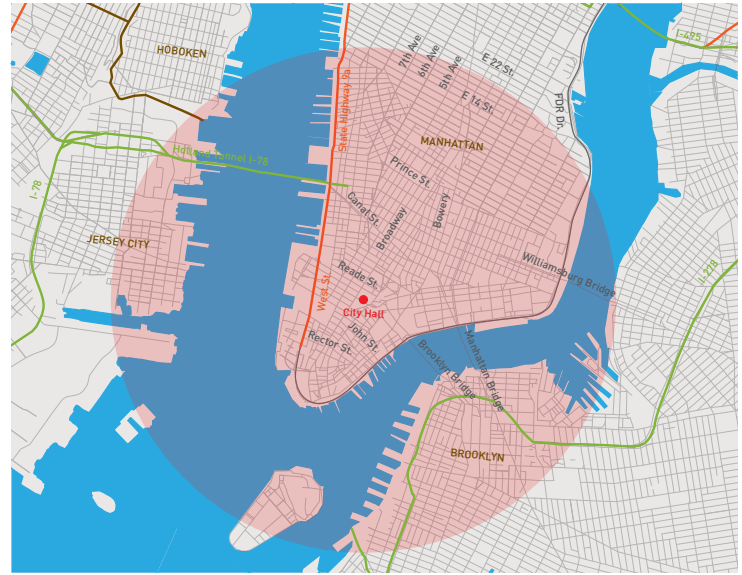
Figure 5: Two-Mile Radius Around Baltimore's City Hall



selected by choosing the principal city in each metropolitan area, drawing a two-mile radius around city hall, and then examining population trends within this zone (Figures 5 and 6). While this method created an elegant conformity of circular shapes in multiple cities, the results were significantly different than the trends BIDs and other local entities tabulated when using their geographic boundaries for downtown residential neighborhoods.

Not all city halls are at the geographic center of their downtowns nor, generally, does a circle capture the idiosyncratic shapes of urban commercial areas. Therefore, a projected two-mile radius from city hall might not, for example, include some residential areas adjacent to a rectangular-shaped commercial zone if the edge of that

Figure 6: Two-Mile Radius Around New York City's City Hall



zone was itself two miles from city hall. A two-mile radius can also extend across rivers, highways, mountains, and even state lines. Finally, in places where the commercial district might not extend very far from city hall, a two-mile radius might embrace areas significantly outside generally accepted limits for walkability. As a consequence, this approach produced both under- and over-counts of downtown population trends. It also did not account for cities with multiple downtowns, like New York. City Hall in Lower Manhattan is situated 1.56 miles from the southern boundary (14th Street) of the largest commercial area in Midtown and 2.86 miles from its epicenter at 42nd Street. A two-mile radius encompasses portions of Brooklyn, Queens, and even parts of New Jersey (Figure 6).

LED: AN ESSENTIAL NEW TOOL FOR DOWNTOWN RESEARCH

What has been lacking is a standard methodology for defining *commercial downtown* and a *downtown residential neighborhood* that captures the irregular shapes of commercial areas and that can be applied across all cities to track and compare changes in employment and population. While the Census Bureau made strides, particularly in the 2010 paper "Identifying Concentrations of Employment in Metropolitan Areas," this work depended on confidential micro data obtained from the Census 2000 long-form questionnaire, which is both dated and not easily accessible.

But a more accessible way to define downtown was made possible in 2006 with the release of an administrative data product called Local Employment Dynamics (LED), produced by a partnership between the U.S. Census Bureau and state labor market information (LMI) agencies.

LED enables researchers to draw boundaries on a web map that correspond to the irregular and idiosyncratic shapes of commercial areas, based on their job density. Within those areas, researchers can tabulate the number of jobs, the number of workers living there, and basic demographic

Figure 7: Baltimore's Job Density

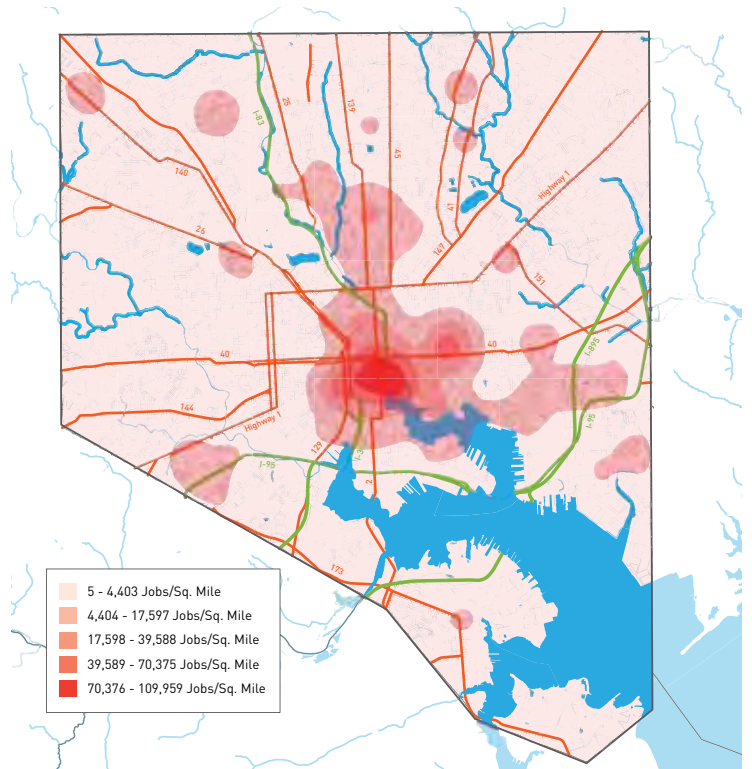


Figure 8: Baltimore's Commercial Downtown

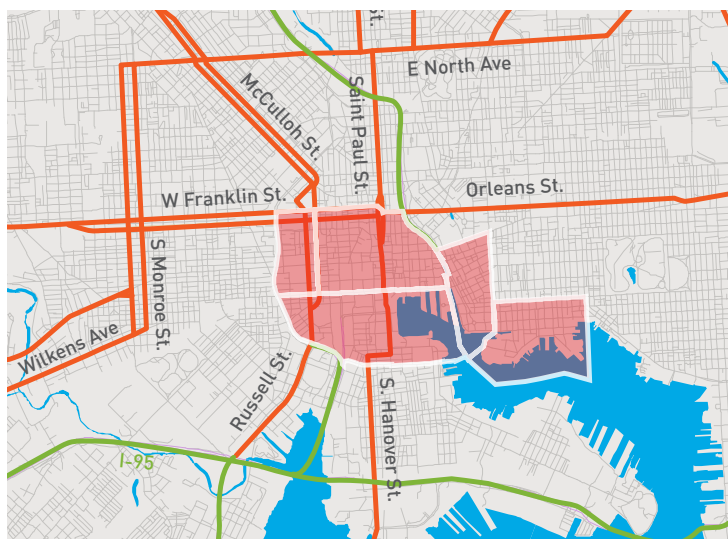


Figure 9: One-Half and One-Mile Radii Around Baltimore's Commercial Downtown

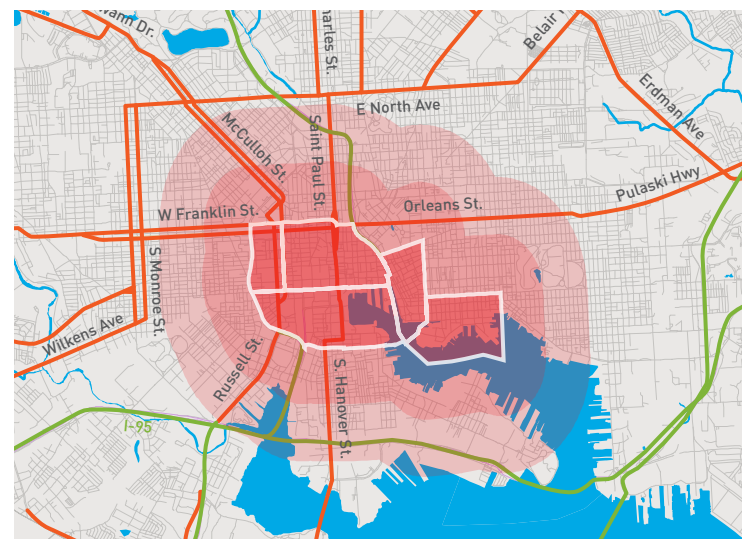
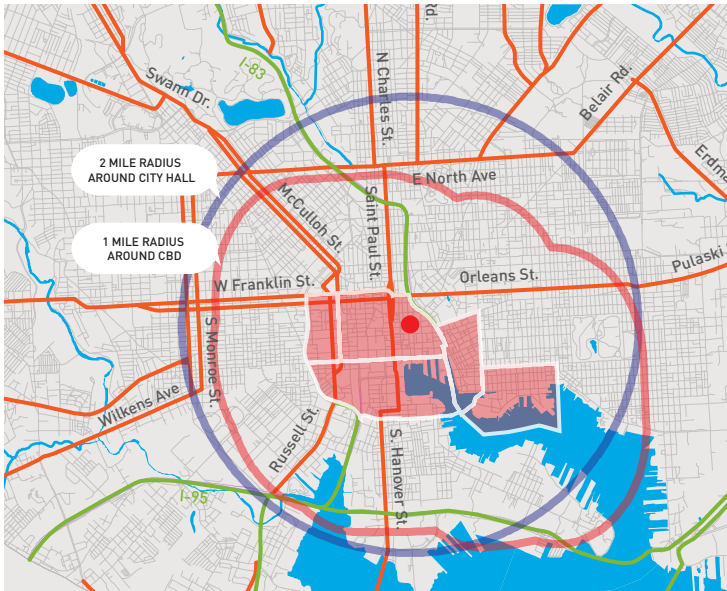


Figure 10: One-Mile Radius Around CBD and Two-Mile Radius Around Baltimore's City Hall Compared



information. Using LED's unique pairing of information about the home and work locations of employees, it is then possible to determine where workers come from each day to get to their jobs and to where workers living in a particular residential area commute for work.¹³

LED also enables mapping of a city's major employment zones with color gradations to represent varying levels of job density (Figure 7). One can visualize transitions from blocks with 40-story, 21st century office towers, to those with 15-story, 1920s office buildings, to low-rise retail or warehouse districts. Extending in concentric rings, one can see commercial density give way to residential land use, recreational spaces, or surface parking lots (Figures 13-16 on pages 18 and 19). Within adjacent neighborhoods, it is possible to calculate the percent of workers who live in these areas and also work in the nearby commercial downtown, creating for each place a live-work quotient (Figure 11).

In nearly every city analyzed in this study, the highest live-work percentages are within the commercial downtown (or campus) area, where pre-existing housing, more recent conversions, or new construction has occurred. Percentages gradually

or dramatically decline in most cities moving outward from the edge of the business area. At some geographic point, the "gravitational" pull of the central employment area drops off significantly, and these residential communities cease to have high percentages of workers who journey to work in the adjacent employment center. Those cities that have added population in and around their downtowns for several decades (Birch's "fully-developed downtowns") clearly have the highest live-work percentages. Given the volume of downtown housing production across the country and the most recent data from the Census Bureau's Population Estimates program, this suggests that many more cities are adding downtown residents and moving toward higher live-work quotients.

While transit systems, land use, and local topography still add complexity and variations, LED enables, for the first time, the creation of a methodology to:

- map downtown commercial areas and institutional districts, however irregular in shape;
- tabulate and compare the number of downtown jobs across cities;
- define a "downtown residential neighborhood" based on (1) its location either within or adjacent to an employment center and (2) its live-work quotient; and
- calculate how many people in each city live in "downtown neighborhoods."

These definitions are by no means absolute. Local researchers, public officials, real estate professionals, downtown managers, and journalists will still appreciate local nuances and trends far better than any uniform research methodology.¹⁴ But LED provides an objective standard against which to test local definitions, though there is room for healthy discussion and debate as to what level live-work quotient makes an area a "downtown residential neighborhood" and if this is indeed a valid distinction for all cities.¹⁵ Appendix I (page 21) contains profiles for 12 employment nodes in America's 10 largest cities using this methodology. Appendix II, Table 3 (page 42) contains the live-work percentages for all 231 job nodes. (Please visit www.definingdowntown.org for maps of additional cities.)

Figure 11: Live-Work Percentage Around Major Employment Nodes in the 10 Largest Cities

City Jobs Rank	Job Node	% of Workers Living in Commercial Downtown Who Work in Commercial Downtown	% of Workers Living Within Half Mile Outside Commercial Downtown Who Work in Commercial Downtown	% of Workers Living Within One Mile Outside Commercial Downtown Who Work in Commercial Downtown
1	New York, NY			
	Midtown Manhattan	48.2%	38.9%	37.4%
	Downtown Manhattan	22.7%	13.1%	12.8%
	Brooklyn*	8.7%	7.6%	7.5%
2	Los Angeles, CA			
	Downtown Los Angeles	19.3%	9.0%	8.3%
	Westwood/UCLA	12.1%	6.5%	5.9%
	Hollywood	8.1%	3.5%	3.0%
	Wilshire/Koreatown	9.2%	4.8%	3.7%
3	Houston, TX			
	Downtown Houston	22.2%	11.6%	12.3%
	Greenway Plaza	12.4%	6.4%	5.9%
	Uptown	17.4%	6.4%	6.7%
	Texas Medical Center	31.2%	16.3%	15.7%
4	Chicago, IL			
	Downtown Chicago	52.3%	43.7%	43.9%
	University of Illinois	11.2%	5.0%	4.1%
	University of Chicago	19.0%	22.8%	14.3%
5	Phoenix, AZ			
	Downtown Phoenix	13.0%	9.4%	8.6%
	North Downtown	10.8%	6.6%	5.9%
6	Dallas, TX			
	Downtown Dallas	17.9%	12.0%	10.4%
	University of Texas Medical Center	19.1%	12.0%	10.7%
7	San Diego, CA			
	Downtown San Diego	17.9%	11.0%	10.7%
	UCSD & Medical Center	3.1%	16.8%	14.5%
8	Philadelphia, PA			
	Center City	36.0%	35.2%	34.1%
	University City	12.2%	16.6%	12.6%
9	San Antonio, TX			
	Downtown San Antonio	12.2%	6.7%	7.7%
	University of Texas Medical Center	21.3%	8.4%	7.8%
10	Washington, DC			
	Downtown Washington, DC	43.7%	42.5%	41.6%
	Georgetown	8.7%	6.8%	6.0%
	VA Medical Center	4.9%	2.6%	2.1%

*Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract.

A NOTE ON SOCIAL EQUITY AND DOWNTOWN DEVELOPMENT

While this report focuses primarily upon the impact of major urban employment centers on their adjacent residential areas, a more detailed analysis of Philadelphia demonstrates that urban employment centers also provide opportunity for workers of all education and skill levels from throughout the rest of the city and region. While 42% of working residents within a one-mile ring of the city's central business district work in Philadelphia's Center City, 25% of citywide workers do so as well, commuting largely by public transit from middle-class, working-class, and lower-income neighborhoods into downtown. Overall in Philadelphia, Center City residents make up just 10.1% of the downtown workforce; residents from Philadelphia neighborhoods outside of Center City account for 41.9%; and residents from the surrounding 10-county metropolitan area account for 39.3% of downtown workers (www.centercityphila.org/docs/CCR13_transportation.pdf).

Further, while city centers contain numerous high-skilled jobs, 23.5% of all jobs in Philadelphia's downtown are held by workers with no more than a high school diploma. While many of these jobs are in the hospitality and retail sectors, for every 500,000 square feet of new office development, the city adds 3,300 jobs, including not only high-skill, high-wage positions, but also numerous technical and support functions in the \$30,000 to \$50,000 salary range. In addition, based on information provided by professional building management firms, the operation of a half-million square feet of office space requires five building engineers, 12 security guards, 18 cleaning staff, and continuous work for the construction trades in tenant fit-out and renovations.

The LED data source enables researchers in each city to document from which neighborhoods across the region workers are commuting each day and what is their highest level of education. So it is now possible to answer clearly: who benefits from downtown development? This can also be an invaluable tool for regional transportation planning.



Downtown Indianapolis, IN

THE GEOGRAPHY OF EMPLOYMENT IN U.S. CITIES

For the purposes of this study, we focused on the 150 largest U.S. cities and places based on number of jobs (Figure 1).¹⁶ Within these 150 cities and places, 231 commercial downtowns and other employment-rich areas were identified according to the Census Tracts with the highest levels of job density.¹⁷ Following a 2010 analysis conducted by Matthew Marlay and Todd K. Gardner of the U.S. Census Bureau, "Identifying Concentrations of Employment in Metropolitan Areas,"¹⁸ which used data from the 2000 Census to look at all employment areas, we mapped identifiable employment districts with high concentrations of jobs. The lowest density job cluster included in this study (one job/acre) contained 8,650 jobs and was still 20 times more job dense than the national average of 0.05 jobs per acre.

URBAN EMPLOYMENT TYPOLOGIES

The 231 dense employment nodes that emerged from the LED data for the 150 largest cities and places in United States (based on the number of jobs) can be sorted into three broad categories,¹⁹ based on land use and major employment types. All three types have densities significantly higher than the nationwide average for job distribution:

- (1) Commercial downtowns and town centers** filled with professional, business, insurance, and financial services firms; real estate, communications, energy, and technology employers; as well as leisure, retail, and hospitality industries. These places also may include colleges, hospitals, universities, and cultural institutions, but they usually don't constitute the largest employment sectors in these areas. Among the 231 employment nodes analyzed in this study, 147 (63%) were in this category. In Appendix II, Table 1 we refer to nearly all of these as *primary downtowns*.
- (2) Urban education, cultural, healthcare, and research campuses** with classrooms, dormitories, research and administrative buildings, museums, hospital beds, doctors' offices, treatment centers, and laboratories, termed here *anchor institution*

Figure 12: Job-Density Thresholds

Category	Jobs Per Acre
Extremely High Job Density	> 100
Very High Job Density	75-99
High Job Density	50-74
Moderately High Job Density	25-49
Moderate Job Density	15-24
Lower Job Density	< 15

districts.²⁰ These districts may include commercial office buildings, hotels, and retail but they are not the dominant employment sectors. Among the 231 employment nodes analyzed in this study, 47 (21%) were in this category. In Appendix II, Table 1 we classify nearly all of these as *secondary employment nodes*.

- (3) Office and research parks** in suburban-style, auto-oriented campuses, are usually the least diversified of the urban employment centers. The study included 36 (16%) of these.²¹ In Appendix II, Table 1 we classify nearly all of these as *secondary employment nodes*.

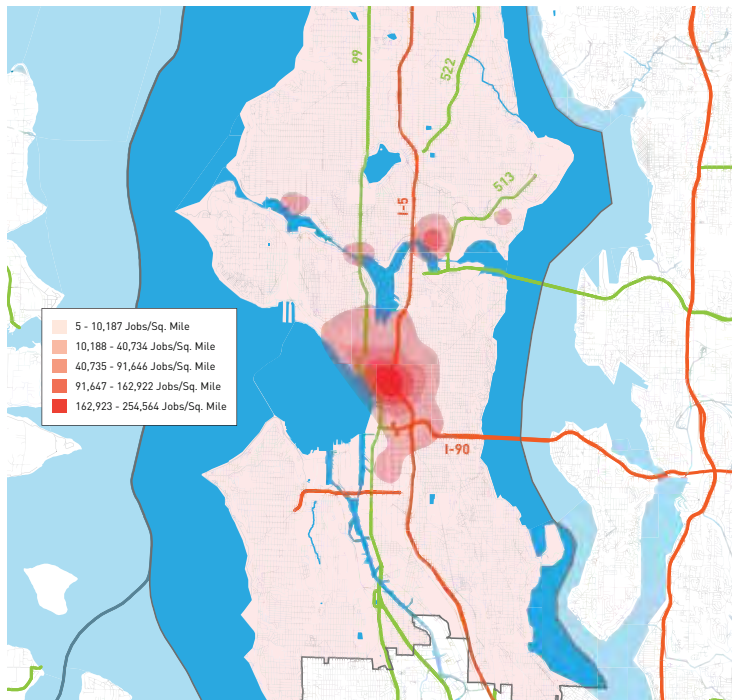
This framework is preliminary and can serve as the basis for future comparative research.

URBAN FORM

The areas and types of high-density employment vary significantly across the country due to the unique geographic, economic, and historical conditions that have shaped individual cities. But in general, four different physical forms, or structures of local, urban economic activity, emerged:

- (1) One dominant employment node.** These generally exist in larger and older U.S. cities where the city form was cast in the pre- or early automobile era and strongly influenced by a hub-and-spokes public transit system. Often built around manufacturing

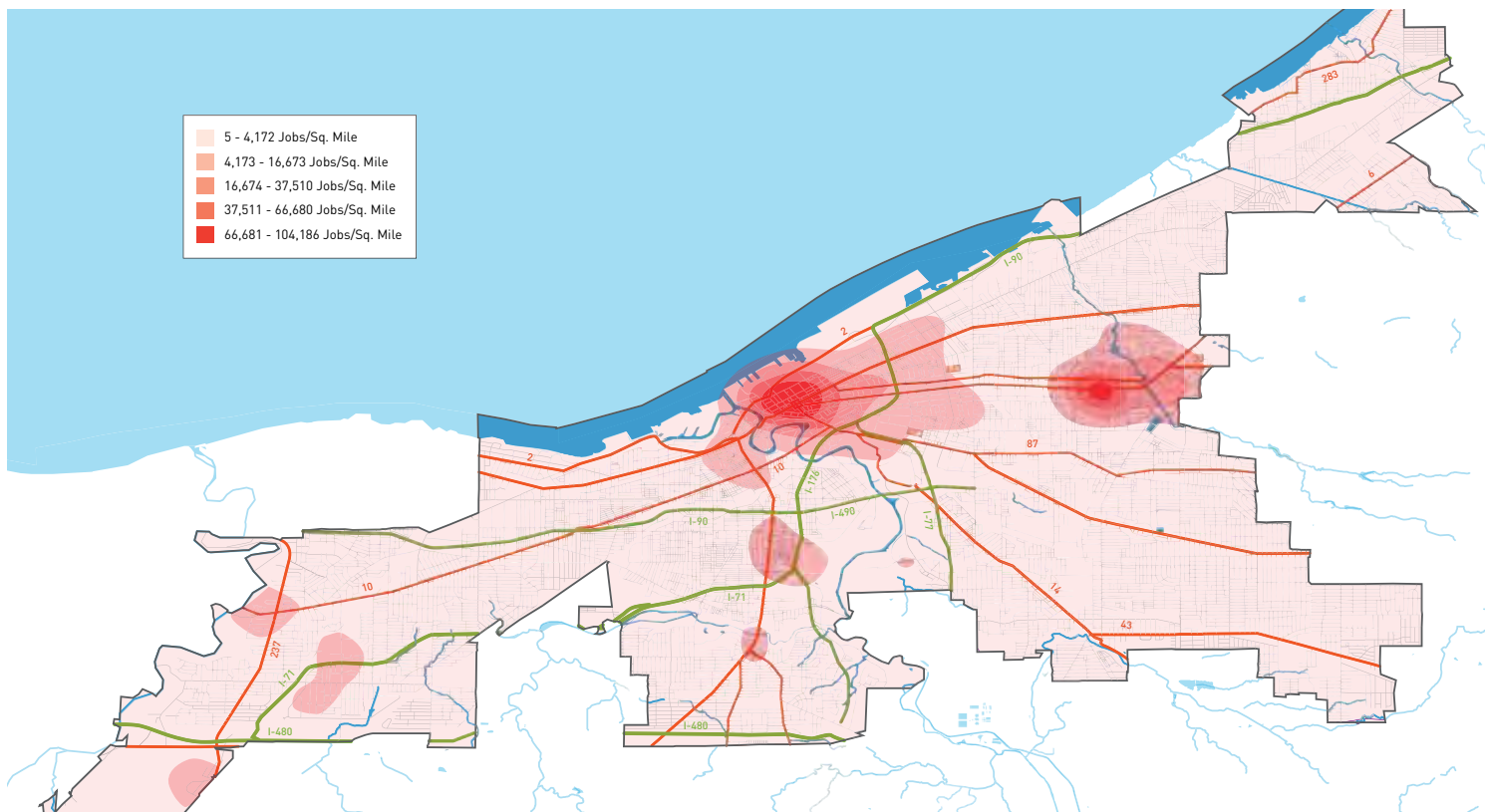
Figure 13: One Dominant Downtown Employment Node—Seattle



and waterfront economies, many of these cities experienced moderate to severe decline in the 1960s and 1970s. Most have now re-emerged as post-industrial centers, converting older, obsolete office and warehouse buildings into hotels, condominiums, apartments, or settings for start-up firms and artists' lofts.²² Among the 150 cities studied, 92 (61%) take this form. *Examples: Hartford, Minneapolis, and Seattle*

- (2) One dominant downtown employment node, plus a secondary employment node that is typically built around one or more anchor institution districts.** While colleges and universities have long been located within older cities, 1950s and 1960s urban renewal facilitated campus expansion, and large employment nodes have grown around universities and significant medical centers. This occurred particularly where those institutions have attracted substantial research funding and/or have commercialized research in adjacent research parks. Since the 1990s, many of these campuses have also been diversifying land use, removing institutional walls and barriers, adding retail and other amenities,

Figure 14: One Dominant Downtown Employment Node + Anchor Institution District(s)—Cleveland



and, in many cases, directly facilitating nearby residential renovation or new development for their faculty, employees, and students. Among the 150 cities, there were 31 (21%) of this type. *Examples: Philadelphia, Baltimore, and Cleveland*

(3) Multiple strong employment nodes. This form typically occurs in newer, post-World War II, car-oriented cities and places, although business and civic leaders in many of these downtowns have been actively lobbying and financing new, regional transit systems to reinforce their centrality, just as their counterparts did in the late 19th and early 20th centuries. There were 12 cities of this type (8%). *Examples: Atlanta, Houston, and Los Angeles*

(4) Decentralized employment throughout an urbanized area. These exist in auto-oriented places without strong, historic, centralized cores. There were 15 (10%) of this type. *Examples: Phoenix, Jacksonville, and San Jose*

Appendix II, Table 1 shows each node defined for the 150 cities studied for this research and categorizes each as a primary downtown or secondary employment node. Primary downtowns are either the largest employment zone or the area historically characterized as downtown. Secondary employment nodes are subsequent high concentrations of employment falling into one of the other urban employment types mentioned above. These geographic models for the organization of economic activity cover nearly all of the cities and places sampled for this study and can serve as the basis for future comparative research.

Figure 15: Multiple Strong Nodes—Atlanta

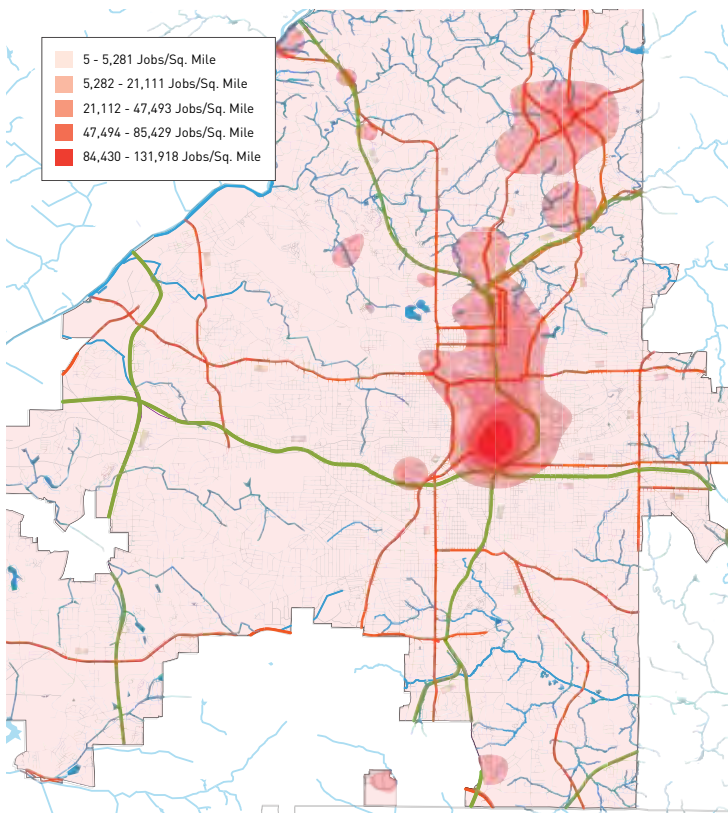
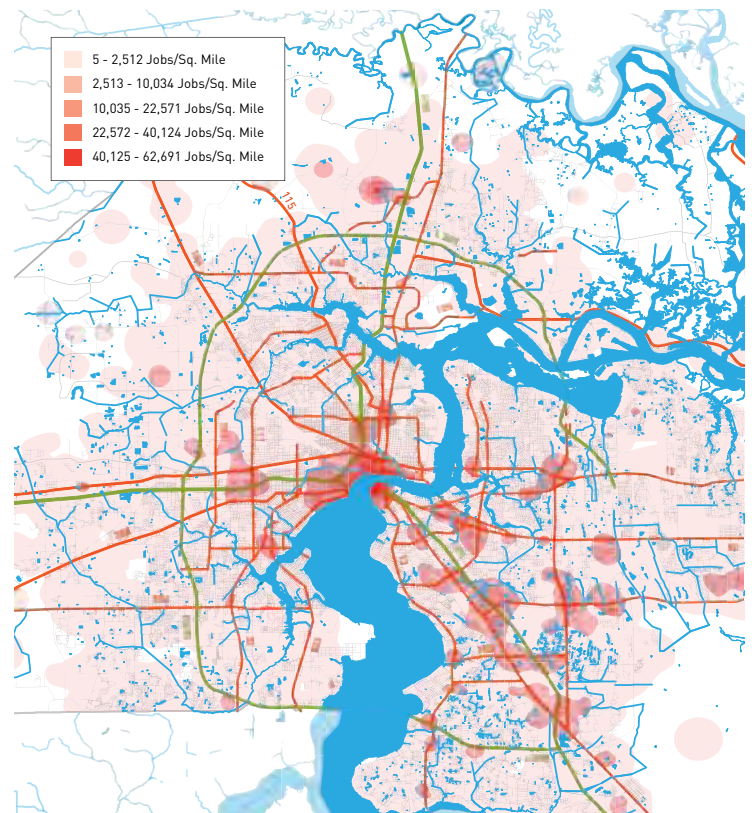


Figure 16: Decentralized Employment—Jacksonville



CONCLUSION



Downtown Austin, TX and Washington, DC

After decades of decline, American downtowns, anchor institution districts, and other urban employment nodes have been steadily improving the quality of public spaces, diversifying land use, and adding significant numbers of jobs and residents. While locally-tailored definitions will continue to be essential, LED has enabled, for the first time, a systematic way to measure and compare downtowns, town centers, and anchor institution districts across the country and document their growing significance to the economic and demographic future of the United States.²³

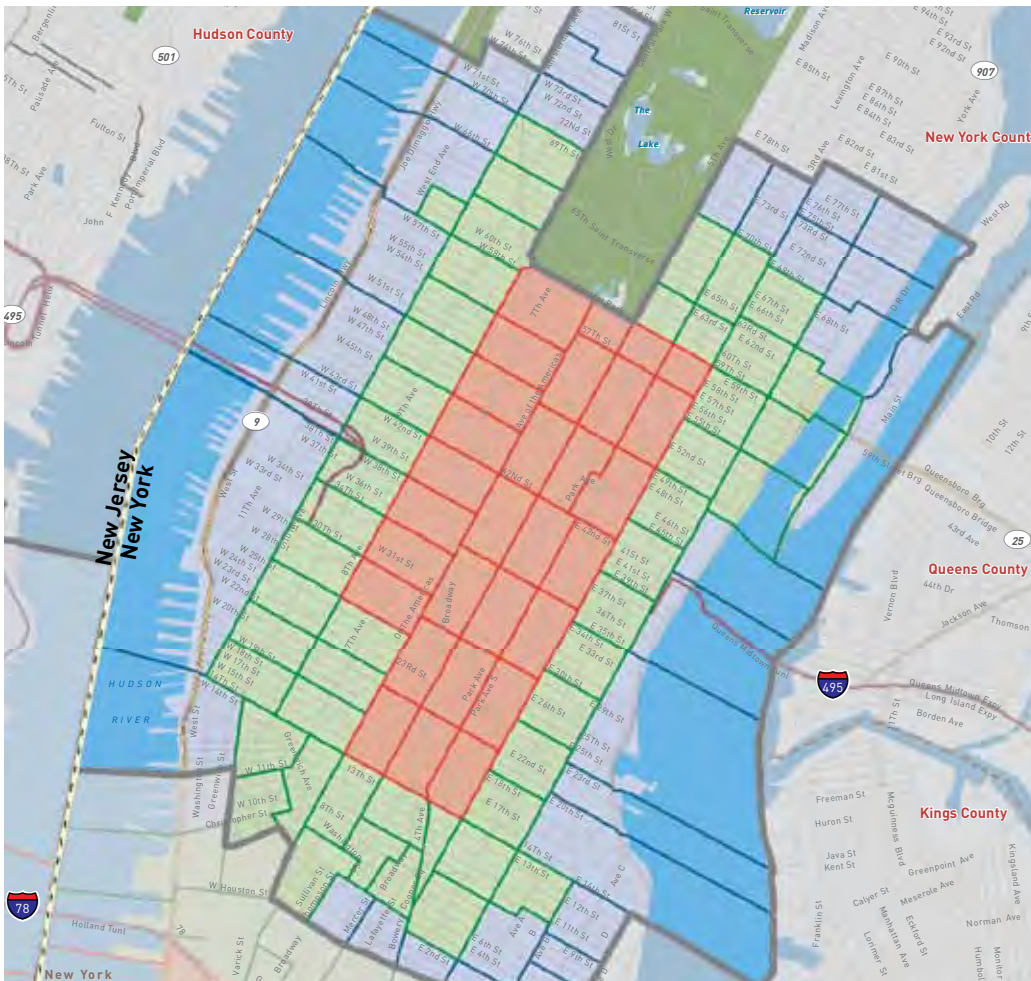
The new urban growth narrative is driven by demographics, energy costs, and cultural and business trends that are favoring dense, walkable, transit-oriented places. But nothing is guaranteed about their success. Sustained economic growth requires focused place management, competitive tax policies, entrepreneurial talent, capital, smart local governance, workforce quality, and good global connections. LED provides a new resource for downtown managers and civic leaders to benchmark their progress on this path.²⁴ It would be extraordinarily helpful to those who

manage, govern, or develop in these places if the U.S. Census Bureau could adopt this methodology for future reports on downtowns and other urban employment nodes.

More than 14% of all U.S. jobs and 4.2% of the national population does not yet represent a fundamental transformation of the economy or the total inversion of demographic trends. But populations in and around the 10 largest downtowns, for example, grew by an average of 17.2% between 2000 and 2010, while the national population grew by 9.7%. By attracting the most skilled and educated workers, these diversified economic nodes are thus changing quickly and are at the very center of the nation's 100 top metropolitan areas, as defined by Brookings. These metro areas occupy only 12% of the nation's land-mass, but are home to two-thirds of our population and generate 75% of our gross domestic product.²⁵ Thriving downtowns, town centers, and anchor institution districts have become major engines for creativity, innovative industries, and future job creation for their broader regional economies. This report provides a new way to benchmark their progress in the coming decade.

APPENDIX I: PROFILES OF DOWNTOWN EMPLOYMENT NODES IN THE 10 LARGEST U.S. CITIES

MIDTOWN MANHATTAN

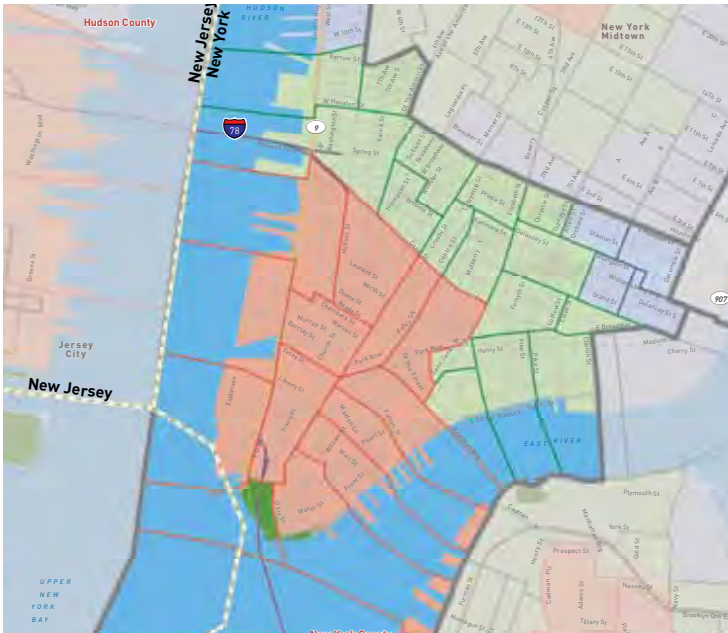


- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

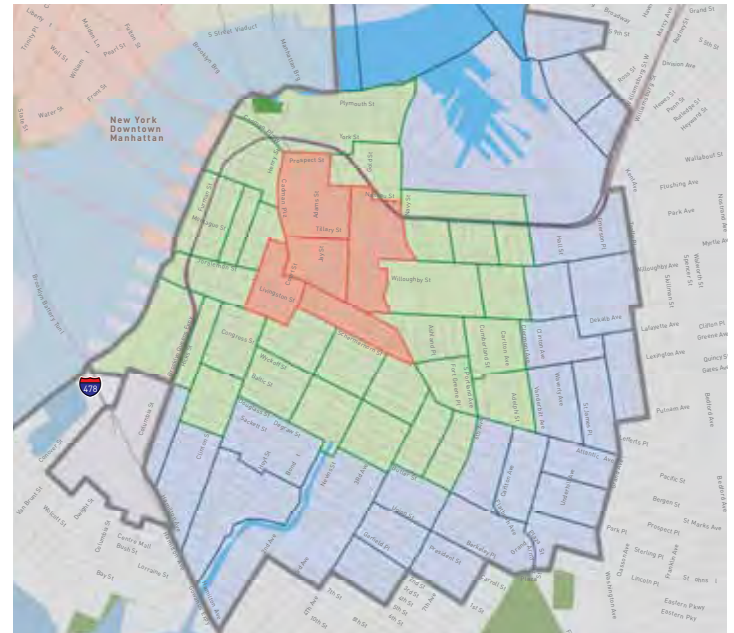
Wage & Salary Workers in Commercial Downtown	907,306
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	1,212,394
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	1,348,597
% of Workforce Living in Commercial Downtown Who Work in This Area	48.2%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	52.2%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	55.9%
<i>Citywide Wage & Salary Workers</i>	3,521,761
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	38.3%
Residents Living in Commercial Downtown	78,579
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	378,553
Residents Living in Commercial Downtown + One-Mile Adjacent Area	586,652
<i>Citywide Residents</i>	8,175,133
% of Citywide Residents Within Half Mile of Commercial Downtown	4.6%
% of Citywide Residents Within One Mile of Commercial Downtown	7.2%

DOWNTOWN MANHATTAN AND BROOKLYN

DOWNTOWN MANHATTAN



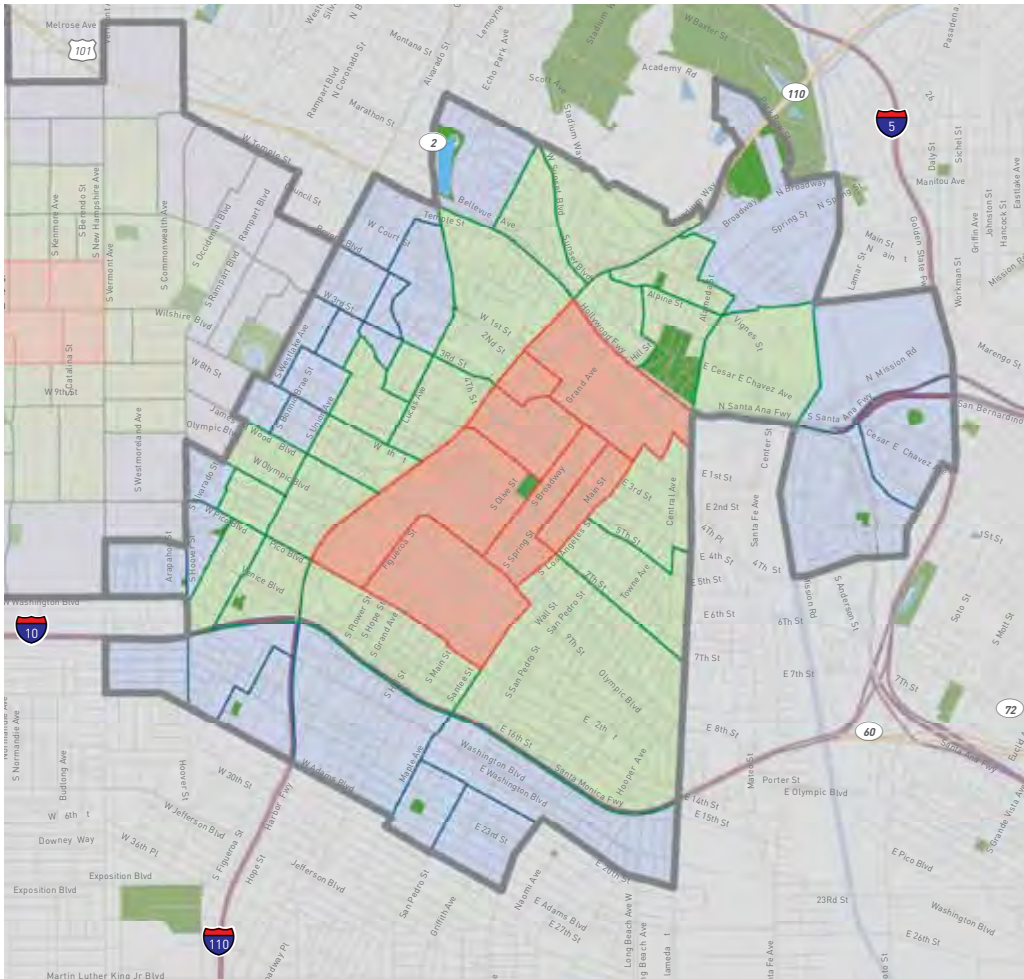
BROOKLYN



	Downtown Manhattan	Brooklyn
Wage & Salary Workers in Commercial Downtown	413,168	283,475
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	496,001	316,363
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	503,801	338,318
% of Workforce Living in Commercial Downtown Who Work in This Area	22.7%	8.7%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	23.8%	11.4%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	23.6%	12.7%
<i>Citywide Wage & Salary Workers</i>	3,521,761	3,521,761
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	14.3%	9.6%
Residents Living in Commercial Downtown	65,714	10,442
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	148,396	98,171
Residents Living in Commercial Downtown + One-Mile Adjacent Area	173,179	202,093
<i>Citywide Residents</i>	8,175,133	8,175,133
% of Citywide Residents Within Half Mile of Commercial Downtown	1.8%	1.2%
% of Citywide Residents Within One Mile of Commercial Downtown	2.1%	2.5%



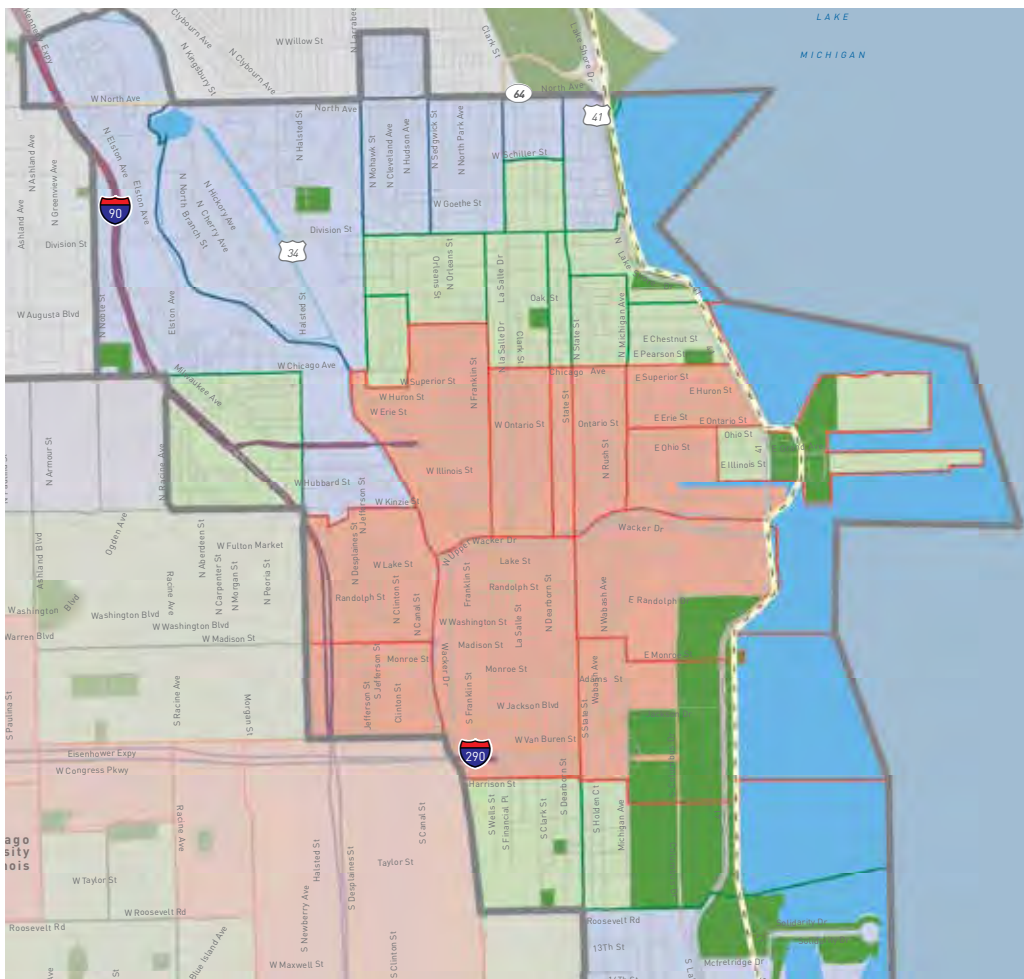
DOWNTOWN LOS ANGELES



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	247,591
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	324,689
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	351,621
% of Workforce Living in Commercial Downtown Who Work in This Area	19.3%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	19.3%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	19.4%
<i>Citywide Wage & Salary Workers</i>	1,492,099
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	23.6%
Residents Living in Commercial Downtown	21,135
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	97,214
Residents Living in Commercial Downtown + One-Mile Adjacent Area	174,975
<i>Citywide Residents</i>	3,792,621
% of Citywide Residents Within Half Mile of Commercial Downtown	2.6%
% of Citywide Residents Within One Mile of Commercial Downtown	4.6%

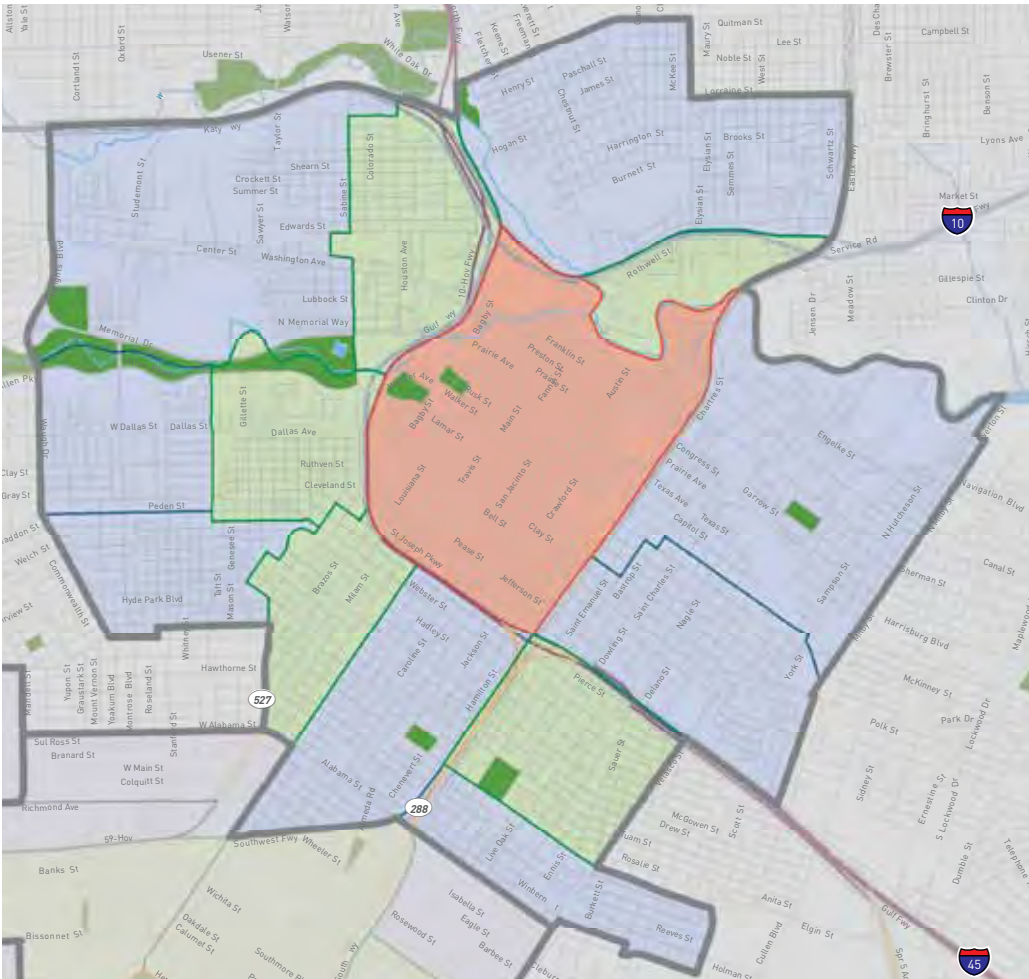
DOWNTOWN CHICAGO



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	506,675
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	547,671
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	578,956
% of Workforce Living in Commercial Downtown Who Work in This Area	52.3%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	51.0%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	51.8%
<i>Citywide Wage & Salary Workers</i>	1,175,566
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	49.2%
Residents Living in Commercial Downtown	53,832
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	101,885
Residents Living in Commercial Downtown + One-Mile Adjacent Area	144,051
<i>Citywide Residents</i>	2,695,598
% of Citywide Residents Within Half Mile of Commercial Downtown	3.8%
% of Citywide Residents Within One Mile of Commercial Downtown	5.3%

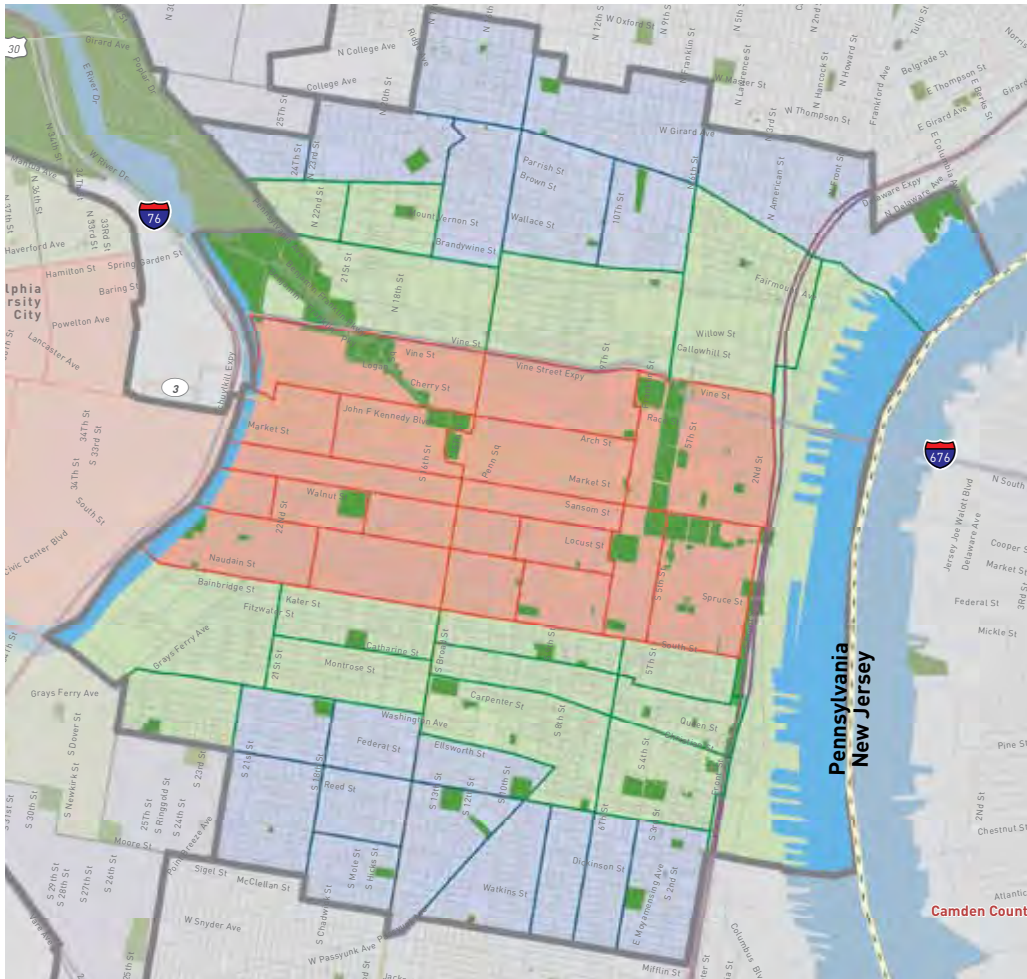
DOWNTOWN HOUSTON



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	141,459
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	165,135
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	191,340
% of Workforce Living in Commercial Downtown Who Work in This Area	22.2%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	16.0%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	18.0%
<i>Citywide Wage & Salary Workers</i>	1,492,234
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	12.8%
Residents Living in Commercial Downtown	4,690
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	25,445
Residents Living in Commercial Downtown + One-Mile Adjacent Area	58,459
<i>Citywide Residents</i>	2,100,263
% of Citywide Residents Within Half Mile of Commercial Downtown	1.2%
% of Citywide Residents Within One Mile of Commercial Downtown	2.8%

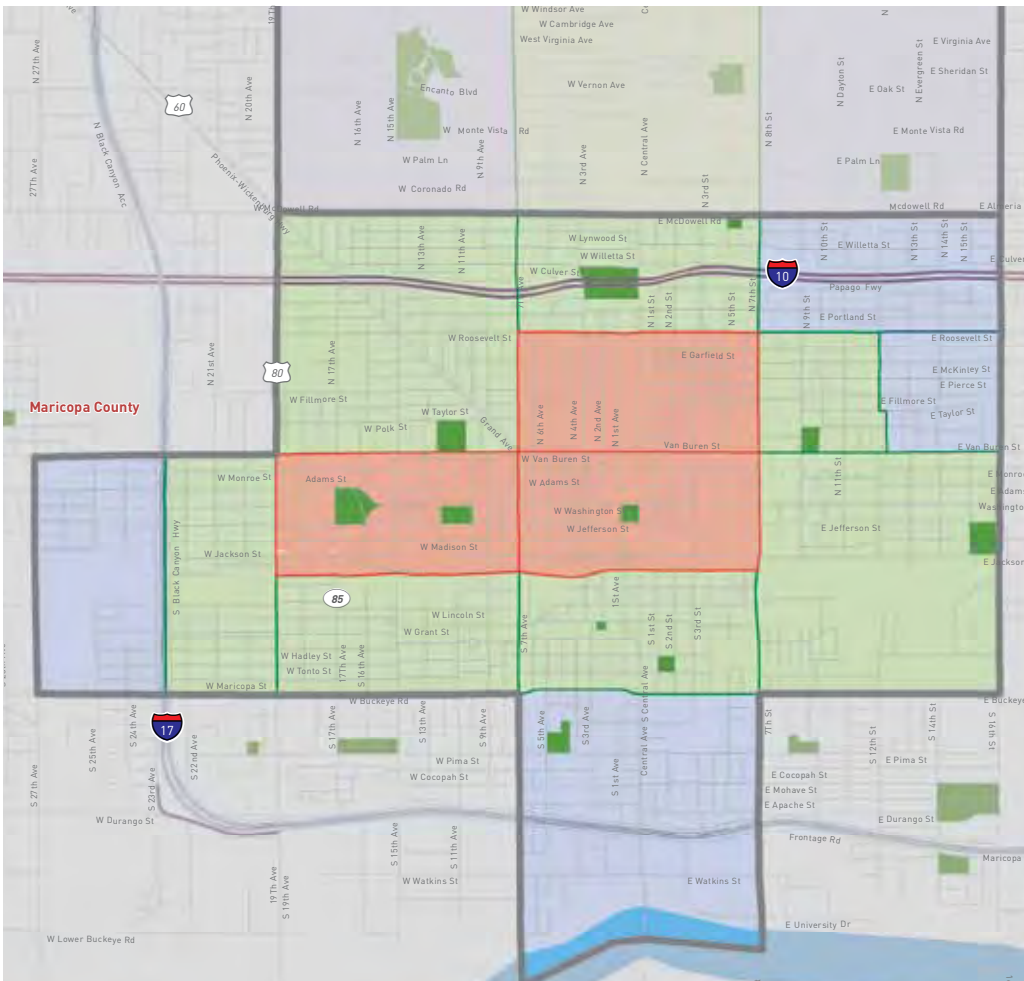
CENTER CITY PHILADELPHIA



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	227,304
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	257,431
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	271,447
% of Workforce Living in Commercial Downtown Who Work in This Area	36.0%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	38.4%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	40.7%
<i>Citywide Wage & Salary Workers</i>	622,801
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	43.6%
Residents Living in Commercial Downtown	57,239
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	107,853
Residents Living in Commercial Downtown + One-Mile Adjacent Area	170,467
<i>Citywide Residents</i>	1,526,006
% of Citywide Residents Within Half Mile of Commercial Downtown	7.1%
% of Citywide Residents Within One Mile of Commercial Downtown	11.2%

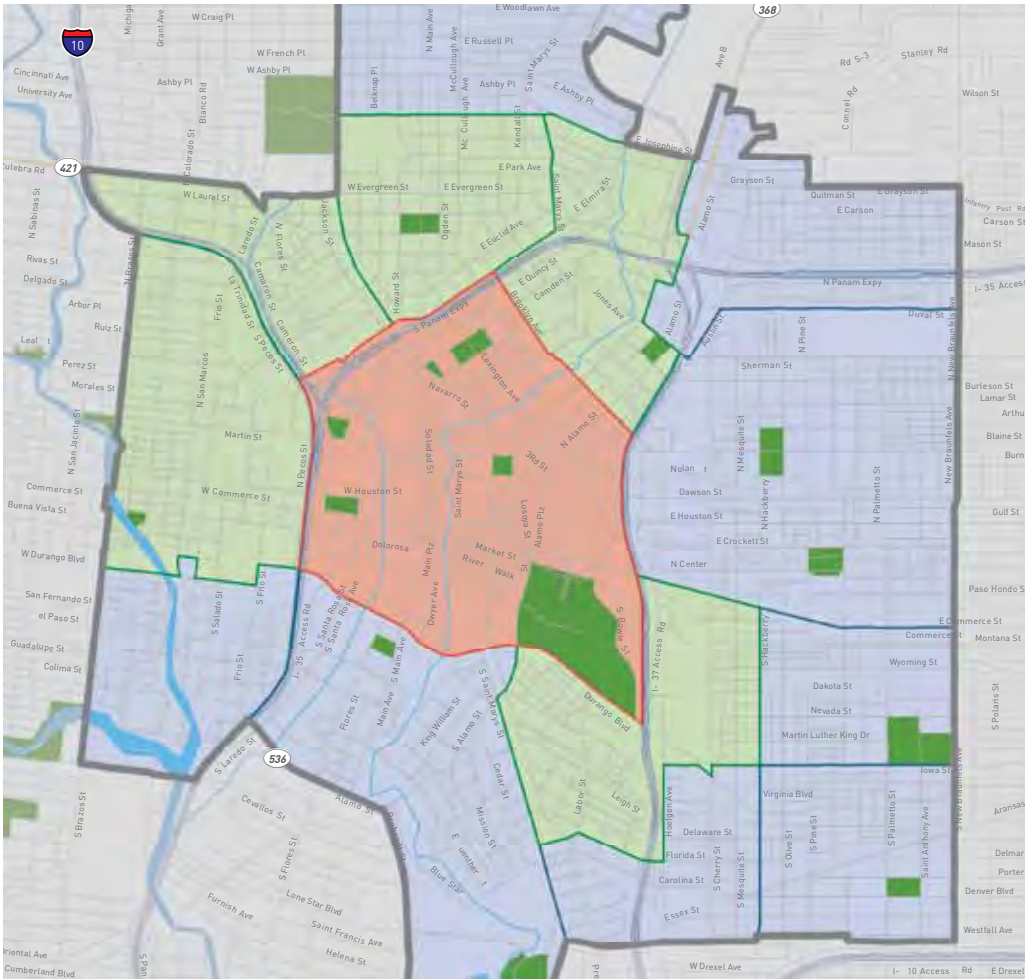
DOWNTOWN PHOENIX



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	75,024
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	90,599
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	103,088
% of Workforce Living in Commercial Downtown Who Work in This Area	13.0%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	14.7%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	15.3%
<i>Citywide Wage & Salary Workers</i>	780,751
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	13.2%
Residents Living in Commercial Downtown	6,779
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	24,184
Residents Living in Commercial Downtown + One-Mile Adjacent Area	33,554
<i>Citywide Residents</i>	1,445,632
% of Citywide Residents Within Half Mile of Commercial Downtown	1.7%
% of Citywide Residents Within One Mile of Commercial Downtown	2.3%

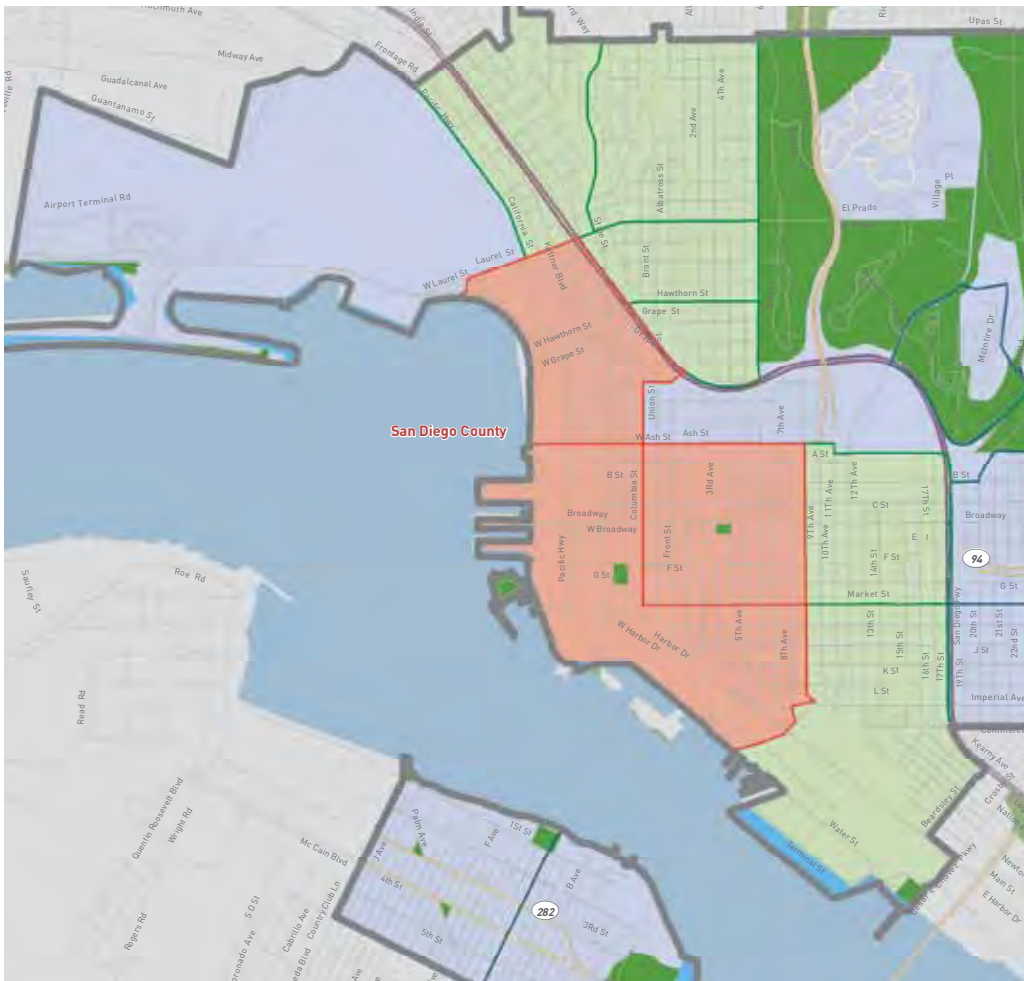
DOWNTOWN SAN ANTONIO



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	44,477
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	65,719
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	91,314
% of Workforce Living in Commercial Downtown Who Work in This Area	12.2%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	12.5%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	17.3%
<i>Citywide Wage & Salary Workers</i>	608,756
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	15.0%
Residents Living in Commercial Downtown	3,379
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	17,386
Residents Living in Commercial Downtown + One-Mile Adjacent Area	39,826
<i>Citywide Residents</i>	1,327,407
% of Citywide Residents Within Half Mile of Commercial Downtown	1.3%
% of Citywide Residents Within One Mile of Commercial Downtown	3.0%

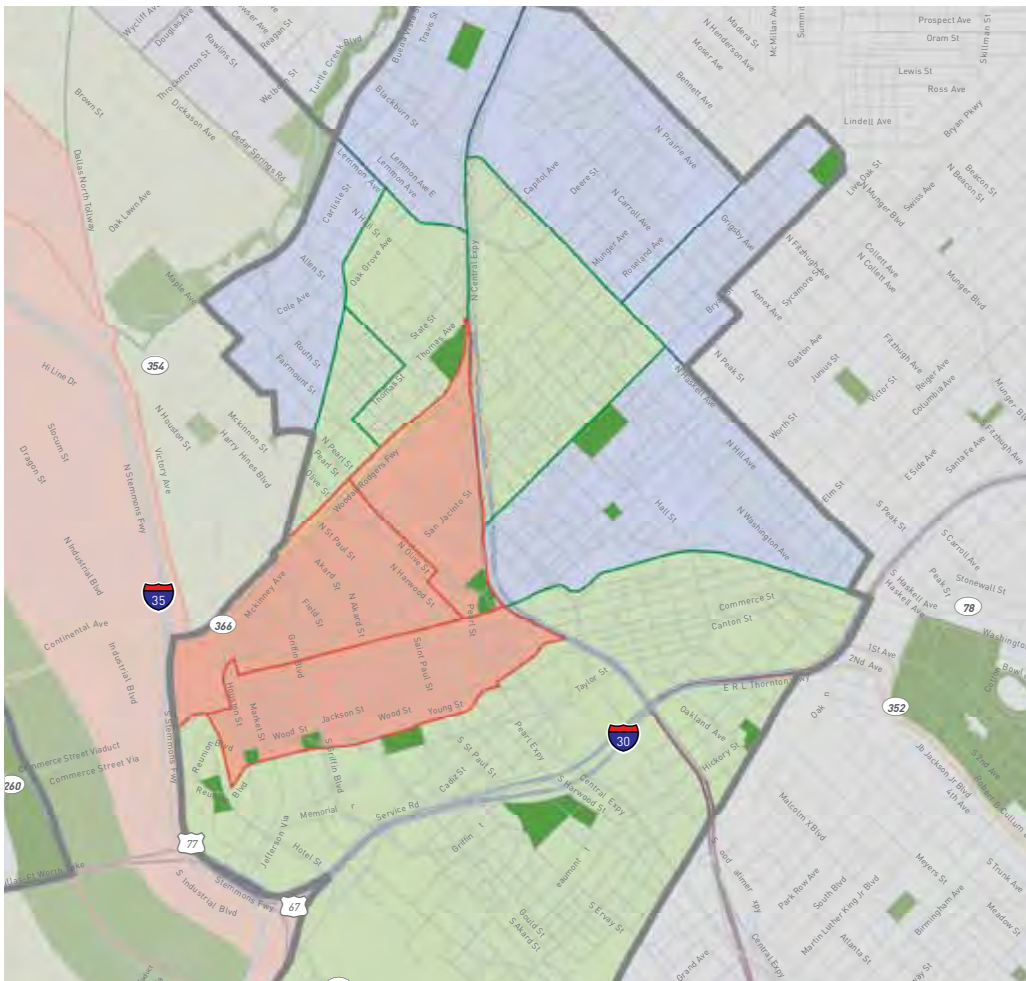
DOWNTOWN SAN DIEGO



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	66,972
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	82,153
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	93,754
% of Workforce Living in Commercial Downtown Who Work in This Area	17.9%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	17.2%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	19.0%
<i>Citywide Wage & Salary Workers</i>	665,801
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	14.1%
Residents Living in Commercial Downtown	16,827
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	39,072
Residents Living in Commercial Downtown + One-Mile Adjacent Area	58,287
<i>Citywide Residents</i>	1,307,402
% of Citywide Residents Within Half Mile of Commercial Downtown	3.0%
% of Citywide Residents Within One Mile of Commercial Downtown	4.5%

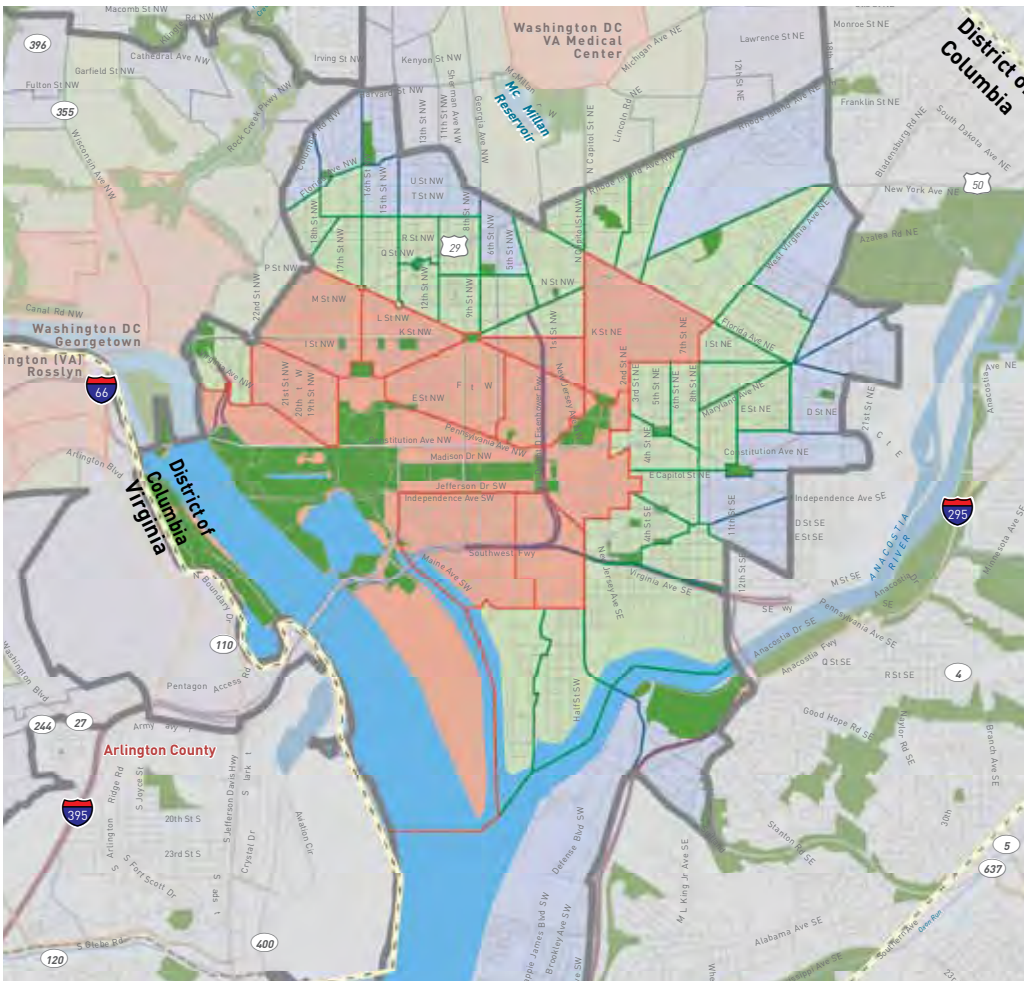
DOWNTOWN DALLAS



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	93,780
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	126,584
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	158,928
% of Workforce Living in Commercial Downtown Who Work in This Area	17.9%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	18.7%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	21.3%
<i>Citywide Wage & Salary Workers</i>	745,012
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	21.3%
Residents Living in Commercial Downtown	3,744
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	17,516
Residents Living in Commercial Downtown + One-Mile Adjacent Area	36,884
<i>Citywide Residents</i>	1,197,816
% of Citywide Residents Within Half Mile of Commercial Downtown	1.5%
% of Citywide Residents Within One Mile of Commercial Downtown	3.1%

DOWNTOWN WASHINGTON, DC



- Commercial Downtown Tracts
- Half-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Tracts
- One-Mile Adjacent Area Outline
- Parks and Green Space

Wage & Salary Workers in Commercial Downtown	380,819
Wage & Salary Workers in Commercial Downtown + Half-Mile Adjacent Area	431,171
Wage & Salary Workers in Commercial Downtown + One-Mile Adjacent Area	446,429
% of Workforce Living in Commercial Downtown Who Work in This Area	43.7%
% of Workforce Living in Commercial Downtown + Half-Mile Adjacent Area Who Work in This Area	48.8%
% of Workforce Living in Commercial Downtown + One-Mile Adjacent Area Who Work in This Area	50.5%
<i>Citywide Wage & Salary Workers</i>	597,261
% of Citywide Wage & Salary Workers Within One Mile of Commercial Downtown	74.7%
Residents Living in Commercial Downtown	28,197
Residents Living in Commercial Downtown + Half-Mile Adjacent Area	119,814
Residents Living in Commercial Downtown + One-Mile Adjacent Area	173,672
<i>Citywide Residents</i>	601,723
% of Citywide Residents Within Half Mile of Commercial Downtown	19.9%
% of Citywide Residents Within One Mile of Commercial Downtown	28.9%

APPENDIX II: TABLES FOR ALL CITIES AND THEIR EMPLOYMENT NODES

Table 1: Employment Nodes Sorted by Total Jobs

Employment Node Name	Employment Node Type	Total Jobs in Commercial Downtown and One-Mile Area	Total Population in Commercial Downtown and One-Mile Area
Midtown Manhattan, NY	Primary Downtown	1,441,281	586,652
Downtown Chicago, IL	Primary Downtown	609,902	144,051
Downtown Manhattan, NY	Secondary Employment Node	527,118	173,179
Downtown Washington, DC	Primary Downtown	468,907	173,672
Downtown Los Angeles, CA	Primary Downtown	372,337	174,975
Brooklyn, NY*	Secondary Employment Node	350,124	202,093
Strip - Las Vegas, NV	Secondary Employment Node	312,785	92,675
Downtown San Francisco, CA	Primary Downtown	299,659	134,312
Downtown Seattle, WA	Primary Downtown	294,369	119,590
Center City Philadelphia, PA	Primary Downtown	288,227	170,467
Office Park - Irvine, CA	Secondary Employment Node	234,246	160,250
Downtown Minneapolis, MN	Primary Downtown	232,458	132,403
Downtown Austin, TX	Primary Downtown	214,865	64,843
Downtown Houston, TX	Primary Downtown	200,383	58,459
University of Texas Medical Center - Dallas, TX	Secondary Employment Node	190,285	98,502
Downtown Miami, FL	Primary Downtown	188,003	140,889
Downtown Denver, CO	Primary Downtown	180,863	80,369
Downtown Portland, OR	Primary Downtown	180,173	101,416
Downtown Dallas, TX	Primary Downtown	167,514	36,884
Downtown Pittsburgh, PA	Primary Downtown	153,224	69,534
Civic Center - San Francisco, CA	Secondary Employment Node	153,098	174,402
Downtown Sacramento, CA	Primary Downtown	151,828	73,225
Downtown Baltimore, MD	Primary Downtown	149,432	108,725
Downtown Atlanta, GA	Primary Downtown	142,759	63,560
Cisco Campus - San Jose, CA	Secondary Employment Node	141,155	64,146
Westwood/UCLA - Los Angeles, CA	Secondary Employment Node	140,986	81,305
Downtown Indianapolis, IN	Primary Downtown	136,417	50,349
Downtown Milwaukee, WI	Primary Downtown	136,277	74,619
Uptown - Houston, TX	Secondary Employment Node	129,929	51,380
Downtown Honolulu, HI	Primary Downtown	129,357	85,323
Texas Medical Center - Houston, TX	Secondary Employment Node	127,330	65,940
Downtown Cleveland, OH	Primary Downtown	124,086	41,236
Downtown Raleigh, NC	Primary Downtown	122,005	34,359
Downtown Columbus, OH	Primary Downtown	121,455	53,110
Downtown Hartford, CT	Primary Downtown	120,797	94,968
Downtown Tysons Corner, VA	Primary Downtown	117,817	79,717
Downtown Oakland, CA	Primary Downtown	113,550	111,587
Downtown Newark, NJ	Primary Downtown	109,274	174,818
Downtown Phoenix, AZ	Primary Downtown	107,859	33,554
Downtown Orlando, FL	Primary Downtown	104,290	33,228
Greenway Plaza - Houston, TX	Secondary Employment Node	103,963	51,496
Midtown - Atlanta, GA	Secondary Employment Node	103,767	77,535
Downtown San Diego, CA	Primary Downtown	100,905	58,287
Downtown St. Louis, MO	Primary Downtown	97,167	28,534
Downtown San Antonio, TX	Primary Downtown	96,643	39,826
Downtown Louisville, KY	Primary Downtown	95,581	59,789
University of Illinois - Chicago, IL	Secondary Employment Node	94,935	116,261
Office Park - Irving, TX	Secondary Employment Node	93,250	26,978
Downtown Jersey City, NJ	Primary Downtown	93,171	160,186
Downtown Cincinnati, OH	Primary Downtown	90,271	27,488
MARTA Center - Sandy Springs, GA	Primary Downtown	89,968	60,788
Downtown Charlotte, NC	Primary Downtown	89,588	33,140
Downtown Pasadena, CA	Primary Downtown	89,093	122,338
Downtown Salt Lake City, UT	Primary Downtown	88,812	80,015
Downtown Ann Arbor, MI	Primary Downtown	88,362	67,144
Downtown Tampa, FL	Primary Downtown	87,134	32,477
Downtown Nashville, TN	Primary Downtown	86,615	25,922
Downtown St. Paul, MN	Primary Downtown	85,753	42,910

Employment Node Name	Employment Node Type	Total Jobs in Commercial Downtown and One-Mile Area	Total Population in Commercial Downtown and One-Mile Area
Downtown Columbia, SC	Primary Downtown	85,142	44,536
Downtown New Orleans, LA	Primary Downtown	84,566	70,525
University of Texas Medical Center - San Antonio, TX	Secondary Employment Node	84,512	53,208
Downtown Des Moines, IA	Primary Downtown	81,339	36,518
Vanderbilt University & Medical Center - Nashville, TN	Secondary Employment Node	80,751	45,218
Downtown Richmond, VA	Primary Downtown	80,313	49,702
UCSD & Medical Center - San Diego, CA	Secondary Employment Node	80,294	55,074
Downtown Fort Worth, TX	Primary Downtown	80,068	13,550
Oakland - Pittsburgh, PA	Primary Downtown	79,896	55,591
North Downtown - Phoenix, AZ	Secondary Employment Node	79,551	44,590
University City - Philadelphia, PA	Secondary Employment Node	79,368	116,609
Downtown Lansing, MI	Primary Downtown	78,611	34,379
Downtown Detroit, MI	Primary Downtown	78,144	17,438
Downtown Providence, RI	Primary Downtown	77,885	70,508
Downtown Tempe, AZ	Primary Downtown	76,936	58,146
Hollywood - Los Angeles, CA	Secondary Employment Node	76,118	138,193
Midtown - Detroit, MI	Secondary Employment Node	72,911	36,237
Downtown Buffalo, NY	Primary Downtown	72,902	40,332
South Office Parks - Santa Clara, CA	Secondary Employment Node	72,233	55,211
Southern Office Park - San Bernardino, CA	Secondary Employment Node	71,232	50,796
Wilshire/Koreatown - Los Angeles, CA	Secondary Employment Node	71,229	223,487
Downtown San Jose, CA	Primary Downtown	70,762	94,838
Downtown Springfield, IL	Primary Downtown	69,991	43,322
Downtown Kansas City, MO	Primary Downtown	69,482	22,122
Downtown Rochester, NY	Primary Downtown	68,449	63,722
Downtown Norfolk, VA	Primary Downtown	67,774	57,120
Downtown Grand Rapids, MI	Primary Downtown	67,277	43,347
Medical Center - Austin, TX	Secondary Employment Node	65,568	50,489
Downtown Lexington, KY	Primary Downtown	65,206	45,508
West Mall Area - Troy, MI	Primary Downtown	63,884	37,054
University Circle - Cleveland, OH	Secondary Employment Node	63,192	60,676
Microsoft Campus - Redmond, WA	Secondary Employment Node	62,715	30,208
Downtown Las Vegas, NV	Primary Downtown	62,054	53,236
Downtown Burbank, CA	Primary Downtown	60,850	71,596
Medical Center - Irvine, CA	Primary Downtown	60,432	36,805
Downtown Salem, OR	Primary Downtown	59,380	49,855
Downtown Santa Ana, CA	Primary Downtown	59,360	123,664
Northeast Office Parks - Ontario, CA	Secondary Employment Node	59,149	37,054
Downtown Reno, NV	Primary Downtown	58,918	62,732
Downtown Oklahoma City, OK	Primary Downtown	58,833	27,868
Downtown Fort Lauderdale, FL	Primary Downtown	58,216	56,906
Sprint Campus - Overland Park, KS	Primary Downtown	57,591	32,645
Downtown Arlington, TX	Primary Downtown	57,589	49,459
Ohio State University & Medical Center - Columbus, OH	Secondary Employment Node	57,231	87,237
Downtown Little Rock, AR	Primary Downtown	56,524	18,392
Medical Center - Jacksonville, FL	Secondary Employment Node	56,302	16,885
Boeing Campus - Everett, WA	Secondary Employment Node	55,992	77,789
Downtown Albany, NY	Primary Downtown	55,936	32,227
Downtown Tulsa, OK	Primary Downtown	55,728	26,073
Downtown Wichita, KS	Primary Downtown	55,571	39,274
Medical Office Parks - Palo Alto, CA	Secondary Employment Node	55,144	45,747
Downtown Tallahassee, FL	Primary Downtown	54,658	28,954
Georgetown - Washington, DC	Secondary Employment Node	54,598	63,644
Downtown Birmingham, AL	Primary Downtown	54,450	20,786
I-405 & I-520 Office Parks - Bellevue, WA	Secondary Employment Node	54,069	36,911
Downtown Spokane, WA	Primary Downtown	53,621	33,411
Downtown Boise, ID	Primary Downtown	53,368	40,820
Downtown Plano, TX	Primary Downtown	52,587	56,019
Downtown Chesapeake City, VA	Primary Downtown	52,576	54,846
Downtown Omaha, NE	Primary Downtown	51,579	33,619

Employment Node Name	Employment Node Type	Total Jobs in Commercial Downtown and One-Mile Area	Total Population in Commercial Downtown and One-Mile Area
Northwest Southfield, MI	Secondary Employment Node	50,300	28,227
Downtown Fresno, CA	Primary Downtown	49,956	66,027
Downtown Greensboro, NC	Primary Downtown	49,045	37,604
Medical Center - Fort Worth, TX	Secondary Employment Node	48,302	45,024
Downtown Scottsdale, AZ	Primary Downtown	48,016	58,490
Downtown Tucson, AZ	Primary Downtown	47,678	25,316
Downtown Akron, OH	Primary Downtown	47,394	54,271
Downtown Alexandria, VA	Primary Downtown	47,306	46,694
Downtown Tacoma, WA	Primary Downtown	46,994	26,318
VA Medical Center - Washington, DC	Secondary Employment Node	46,962	98,841
Downtown Rochester, MN	Primary Downtown	46,704	19,918
Downtown Memphis, TN	Primary Downtown	46,587	33,418
Downtown Long Beach, CA	Primary Downtown	45,845	112,113
East Office Park - Troy, MI	Secondary Employment Node	45,443	43,912
University of Washington - Seattle, WA	Secondary Employment Node	45,197	70,358
UCSF Medical Center - San Francisco, CA	Secondary Employment Node	44,704	102,296
Downtown Palo Alto, CA	Primary Downtown	44,690	56,680
Regional School Board/City Government - Memphis, TN	Secondary Employment Node	44,251	38,660
Downtown Albuquerque, NM	Primary Downtown	43,560	21,458
Downtown Jackson, MS	Primary Downtown	41,952	20,869
Office Park - Boca Raton, FL	Secondary Employment Node	41,773	31,803
Downtown Colorado Springs, CO	Primary Downtown	41,715	34,628
Birmingham University - Birmingham, AL	Secondary Employment Node	41,712	18,139
University of Wisconsin - Madison, WI	Secondary Employment Node	41,682	29,325
Texas Instruments Campus - Richardson, TX	Primary Downtown	41,473	40,337
Downtown Chattanooga, TN	Primary Downtown	41,397	16,300
Downtown Bellevue, WA	Primary Downtown	41,270	14,759
Ballston - Arlington, VA	Secondary Employment Node	41,121	48,718
State Government Offices - Oklahoma City, OK	Secondary Employment Node	40,614	18,623
Downtown Syracuse, NY	Primary Downtown	39,656	29,346
Las Collinas Medical Center - Irving, TX	Primary Downtown	39,547	15,094
Downtown Bakersfield, CA	Primary Downtown	39,243	48,927
North Office Park - Richardson, TX	Secondary Employment Node	38,629	21,214
Downtown Jacksonville, FL	Primary Downtown	37,916	24,743
Downtown El Paso, TX	Primary Downtown	36,623	25,663
Downtown Shreveport, LA	Primary Downtown	36,183	28,097
Office Park & Mall - Torrance, CA	Secondary Employment Node	35,757	55,843
Downtown Riverside, CA	Primary Downtown	35,336	30,505
Texas Tech - Lubbock, TX	Secondary Employment Node	35,121	48,175
Medical Center - Sandy Springs, GA	Secondary Employment Node	35,100	19,068
Downtown Redmond, WA	Primary Downtown	35,065	47,599
Downtown Baton Rouge, LA	Primary Downtown	34,916	31,803
Downtown Lincoln, NE	Primary Downtown	34,840	37,219
Downtown Sioux Falls, SD	Primary Downtown	34,248	30,242
Office Park & Airport - Torrance, CA	Primary Downtown	34,020	61,683
Central Office Parks - Ontario, CA	Secondary Employment Node	33,978	51,177
Downtown Huntsville, AL	Primary Downtown	33,787	22,442
Medical Center/Office Park - Lakewood, CO	Primary Downtown	33,503	71,155
I-435 Office Parks - Overland Park, KS	Secondary Employment Node	33,300	42,752
Downtown Amarillo, TX	Primary Downtown	33,019	27,980
Downtown Stockton, CA	Primary Downtown	32,771	39,830
Southeast Southfield, MI	Secondary Employment Node	32,758	42,594
Downtown Madison, WI	Primary Downtown	32,170	38,451
Downtown Montgomery, AL	Primary Downtown	32,110	15,680
Downtown Knoxville, TN	Primary Downtown	32,038	15,509
Downtown Corpus Christi, TX	Primary Downtown	31,640	14,722
Rosslyn - Arlington, VA	Primary Downtown	31,555	17,876
Downtown Toledo, OH	Primary Downtown	31,474	37,840
Port - Newport News, VA	Secondary Employment Node	31,430	30,724
North Office Parks - Santa Clara, CA	Secondary Employment Node	31,354	32,737

Employment Node Name	Employment Node Type	Total Jobs in Commercial Downtown and One-Mile Area	Total Population in Commercial Downtown and One-Mile Area
Downtown St. Petersburg, FL	Primary Downtown	31,294	38,674
Downtown Savannah, GA	Primary Downtown	30,949	27,384
Downtown Augusta, GA	Primary Downtown	30,780	22,466
Downtown Mesa, AZ	Primary Downtown	30,675	59,925
South End - Charlotte, NC	Secondary Employment Node	30,077	45,200
University of Chicago - Chicago, IL	Secondary Employment Node	30,066	79,295
Downtown Greenville, SC	Primary Downtown	29,976	19,687
Medical Center - Albany, NY	Secondary Employment Node	29,863	41,728
Medical Center - Portland, OR	Secondary Employment Node	29,652	27,586
Downtown San Bernardino, CA	Primary Downtown	29,557	59,808
Downtown Charleston, SC	Primary Downtown	29,351	23,070
I-90 Office Parks - Bellevue, WA	Secondary Employment Node	29,120	44,384
Downtown Anchorage, AK	Primary Downtown	28,987	14,013
Downtown Fort Wayne, IN	Primary Downtown	28,585	33,270
Havana Street/Office Parks - Aurora, CO	Secondary Employment Node	28,571	57,747
Central Southfield, MI	Primary Downtown	28,530	15,801
Medical Center/UT Health Science - Memphis, TN	Secondary Employment Node	28,447	13,902
Oyster Point - Newport News, VA	Primary Downtown	28,317	42,742
Downtown Evansville, IN	Primary Downtown	28,160	18,169
Downtown Cedar Rapids, IA	Primary Downtown	27,557	26,066
Downtown Winston-Salem, NC	Primary Downtown	27,556	19,557
Syracuse University - Syracuse, NY	Secondary Employment Node	27,216	36,228
Johns Hopkins Hospital/Univeristy - Baltimore, MD	Secondary Employment Node	27,142	49,011
University & Medical Center - Knoxville, TN	Secondary Employment Node	26,866	24,138
Medical Center - Charleston, SC	Secondary Employment Node	26,691	12,915
University of Louisiana - Lafayette, LA	Secondary Employment Node	26,221	32,009
Downtown Springfield, MO	Primary Downtown	25,944	30,043
Medical Center - Indianapolis, IN	Secondary Employment Node	25,903	15,146
UC Irvine - Irvine, CA	Secondary Employment Node	23,792	59,146
Medical Center - Boca Raton, FL	Secondary Employment Node	23,571	23,056
Downtown Mobile, AL	Primary Downtown	23,234	16,237
Court House - Arlington, VA	Secondary Employment Node	22,691	47,952
Medical Center - Raleigh, NC	Secondary Employment Node	22,570	35,896
Medical Center - Chandler, AZ	Secondary Employment Node	22,174	40,998
Downtown Everett, WA	Primary Downtown	20,746	24,540
Downtown Anaheim, CA	Primary Downtown	20,324	79,373
Intel Campus - Chandler, AZ	Primary Downtown	20,188	18,840
University & Caltrain Center - Santa Clara, CA	Primary Downtown	19,643	25,825
Children's Hospital - Aurora, CO	Secondary Employment Node	19,482	23,120
Medical Center - Denver, CO	Secondary Employment Node	18,894	35,581
Downtown Lubbock, TX	Primary Downtown	18,176	13,309
Downtown Durham, NC	Primary Downtown	17,774	24,208
Medical Center - Oklahoma City, OK	Secondary Employment Node	17,585	4,147
Buckley Airforce Base - Aurora, CO**	Secondary Employment Node	16,696	58,623
Downtown Virginia Beach, VA	Primary Downtown	16,593	33,152
Medical Center - Evansville, IN	Secondary Employment Node	12,142	8,917
Downtown Lafayette, LA	Primary Downtown	10,606	6,366
Florida Atlantic University - Boca Raton, FL	Primary Downtown	8,633	6,025
Downtown Ontario, CA	Primary Downtown	7,246	36,897
Airport & School Board - Lafayette, LA	Secondary Employment Node	6,884	0
Downtown Chandler, AZ	Secondary Employment Node	5,375	30,561
Downtown Aurora, CO	Primary Downtown	4,207	48,859
Downtown Boston, MA***	Primary Downtown	NA	170,934
Total	231	18,696,018	12,866,930

*Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract.

**The Buckley Airforce Base area may exhibit lower than expected job totals due to the fact that uniformed military are not included in the data.

***Because LED data are not available for the Commonwealth of Massachusetts, Downtown Boston jobs are unavailable, and population was estimated based on locally accepted boundaries.

Table 2: Job Densities (Total Jobs Per Acre)

Employment Node Name	Employment Node Type	Commercial Downtown	Half Mile	One Mile
Extremely High Job Density				
Midtown Manhattan, NY	Primary Downtown	920	459	248
Brooklyn, NY*	Secondary Employment Node	404	88	49
Downtown Manhattan, NY	Secondary Employment Node	327	239	155
Downtown Chicago, IL	Primary Downtown	294	198	129
Downtown Los Angeles, CA	Primary Downtown	285	101	63
UCSF Medical Center - San Francisco, CA	Secondary Employment Node	277	30	16
Downtown San Francisco, CA	Primary Downtown	217	112	10
Center City - Philadelphia, PA	Primary Downtown	203	88	63
Downtown Dallas, TX	Primary Downtown	175	51	44
Downtown Houston, TX	Primary Downtown	166	78	33
Downtown Rochester, MN	Primary Downtown	155	36	16
Downtown Seattle, WA	Primary Downtown	150	84	53
Civic Center - San Francisco, CA	Secondary Employment Node	149	65	44
Johns Hopkins Hospital/Univeristy - Baltimore, MD	Secondary Employment Node	135	29	15
Downtown Austin, TX	Primary Downtown	135	74	33
Oakland - Pittsburgh, PA	Primary Downtown	134	37	25
Downtown Denver, CO	Primary Downtown	133	65	30
Westwood/UCLA - Los Angeles, CA	Secondary Employment Node	132	38	35
Downtown Tucson, AZ	Primary Downtown	127	20	15
Downtown Raleigh, NC	Primary Downtown	120	47	27
Downtown Baltimore, MD	Primary Downtown	119	49	29
Downtown Burbank, CA	Primary Downtown	118	34	16
University of Chicago - Chicago, IL	Secondary Employment Node	116	21	8
Downtown Albany, NY	Primary Downtown	114	30	14
Downtown Milwaukee, WI	Primary Downtown	112	56	21
Downtown Grand Rapids, MI	Primary Downtown	111	54	15
Downtown St. Paul, MN	Primary Downtown	103	37	16
Downtown San Diego, CA	Primary Downtown	100	48	22
Very High Job Density				
Downtown Cincinnati, OH	Primary Downtown	98	54	28
Greenway Plaza - Houston, TX	Secondary Employment Node	98	46	21
Downtown Washington, DC	Primary Downtown	97	65	43
Uptown - Houston, TX	Secondary Employment Node	95	34	29
Downtown Bellevue, WA	Primary Downtown	94	29	29
Medical Center - Charleston, SC	Secondary Employment Node	91	29	10
Downtown Newark, NJ	Primary Downtown	90	29	19
Downtown Phoenix, AZ	Primary Downtown	89	29	23
Downtown Atlanta, GA	Primary Downtown	88	41	24
Downtown Tampa, FL	Primary Downtown	87	31	14
Downtown Lansing, MI	Primary Downtown	87	22	14
Downtown Buffalo, NY	Primary Downtown	86	18	15
Downtown Minneapolis, MN	Primary Downtown	85	39	31
University City - Philadelphia, PA	Secondary Employment Node	85	41	23
Downtown Rochester, NY	Primary Downtown	83	27	15
Ballston - Arlington, VA	Secondary Employment Node	82	25	14
Downtown Hartford, CT	Primary Downtown	80	31	15
Texas Medical Center - Houston, TX	Secondary Employment Node	80	29	17
Downtown Tacoma, WA	Primary Downtown	80	25	21
Wilshire/Koreatown - Los Angeles, CA	Secondary Employment Node	79	28	17
Downtown Santa Ana, CA	Primary Downtown	79	20	13
Downtown Alexandria, VA	Primary Downtown	78	23	15
Downtown Syracuse, NY	Primary Downtown	76	37	19
Downtown Kansas City, MO	Primary Downtown	75	24	17
High Job Density				
Downtown Norfolk, VA	Primary Downtown	74	31	15
Downtown Oakland, CA	Primary Downtown	72	29	21
Downtown Providence, RI	Primary Downtown	72	32	20
Downtown Honolulu, HI	Primary Downtown	72	37	27
Rosslyn - Arlington, VA	Primary Downtown	71	63	20

Employment Node Name	Employment Node Type	Commercial Downtown	Half Mile	One Mile
Downtown Albuquerque, NM	Primary Downtown	69	17	14
Downtown Knoxville, TN	Primary Downtown	69	69	11
Medical Center/UT Health Science - Memphis, TN	Secondary Employment Node	68	22	16
Downtown Detroit, MI	Primary Downtown	67	40	26
Downtown Pittsburgh, PA	Primary Downtown	66	24	20
Downtown Richmond, VA	Primary Downtown	65	26	15
Downtown St. Louis, MO	Primary Downtown	64	38	23
North Downtown - Phoenix, AZ	Secondary Employment Node	64	22	15
Downtown Orlando, FL	Primary Downtown	63	21	20
Downtown Nashville, TN	Primary Downtown	63	31	18
Downtown Portland, OR	Primary Downtown	61	36	22
Downtown Charlotte, NC	Primary Downtown	60	36	23
University of Wisconsin - Madison, WI	Secondary Employment Node	59	28	17
Downtown New Orleans, LA	Primary Downtown	59	19	13
Downtown San Antonio, TX	Primary Downtown	59	29	17
Downtown Spokane, WA	Primary Downtown	58	32	15
Downtown Columbus, OH	Primary Downtown	58	25	16
Downtown Ann Arbor, MI	Primary Downtown	58	23	12
Downtown Indianapolis, IN	Primary Downtown	57	32	17
Microsoft Campus - Redmond, WA	Secondary Employment Node	56	43	16
Syracuse University - Syracuse, NY	Secondary Employment Node	55	16	9
Downtown Fort Lauderdale, FL	Primary Downtown	55	15	10
Downtown Toledo, OH	Primary Downtown	54	15	6
Downtown Sacramento, CA	Primary Downtown	53	25	18
Downtown Madison, WI	Primary Downtown	53	53	7
Downtown Anchorage, AK	Primary Downtown	53	18	16
Downtown Winston-Salem, NC	Primary Downtown	53	15	7
Downtown Jersey City, NJ	Primary Downtown	52	33	17
Downtown Miami, FL	Primary Downtown	52	23	18
Vanderbilt University & Medical Center - Nashville, TN	Secondary Employment Node	52	25	14
Downtown Little Rock, AR	Primary Downtown	51	19	12
Downtown Chattanooga, TN	Primary Downtown	50	12	6
Medical Center - Albany, NY	Secondary Employment Node	50	15	12
Moderately High Job Density				
Downtown Fort Worth, TX	Primary Downtown	49	34	16
Regional School Board/City Government - Memphis, TN	Secondary Employment Node	48	15	8
Downtown Savannah, GA	Primary Downtown	48	16	8
Medical Center - Evansville, IN	Secondary Employment Node	46	19	8
University Circle - Cleveland, OH	Secondary Employment Node	46	16	9
Downtown Lincoln, NE	Primary Downtown	45	11	10
Medical Center - Austin, TX	Secondary Employment Node	45	14	12
Downtown Greenville, SC	Primary Downtown	44	12	7
VA Medical Center - Washington, DC	Secondary Employment Node	44	17	12
Downtown Cleveland, OH	Primary Downtown	44	29	19
Medical Center - Jacksonville, FL	Secondary Employment Node	44	44	12
Birmingham University - Birmingham, AL	Secondary Employment Node	44	28	19
Downtown Riverside, CA	Primary Downtown	43	10	9
Downtown El Paso, TX	Primary Downtown	42	12	12
Downtown Des Moines, IA	Primary Downtown	42	18	12
Downtown Columbia, SC	Primary Downtown	41	20	11
Medical Center - Denver, CO	Secondary Employment Node	39	10	8
Downtown Louisville, KY	Primary Downtown	39	24	10
Downtown Salt Lake City, UT	Primary Downtown	38	22	12
Downtown Wichita, KS	Primary Downtown	38	14	9
Downtown Fresno, CA	Primary Downtown	38	17	9
University of Illinois - Chicago, IL	Secondary Employment Node	38	20	17
Downtown Boise, ID	Primary Downtown	37	26	10
Downtown Tulsa, OK	Primary Downtown	37	20	11
Downtown Las Vegas, NV	Primary Downtown	36	18	14
Downtown Greensboro, NC	Primary Downtown	36	16	8
Midtown - Detroit, MI	Secondary Employment Node	36	21	13
Downtown Mesa, AZ	Primary Downtown	36	10	6

Employment Node Name	Employment Node Type	Commercial Downtown	Half Mile	One Mile
Downtown San Jose, CA	Primary Downtown	35	13	13
Downtown Stockton, CA	Primary Downtown	35	12	8
Downtown Durham, NC	Primary Downtown	34	7	5
University of Texas Medical Center - San Antonio, TX	Secondary Employment Node	34	20	15
Downtown Omaha, NE	Primary Downtown	34	18	15
Downtown Palo Alto, CA	Primary Downtown	34	13	10
Midtown - Atlanta, GA	Secondary Employment Node	33	20	14
Downtown Birmingham, AL	Primary Downtown	33	14	10
Strip - Las Vegas, NV	Secondary Employment Node	32	23	17
Hollywood - Los Angeles, CA	Secondary Employment Node	32	25	15
Downtown Augusta, GA	Primary Downtown	31	12	6
Downtown Long Beach, CA	Primary Downtown	31	21	10
Georgetown - Washington, DC	Secondary Employment Node	31	21	15
University of Washington - Seattle, WA	Secondary Employment Node	31	16	8
Downtown Tallahassee, FL	Primary Downtown	29	12	11
Downtown Evansville, IN	Primary Downtown	29	13	8
Downtown Fort Wayne, IN	Primary Downtown	29	16	6
Downtown Mobile, AL	Primary Downtown	28	9	1
Central Southfield, MI	Primary Downtown	28	12	9
Downtown Springfield, IL	Primary Downtown	28	12	5
Medical Center - Sandy Springs, GA	Secondary Employment Node	28	14	9
Downtown Bakersfield, CA	Primary Downtown	27	16	7
UCSD & Medical Center - San Diego, CA	Secondary Employment Node	26	11	10
Downtown Montgomery, AL	Primary Downtown	26	19	8
Downtown Jacksonville, FL	Primary Downtown	26	19	10
Downtown Pasadena, CA	Primary Downtown	26	13	10
Southeast Southfield, MI	Secondary Employment Node	26	11	7
Downtown Colorado Springs, CO	Primary Downtown	26	12	8
Downtown Oklahoma City, OK	Primary Downtown	25	17	9
Downtown Akron, OH	Primary Downtown	25	11	7
Downtown Salem, OR	Primary Downtown	25	13	6
Downtown Springfield, MO	Primary Downtown	25	14	6
Medical Center - Oklahoma City, OK	Secondary Employment Node	25	25	8
Moderate Job Density				
Downtown Scottsdale, AZ	Primary Downtown	24	11	5
North Office Park - Richardson, TX	Secondary Employment Node	24	16	9
Downtown Lexington, KY	Primary Downtown	24	11	12
Downtown Memphis, TN	Primary Downtown	23	13	7
Medical Center - Portland, OR	Secondary Employment Node	23	9	6
Downtown Sioux Falls, SD	Primary Downtown	22	10	8
MARTA Center - Sandy Springs, GA	Primary Downtown	22	17	8
Office Park - Irvine, CA	Secondary Employment Node	22	17	14
Court House - Arlington, VA	Secondary Employment Node	22	12	8
Downtown Corpus Christi, TX	Primary Downtown	21	14	13
Sprint Campus - Overland Park, KS	Primary Downtown	21	13	7
Downtown Cedar Rapids, IA	Primary Downtown	20	9	6
Medical Center - Fort Worth, TX	Secondary Employment Node	20	11	7
Medical Center - Irvine, CA	Primary Downtown	20	13	7
Northwest Southfield, MI	Secondary Employment Node	20	10	6
University & Medical Center - Knoxville, TN	Secondary Employment Node	20	15	7
Downtown Reno, NV	Primary Downtown	20	13	10
Medical Center - Indianapolis, IN	Secondary Employment Node	19	16	10
Downtown Huntsville, AL	Primary Downtown	19	8	6
Office Park & Mall - Torrance, CA	Secondary Employment Node	18	11	10
Office Park & Airport - Torrance, CA	Primary Downtown	18	10	6
Children's Hospital - Aurora, CO	Secondary Employment Node	18	8	6
Intel Campus - Chandler, AZ	Primary Downtown	18	7	5
Cisco Campus - San Jose, CA	Secondary Employment Node	18	16	13
Downtown Lafayette, LA	Primary Downtown	18	12	12
Ohio State University & Medical Center - Columbus, OH	Secondary Employment Node	17	11	8
Downtown Baton Rouge, LA	Primary Downtown	17	9	6
South Office Parks - Santa Clara, CA	Secondary Employment Node	17	12	11
State Government Offices - Oklahoma City, OK	Secondary Employment Node	17	9	8

Employment Node Name	Employment Node Type	Commercial Downtown	Half Mile	One Mile
Downtown Charleston, SC	Primary Downtown	17	11	6
Southern Office Park - San Bernardino, CA	Secondary Employment Node	17	10	8
Downtown St. Petersburg, FL	Primary Downtown	16	7	6
University of Texas Medical Center - Dallas, TX	Secondary Employment Node	15	11	9
Lower Job Density				
Office Park - Irving, TX	Secondary Employment Node	15	14	10
Las Collinas Medical Center - Irving, TX	Primary Downtown	15	14	13
Downtown Anaheim, CA	Primary Downtown	14	6	5
Downtown San Bernardino, CA	Primary Downtown	14	7	6
Medical Center - Chandler, AZ	Secondary Employment Node	14	6	4
Texas Instruments Campus - Richardson, TX	Primary Downtown	14	9	8
East Office Park - Troy, MI	Secondary Employment Node	14	7	6
I-90 Office Parks - Bellevue, WA	Secondary Employment Node	14	5	4
University & Caltrain Center - Santa Clara, CA	Primary Downtown	14	9	10
I-405 & I-520 Office Parks - Bellevue, WA	Secondary Employment Node	14	9	7
Downtown Tysons Corner, VA	Primary Downtown	13	9	6
North Office Parks - Santa Clara, CA	Secondary Employment Node	13	11	10
Medical Office Parks - Palo Alto, CA	Secondary Employment Node	13	11	7
Downtown Redmond, WA	Primary Downtown	13	7	3
Boeing Campus - Everett, WA	Secondary Employment Node	13	9	6
Downtown Lubbock, TX	Primary Downtown	12	8	7
Downtown Amarillo, TX	Primary Downtown	12	7	5
Medical Center - Boca Raton, FL	Secondary Employment Node	12	8	7
I-435 Office Parks - Overland Park, KS	Secondary Employment Node	12	7	5
Texas Tech - Lubbock, TX	Secondary Employment Node	12	7	4
Downtown Shreveport, LA	Primary Downtown	11	7	4
Downtown Tempe, AZ	Primary Downtown	11	8	10
Central Office Parks - Ontario, CA	Secondary Employment Node	11	5	5
Airport & School Board - Lafayette, LA	Secondary Employment Node	11	11	11
Office Park - Boca Raton, FL	Secondary Employment Node	10	7	5
Downtown Ontario, CA	Primary Downtown	10	4	3
UC Irvine - Irvine, CA	Secondary Employment Node	10	9	4
Downtown Everett, WA	Primary Downtown	10	7	5
West Mall Area - Troy, MI	Primary Downtown	9	7	7
Havana Street/Office Parks - Aurora, CO	Secondary Employment Node	9	5	5
Downtown Arlington, TX	Primary Downtown	9	7	8
Downtown Jackson, MS	Primary Downtown	9	7	7
Downtown Plano, TX	Primary Downtown	9	6	5
Oyster Point - Newport News, VA	Primary Downtown	9	6	4
Downtown Chesapeake City, VA	Primary Downtown	9	6	4
University of Louisiana - Lafayette, LA	Secondary Employment Node	8	5	5
Downtown Chandler, AZ	Secondary Employment Node	7	3	2
Medical Center - Raleigh, NC	Secondary Employment Node	7	3	3
Port - Newport News, VA	Secondary Employment Node	7	6	4
South End - Charlotte, NC	Secondary Employment Node	5	4	4
Northeast Office Parks - Ontario, CA	Secondary Employment Node	5	5	4
Florida Atlantic University - Boca Raton, FL	Primary Downtown	4	4	4
Downtown Aurora, CO	Primary Downtown	4	1	1
Downtown Virginia Beach, VA	Primary Downtown	3	0.1	0.1
Medical Center/Office Park - Lakewood, CO	Primary Downtown	2	4	3
Buckley Airforce Base - Aurora, CO**	Secondary Employment Node	1	1	1
Downtown Boston, MA***	Primary Downtown	NA	NA	NA
Average		57	25	15

*Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract. It has been excluded from job density calculations. Tract 11 also exhibits signs of central payroll processing with 56,657 jobs within this tract but still appears within this analysis.

**The Buckley Airforce Base area may exhibit lower than expected job densities due to the fact that uniformed military are not included in the data.

***Because LED data are not available for the Commonwealth of Massachusetts, Downtown Boston jobs, and therefore job densities, are unavailable.

Table 3: Employment Nodes Sorted by Live-Work Quotient

Employment Node Name	Employment Node Type	% of Workers Living Within Commercial Downtown and One-Mile Area Who Work Within Commercial Downtown or One-Mile Area
Extremely High Live-Work Quotients		
Midtown Manhattan, NY	Primary Downtown	55.9%
Downtown Chicago, IL	Primary Downtown	51.8%
Downtown Washington, DC	Primary Downtown	50.5%
Strip - Las Vegas, NV*	Primary Downtown	50.5%
Downtown Rochester, MN	Primary Downtown	50.2%
Downtown Ann Arbor, MI	Primary Downtown	49.3%
Downtown Honolulu, HI**	Primary Downtown	44.5%
Downtown Portland, OR	Primary Downtown	43.5%
Downtown Seattle, WA	Primary Downtown	41.0%
Center City - Philadelphia, PA	Primary Downtown	40.7%
Downtown San Francisco, CA	Primary Downtown	37.9%
Downtown Salem, OR	Primary Downtown	37.3%
Downtown New Orleans, LA	Primary Downtown	37.2%
Downtown Providence, RI	Primary Downtown	36.4%
Downtown Chattanooga, TN	Primary Downtown	36.0%
Downtown Austin, TX	Primary Downtown	35.9%
Downtown Tallahassee, FL	Primary Downtown	35.5%
Downtown Minneapolis, MN	Primary Downtown	34.9%
Downtown Lexington, KY	Primary Downtown	34.6%
Downtown Boise, ID	Primary Downtown	34.0%
Downtown Des Moines, IA	Primary Downtown	33.6%
Downtown Springfield, IL	Primary Downtown	33.4%
Vanderbilt University & Medical Center - Nashville, TN	Secondary Employment Node	33.0%
Downtown Little Rock, AR	Primary Downtown	32.4%
Downtown Spokane, WA	Primary Downtown	32.0%
Downtown Reno, NV	Primary Downtown	31.7%
Downtown Hartford, CT	Primary Downtown	31.5%
Downtown Augusta, GA	Primary Downtown	31.4%
Downtown Pittsburgh, PA	Primary Downtown	31.3%
Downtown Charlotte, NC	Primary Downtown	31.2%
Downtown Milwaukee, WI	Primary Downtown	30.9%
Downtown Denver, CO	Primary Downtown	30.9%
Downtown Buffalo, NY	Primary Downtown	30.9%
Downtown Norfolk, VA	Primary Downtown	30.1%
High Live-Work Quotients		
Downtown Louisville, KY	Primary Downtown	29.0%
Downtown Amarillo, TX	Primary Downtown	28.9%
Microsoft Campus - Redmond, WA	Secondary Employment Node	28.4%
Downtown Savannah, GA	Primary Downtown	27.9%
Downtown Cleveland, OH	Primary Downtown	27.8%
Oakland - Pittsburgh, PA	Secondary Employment Node	27.7%
Downtown Sacramento, CA	Primary Downtown	27.2%
Downtown Wichita, KS	Primary Downtown	27.2%
Downtown Anchorage, AK	Primary Downtown	26.7%
Downtown Baltimore, MD	Primary Downtown	26.6%
UCSD & Medical Center - San Diego, CA	Secondary Employment Node	26.5%
Downtown Indianapolis, IN	Primary Downtown	26.3%
Downtown Sioux Falls, SD	Primary Downtown	26.3%

Employment Node Name	Employment Node Type	% of Workers Living Within Commercial Downtown and One-Mile Area Who Work Within Commercial Downtown or One-Mile Area
Downtown Columbia, SC	Primary Downtown	25.7%
Downtown Corpus Christi, TX	Primary Downtown	25.6%
Downtown Tulsa, OK	Primary Downtown	25.6%
Birmingham University - Birmingham, AL	Secondary Employment Node	25.5%
Texas Medical Center - Houston, TX	Secondary Employment Node	25.5%
University of Wisconsin - Madison, WI	Secondary Employment Node	25.4%
Downtown Colorado Springs, CO	Primary Downtown	25.3%
Downtown Kansas City, MO	Primary Downtown	25.2%
Texas Tech - Lubbock, TX	Secondary Employment Node	24.8%
Downtown Albany, NY	Primary Downtown	24.5%
Downtown Orlando, FL	Primary Downtown	24.4%
Downtown Huntsville, AL	Primary Downtown	24.4%
Syracuse University - Syracuse, NY	Secondary Employment Node	24.2%
Downtown Miami, FL	Primary Downtown	23.9%
Downtown Cincinnati, OH	Primary Downtown	23.7%
Downtown Richmond, VA	Primary Downtown	23.7%
Downtown Manhattan, NY	Secondary Employment Node	23.6%
Downtown Springfield, MO	Primary Downtown	23.6%
Downtown Grand Rapids, MI	Primary Downtown	23.5%
Medical Office Parks - Palo Alto, CA	Secondary Employment Node	23.3%
Downtown Lincoln, NE	Primary Downtown	23.1%
Downtown Salt Lake City, UT	Primary Downtown	22.9%
Downtown Evansville, IN	Primary Downtown	22.8%
Downtown Charleston, SC	Primary Downtown	22.7%
Downtown St. Louis, MO	Primary Downtown	22.7%
Downtown Greenville, SC	Primary Downtown	22.4%
Southern Office Park - San Bernardino, CA	Secondary Employment Node	22.0%
Downtown Lansing, MI	Primary Downtown	21.7%
Downtown Tucson, AZ	Primary Downtown	21.6%
Downtown El Paso, TX	Primary Downtown	21.5%
Downtown Columbus, OH	Primary Downtown	21.4%
University Circle - Cleveland, OH	Secondary Employment Node	21.3%
Downtown Dallas, TX	Primary Downtown	21.3%
Downtown Rochester, NY	Primary Downtown	21.2%
Downtown Detroit, MI	Primary Downtown	21.1%
Downtown Montgomery, AL	Primary Downtown	21.1%
Midtown - Detroit, MI	Secondary Employment Node	21.0%
Downtown Atlanta, GA	Primary Downtown	21.0%
Downtown Winston-Salem, NC	Primary Downtown	21.0%
Downtown Omaha, NE	Primary Downtown	21.0%
Cisco Campus - San Jose, CA	Secondary Employment Node	20.9%
Office Park - Boca Raton, FL	Secondary Employment Node	20.6%
University of Texas Medical Center - San Antonio, TX	Secondary Employment Node	20.3%
Downtown Memphis, TN	Primary Downtown	20.2%
Downtown Madison, WI	Primary Downtown	20.1%
Emerging Live-Work Areas		
Downtown Cedar Rapids, IA	Primary Downtown	19.9%
Downtown Mobile, AL	Primary Downtown	19.8%
Downtown Shreveport, LA	Primary Downtown	19.8%
Office Park - Irvine, CA	Secondary Employment Node	19.6%
Boeing Campus - Everett, WA	Secondary Employment Node	19.6%
Civic Center - San Francisco, CA	Secondary Employment Node	19.5%

Employment Node Name	Employment Node Type	% of Workers Living Within Commercial Downtown and One-Mile Area Who Work Within Commercial Downtown or One-Mile Area
Downtown Los Angeles, CA	Primary Downtown	19.4%
Downtown Albuquerque, NM	Primary Downtown	19.4%
Downtown Akron, OH	Primary Downtown	19.3%
Downtown Birmingham, AL	Primary Downtown	19.3%
Downtown Fort Lauderdale, FL	Primary Downtown	19.2%
Downtown Newark, NJ	Primary Downtown	19.2%
Downtown Tacoma, WA	Primary Downtown	19.0%
Downtown San Diego, CA	Primary Downtown	19.0%
Sprint Campus - Overland Park, KS	Primary Downtown	19.0%
Medical Center - Albany, NY	Secondary Employment Node	18.8%
Downtown Jackson, MS	Primary Downtown	18.7%
University of Louisiana - Lafayette, LA	Secondary Employment Node	18.7%
Downtown Greensboro, NC	Primary Downtown	18.7%
University of Chicago - Chicago, IL	Secondary Employment Node	18.4%
Downtown Knoxville, TN	Primary Downtown	18.1%
Downtown Tysons Corner, VA	Primary Downtown	18.1%
Downtown Oklahoma City, OK	Primary Downtown	18.0%
Downtown Houston, TX	Primary Downtown	18.0%
University of Texas Medical Center - Dallas, TX	Secondary Employment Node	17.9%
Downtown Fresno, CA	Primary Downtown	17.9%
Downtown Fort Worth, TX	Primary Downtown	17.8%
Downtown Toledo, OH	Primary Downtown	17.8%
Midtown - Atlanta, GA	Secondary Employment Node	17.7%
Downtown Oakland, CA	Primary Downtown	17.7%
Downtown Syracuse, NY	Primary Downtown	17.6%
Airport & School Board - Lafayette, LA	Secondary Employment Node	17.6%
Medical Center - Charleston, SC	Secondary Employment Node	17.6%
Uptown - Houston, TX	Secondary Employment Node	17.5%
Downtown St. Paul, MN	Primary Downtown	17.3%
Downtown San Antonio, TX	Primary Downtown	17.3%
Downtown Chesapeake City, VA	Primary Downtown	17.2%
Downtown Bakersfield, CA	Primary Downtown	17.0%
Westwood/UCLA - Los Angeles, CA	Secondary Employment Node	16.8%
Downtown Nashville, TN	Primary Downtown	16.7%
Downtown St. Petersburg, FL	Primary Downtown	16.3%
Downtown Tampa, FL	Primary Downtown	16.3%
University City - Philadelphia, PA	Secondary Employment Node	16.2%
Downtown Virginia Beach, VA	Primary Downtown	16.2%
Ohio State University & Medical Center - Columbus, OH	Secondary Employment Node	16.1%
Downtown Pasadena, CA	Primary Downtown	15.7%
Regional School Board/City Government - Memphis, TN	Secondary Employment Node	15.6%
University of Washington - Seattle, WA	Secondary Employment Node	15.5%
Downtown Raleigh, NC	Primary Downtown	15.4%
Downtown Phoenix, AZ	Primary Downtown	15.3%
Limited Live-Work Characteristics		
Downtown Tempe, AZ	Primary Downtown	14.9%
Downtown Las Vegas, NV	Primary Downtown	14.8%
MARTA Center - Sandy Springs, GA	Primary Downtown	14.8%
Downtown Arlington, TX	Primary Downtown	14.8%
Port - Newport News, VA	Secondary Employment Node	14.7%
Downtown Baton Rouge, LA	Primary Downtown	14.7%
Oyster Point - Newport News, VA	Primary Downtown	14.7%

Employment Node Name	Employment Node Type	% of Workers Living Within Commercial Downtown and One-Mile Area Who Work Within Commercial Downtown or One-Mile Area
North Downtown - Phoenix, AZ	Secondary Employment Node	14.5%
Medical Center/UT Health Science - Memphis, TN	Secondary Employment Node	14.4%
Medical Center - Portland, OR	Secondary Employment Node	14.3%
Medical Center - Jacksonville, FL	Secondary Employment Node	13.6%
Downtown Stockton, CA	Primary Downtown	13.5%
Downtown San Jose, CA	Primary Downtown	13.1%
Downtown Fort Wayne, IN	Primary Downtown	12.9%
South Office Parks - Santa Clara, CA	Secondary Employment Node	12.8%
Downtown Palo Alto, CA	Primary Downtown	12.8%
Brooklyn, NY***	Secondary Employment Node	12.7%
Downtown Jersey City, NJ	Primary Downtown	12.6%
Downtown Bellevue, WA	Primary Downtown	12.5%
State Government Offices - Oklahoma City, OK	Secondary Employment Node	12.4%
Downtown Alexandria, VA	Primary Downtown	12.3%
Medical Center - Fort Worth, TX	Secondary Employment Node	12.3%
West Mall Area - Troy, MI	Primary Downtown	12.1%
Downtown San Bernardino, CA	Primary Downtown	12.0%
University of Illinois - Chicago, IL	Secondary Employment Node	11.9%
UCSF Medical Center - San Francisco, CA	Secondary Employment Node	11.8%
Florida Atlantic University - Boca Raton, FL	Primary Downtown	11.8%
Downtown Scottsdale, AZ	Primary Downtown	11.7%
University & Medical Center - Knoxville, TN	Secondary Employment Node	11.7%
Downtown Everett, WA	Primary Downtown	11.7%
Medical Center - Boca Raton, FL	Secondary Employment Node	11.7%
UC Irvine - Irvine, CA	Secondary Employment Node	11.6%
I-405 & I-520 Office Parks - Bellevue, WA	Secondary Employment Node	11.4%
Greenway Plaza - Houston, TX	Secondary Employment Node	11.2%
Intel Campus - Chandler, AZ	Primary Downtown	11.2%
Medical Center - Austin, TX	Secondary Employment Node	11.1%
South End - Charlotte, NC	Secondary Employment Node	11.0%
Wilshire/Koreatown - Los Angeles, CA	Secondary Employment Node	11.0%
Georgetown - Washington, DC	Secondary Employment Node	10.9%
Downtown Riverside, CA	Primary Downtown	10.8%
Downtown Mesa, AZ	Primary Downtown	10.8%
Downtown Jacksonville, FL	Primary Downtown	10.6%
Downtown Lubbock, TX	Primary Downtown	10.6%
Hollywood - Los Angeles, CA	Secondary Employment Node	10.6%
Medical Center - Evansville, IN	Secondary Employment Node	10.4%
East Office Park - Troy, MI	Secondary Employment Node	10.2%
Office Park & Airport - Torrance, CA	Primary Downtown	10.1%
Downtown Durham, NC	Primary Downtown	10.0%
Medical Center - Irvine, CA	Primary Downtown	10.0%
Downtown Redmond, WA	Primary Downtown	9.9%
Downtown Plano, TX	Primary Downtown	9.7%
Downtown Burbank, CA	Primary Downtown	9.7%
Office Park - Irving, TX	Secondary Employment Node	9.7%
I-435 Office Parks - Overland Park, KS	Secondary Employment Node	9.3%
Northwest Southfield, MI	Secondary Employment Node	9.2%
Medical Center/Office Park - Lakewood, CO	Primary Downtown	9.2%
Downtown Long Beach, CA	Primary Downtown	8.9%
Downtown Santa Ana, CA	Primary Downtown	8.9%

Employment Node Name	Employment Node Type	% of Workers Living Within Commercial Downtown and One-Mile Area Who Work Within Commercial Downtown or One-Mile Area
Central Office Parks - Ontario, CA	Secondary Employment Node	8.8%
Texas Instruments Campus - Richardson, TX	Primary Downtown	8.8%
Downtown Lafayette, LA	Primary Downtown	8.3%
Northeast Office Parks - Ontario, CA	Secondary Employment Node	8.3%
Las Collinas Medical Center - Irving, TX	Primary Downtown	8.3%
Rosslyn - Arlington, VA	Primary Downtown	7.9%
I-90 Office Parks - Bellevue, WA	Secondary Employment Node	7.9%
Office Park & Mall - Torrance, CA	Secondary Employment Node	7.8%
Medical Center - Oklahoma City, OK	Secondary Employment Node	7.6%
Johns Hopkins Hospital/Univeristy - Baltimore, MD	Secondary Employment Node	7.5%
Ballston - Arlington, VA	Secondary Employment Node	7.5%
Medical Center - Chandler, AZ	Secondary Employment Node	7.5%
Medical Center - Indianapolis, IN	Secondary Employment Node	7.3%
VA Medical Center - Washington, DC	Secondary Employment Node	7.3%
Medical Center - Sandy Springs, GA	Secondary Employment Node	7.1%
North Office Parks - Santa Clara, CA	Secondary Employment Node	7.0%
North Office Park - Richardson, TX	Secondary Employment Node	7.0%
Southeast Southfield, MI	Secondary Employment Node	6.5%
Havana Street/Office Parks - Aurora, CO	Secondary Employment Node	6.3%
Medical Center - Raleigh, NC	Secondary Employment Node	6.0%
Buckley Airforce Base - Aurora, CO****	Secondary Employment Node	5.6%
University & Caltrain Center - Santa Clara, CA	Primary Downtown	5.5%
Children's Hospital - Aurora, CO	Secondary Employment Node	5.5%
Medical Center - Denver, CO	Secondary Employment Node	5.3%
Central Southfield, MI	Primary Downtown	5.0%
Downtown Anaheim, CA	Primary Downtown	4.1%
Court House - Arlington, VA	Secondary Employment Node	4.1%
Downtown Ontario, CA	Primary Downtown	2.8%
Downtown Chandler, AZ	Secondary Employment Node	2.6%
Downtown Aurora, CO	Primary Downtown	2.0%
Downtown Boston, MA*****	Primary Downtown	NA
Average		19.3%

*Because Downtown Las Vegas and the Las Vegas Strip fall into different counties, the live/work relationship for these areas was calculated by examining the commuting pattern of workers that live in both places.

**Honolulu statistics were calculated using Honolulu County as the city area rather than Urban Honolulu.

***Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract.

****The Buckley Airforce Base area may exhibit lower than expected job totals due to the fact that uniformed military are not included in the data

*****Because LED data are not available for the Commonwealth of Massachusetts, Downtown Boston jobs are unavailable, and population was estimated based on locally accepted boundaries.

APPENDIX III: CHANGES IN JOBS AND POPULATION IN THE LARGEST CITIES FOR JOBS (Based on Number of Jobs)

Table 1: Change in Population: 2000-2010

City Jobs Rank	Job Node	Within Commercial Downtown	Within Commercial Downtown and Half-Mile Area	Within Commercial Downtown and One-Mile Area
1	New York, NY	31.5%	7.8%	8.0%
	Midtown Manhattan	12.5%	6.7%	8.9%
	Downtown Manhattan	64.8%	15.6%	13.1%
	Brooklyn	32.0%	1.4%	1.6%
2	Los Angeles, CA	8.7%	0.9%	-1.3%
	Downtown Los Angeles	71.9%	17.9%	2.4%
	Westwood/UCLA	11.9%	8.1%	7.0%
	Hollywood	-10.2%	-7.7%	-9.7%
	Wilshire/Koreatown	-8.2%	-7.6%	-1.1%
3	Houston, TX	25.8%	20.1%	15.3%
	Downtown Houston*	-29.8%	23.0%	22.5%
	Greenway Plaza	24.6%	7.1%	-5.9%
	Uptown	89.2%	34.2%	22.3%
	Texas Medical Center	103.3%	14.5%	25.0%
4	Chicago, IL	40.6%	17.2%	2.1%
	Downtown Chicago	95.6%	45.5%	46.0%
	University of Illinois	-2.8%	54.8%	-2.8%
	University of Chicago	-11.4%	-11.7%	-12.7%
5	Phoenix, AZ	14.9%	-8.6%	-12.9%
	Downtown Phoenix	18.7%	-10.1%	-16.1%
	North Downtown	10.4%	-7.2%	-10.3%
6	Dallas, TX	30.3%	13.0%	3.1%
	Downtown Dallas	94.8%	103.0%	39.0%
	University of Texas Medical Center	21.3%	0.7%	-6.0%
7	San Diego, CA	56.9%	44.7%	29.4%
	Downtown San Diego	65.6%	50.1%	28.5%
	UCSD & Medical Center	44.8%	38.0%	30.3%
8	Philadelphia, PA	12.8%	10.1%	5.3%
	Center City	16.3%	16.2%	8.9%
	University City	5.0%	0.2%	0.5%
9	San Antonio, TX	0.7%	2.9%	2.3%
	Downtown San Antonio	1.9%	-4.2%	-5.1%
	University of Texas Medical Center	-1.3%	10.7%	8.6%
10	Washington, DC	25.3%	10.6%	4.2%
	Downtown Washington, DC	35.1%	8.2%	-0.2%
	Georgetown	9.5%	19.9%	18.7%
	VA Medical Center	51.4%	18.9%	17.5%
Total Population Change in These Job Nodes		26.6%	10.2%	4.5%

*Between 2000 and 2010 a correctional facility was moved out of Downtown Houston.

Table 2: Change in Total Jobs: 2002-2011

City Jobs Rank	Job Node	Within Commercial Downtown	Within Commercial Downtown and Half-Mile Area	Within Commercial Downtown and One-Mile Area
1	New York, NY	22.1%	18.5%	19.0%
	Midtown Manhattan	12.5%	9.4%	10.9%
	Downtown Manhattan	14.8%	15.7%	16.2%
	Brooklyn*	92.6%	84.3%	76.9%
2	Los Angeles, CA	28.9%	20.3%	19.1%
	Downtown Los Angeles	45.9%	21.7%	21.2%
	Westwood/UCLA	7.6%	8.8%	8.8%
	Hollywood	-35.1%	13.8%	21.8%
	Wilshire/Koreatown	19.2%	31.2%	25.6%
3	Houston, TX	7.7%	6.5%	7.5%
	Downtown Houston	8.3%	10.0%	6.5%
	Greenway Plaza	-4.3%	-5.6%	-4.1%
	Uptown	1.2%	5.9%	9.8%
	Texas Medical Center	29.6%	15.0%	18.4%
4	Chicago, IL	11.2%	8.6%	10.3%
	Downtown Chicago	10.5%	9.1%	10.1%
	University of Illinois	16.5%	3.4%	11.4%
	University of Chicago	18.9%	12.7%	11.8%
5	Phoenix, AZ	-3.2%	-2.3%	-1.2%
	Downtown Phoenix	-10.4%	-10.2%	-8.5%
	North Downtown	15.8%	11.5%	10.8%
6	Dallas, TX	8.9%	2.9%	1.5%
	Downtown Dallas	5.1%	2.9%	3.9%
	University of Texas Medical Center	12.3%	2.9%	-0.6%
7	San Diego, CA	3.7%	7.6%	4.1%
	Downtown San Diego	1.7%	3.9%	4.2%
	UCSD & Medical Center	9.3%	16.1%	3.9%
8	Philadelphia, PA	11.5%	12.6%	12.6%
	Center City	7.4%	7.9%	8.1%
	University City	29.8%	34.2%	32.8%
9	San Antonio, TX	4.8%	0.5%	11.2%
	Downtown San Antonio	-0.8%	-9.4%	-10.3%
	University of Texas Medical Center	15.6%	26.9%	53.5%
10	Washington, DC**			
	Downtown Washington, DC			
	Georgetown			
	VA Medical Center			
Total Jobs Change		15.9%	13.0%	13.3%

*Brooklyn exhibits an employment allocation anomaly that may be contributing to its job totals, density, and live-work calculations. Tract 9 contains 196,474 jobs, likely due to central payroll processing for the New York City Buildings Department and not a reflection of the number of workers physically working in this tract.

**Because Washington, DC data are unavailable prior to 2010, rates of job change are not calculated here.



J.B. Abbott



Downtown Baltimore, MD; Philadelphia, PA; St. Louis, MO; Cleveland, OH; and Indianapolis, IN

APPENDIX IV: METHODOLOGY

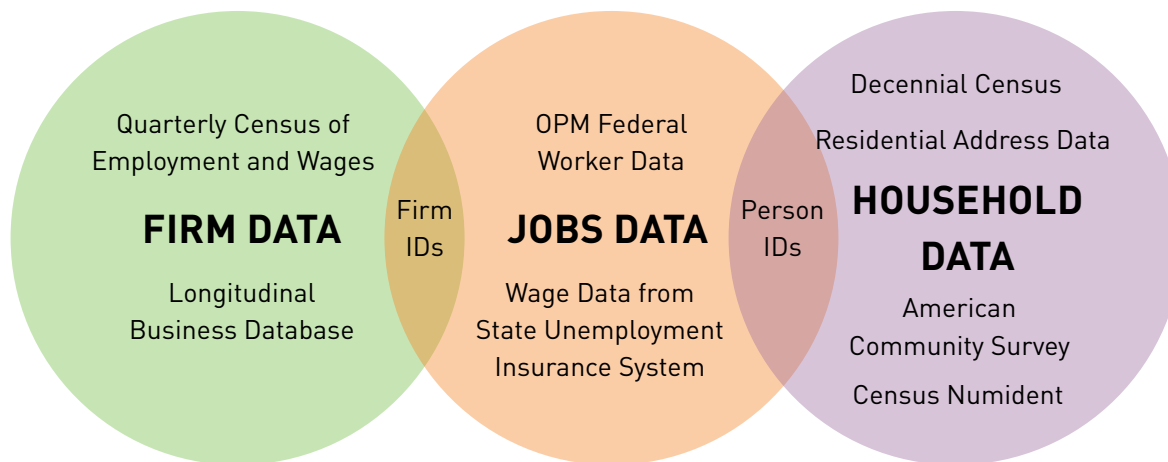
METHODOLOGY

ABOUT THE DATA

LOCAL EMPLOYMENT DYNAMICS

This study uses the Version 7 LEHD Origin-Destination Employment Statistics (LODES) data from the 2011 Longitudinal Employer-Household Dynamics (LEHD, LED for short) program, managed by the U.S. Census Bureau. Published annually, the 2011 data are the most current LODES dataset at the time of publication for this study. The LED data are produced through a voluntary partnership between state labor market information (LMI) agencies and the Census Bureau. LMI agencies provide wage records from their Unemployment Insurance wage record system and firm characteristics from the Quarterly Census of Employment and Wages (QCEW) to the Census Bureau, and these data are paired with Census Bureau records, including worker demographic characteristics and home addresses. This pairing enables the examination of where workers live and where they work.

The LEHD Infrastructure Data²⁶



Because the data are created using wage records, certain employment classes are not fully accounted for by the LED dataset. These include self-employed persons, individuals compensated as business partners, informal employment, uniformed military employment, and federal employees requiring identity protection. The LED program estimates

that the dataset covers approximately 95% of all U.S. private-sector employment. Additionally, because workers and jobs are allocated to Census Blocks based on where employers process payroll, employee and job totals for large employers are occasionally aggregated to these addresses rather than physical work sites. This can produce both undercounts and overcounts. Finally, since partnerships between LMI agencies and the Census Bureau are voluntary, certain geographies are omitted due to state capacities and current data-sharing restrictions. Missing data include:

- All data for Massachusetts, Puerto Rico, and the U.S. Virgin Islands
- Arizona (2002 and 2003), Arkansas (2002), Washington, DC (2002-2009), Mississippi (2002 and 2003), and New Hampshire (2002)

Using the LED dataset for this study poses challenges in a few cities/places, most notably Boston, MA; Washington,

DC; and Aurora, CO. Where Boston appears in this study, the commercial area was estimated using locally accepted definitions and American Community Survey data. Employment numbers for Boston were excluded from summary data, and estimates for population were calculated using 2010 Census data for this geographic area. Because

Washington, DC LED data are only available beginning in 2010, no rates of change for jobs were calculated for DC between 2002 and 2011. Both Washington, DC and Aurora, CO include large numbers of uniformed military employment and intelligence workers, for whom data are not available, thus skewing estimates of the concentration of jobs in some cases.

DECENNIAL CENSUS

The Decennial Census is conducted every 10 years by the U.S. Census Bureau and represents a full, home-based population count of everyone who lives in the United States on April 1 in all years ending in "0." The Decennial Census has been administered every 10 years since 1790 as required by the U.S. Constitution. For the purposes of this analysis, 2010 Census data were used at the Census Tract level to derive population totals for 2010, and 2000 Census data at the Block level were used to calculate population totals for comparable areas due to the revision of Census Tracts during the tabulation of each Decennial Census. As a result, 2000 and 2010 data for small areas such as those used in this study are not always fully comparable. Finally, while tracts must conform to Incorporated Places, they do not always conform to the boundaries of Census Designated Places, creating minor anomalies in live-work calculations and other statistics mentioned in this study.

A NOTE ON COMPARABILITY

While we recognize that more recent data are available from additional sources, this study references only 2011 LED and 2010 Census data (unless otherwise noted) in order to ensure comparability of reported information across geographic areas. In some cases, this information may not completely

conform to locally accepted definitions of downtown geographic areas, other federal data such as Bureau of Labor Statistics (BLS) and Bureau of Economic Analysis (BEA) employment data, and the most recent data and change factors released through the Census Bureau's Population Estimates program.

In general:

- The LED All Jobs data are most readily comparable to the BLS's Quarterly Census of Employment and Wages (QCEW) data as this data source serves as one of the foundations upon which LED is built.
- The LED Primary Jobs data are not readily comparable to any other publicly available source as they provide estimates for individual workers. In this report, Live-Work quotients are calculated using Primary Jobs data in order to avoid over-counting of workers and to derive a more accurate estimate of people who live in a live-work environment. As one worker can hold many jobs, Primary Jobs do not equal All Jobs.
- The BEA produces many detailed statistics on employment, wages, and business income by tracking financial receipts. Data used in this report are most readily (though not completely) comparable to Wage and Salary Employment in BEA data.
- Because LED data do not track sole proprietors and partners, downtown researchers may wish to create estimates to further quantify full employment in their area. The Census Bureau provides a Nonemployer Statistics series and the BEA provides a Proprietors series, both of which assist in the quantification of the 5% of the U.S. workforce left out of the LED dataset.



Times Square, Midtown Manhattan, NY

RESEARCH PROCESS

The data displayed in this report were produced through the following process:

1. *Determining the geographic universe*—In order to determine the list of cities/places analyzed in this report, we examined the list of all Places in the LODES data to determine the 150 Places that had the largest numbers of Primary Jobs (workers).
2. *Defining the employment node*—From this list, we determined the existence of job nodes primarily based on visual job-density levels, with some additional input from local partners. Employment node definitions were developed at the Census Tract level in order to ensure that local areas could easily use these definitions to access additional Census data products. In some cases, the area of densest employment did not represent a traditional downtown. In these cases, where traditional downtown areas existed but were less dense, the traditional downtown was labeled the “Primary Downtown,” and other areas of dense employment were labeled “Secondary Employment Nodes.” Where no traditional downtown existed, the area of highest employment was labeled “Primary Downtown.” For example, Overland, KS’s areas of dense employment are exclusively office parks. Other areas include employment nodes that are exclusively a function of the unique geography of employment in the local economy, including Buckley Air Force Base in Aurora, CO and the port in Newport News, VA.
3. *Selecting Census Tracts within a half-mile and one-mile orbit from the commercial downtown*—Once employment node definitions were determined, a buffer analysis from the edges of the node’s Census Tracts was performed in GIS. Data were displayed in the North America Lambert Conformal Conic projection, and tracts were included in the buffers when the centroid (mathematical center) of their polygon fell within the half-mile or one-mile distance from the edge of the commercial downtown tract(s). Half- and one-mile area definitions were developed at the Census Tract level in all cities in order to keep the methodology consistent and ensure that local areas could easily use these definitions to access additional Census data products without the use of GIS software. Census Tracts that fell within the half-mile or one-mile radii, but were located in a different state than the commercial area, were excluded. In cases where two employment nodes were in close proximity to one another, tracts for the half- and one-mile radii were assigned to commercial areas based on which commercial area’s boundary was in closest proximity to the tract’s centroid. Where tract assignments were questionable, we erred on the side of assigning the tract to the primary employment node.
4. *Calculating population, workforce, and live-work characteristics for the commercial downtown, half-mile, and one-mile areas*—After determining boundaries, resident population statistics were calculated by these geographic definitions for 2010 Census data. Total jobs statistics were calculated using Total Jobs data for each of the tracts identified in the buffered areas. Finally, live-work statistics were calculated using Primary Jobs data by taking the number of workers who live *and* work in an area divided by the total number of workers living in an area. Primary Jobs differ from Total Jobs: if an individual holds more than one job, Primary Job statistics are computed for the job at which a worker earns the highest wage.
5. *Creating maps that represent these boundaries*—Maps for the commercial and residential downtown boundaries were created to show the borders of each area for the purposes of soliciting feedback on these definitions, refining the research methodology, and ultimately producing the summary statistics displayed in this report. Representatives from 72 cities, where we identified local contacts, were asked to provide comments on their commercial downtown boundaries.

NOTES ON INDIVIDUAL CITIES

- **Brooklyn:** Downtown Brooklyn experiences an anomaly in the allocation of employment to its downtown commercial area. Kings County, NY Census Tract 9 covers the New York City Buildings Department. For 2011, this tract has 196,474 jobs allocated to it, likely the result of central payroll processing for this agency. Tract

11 also has an unusually high concentration of jobs for an area like Brooklyn, 56,657, likely due to central payroll processing for one or more of the following: the New York City Law Department, Kings County Family Court, the NYC Transit Authority, and the Brooklyn Borough President's office.

- **Cleveland:** When conducting the buffer analysis on tracts in the half- and one-mile areas in Cleveland's two employment nodes, one tract that shared a border with the commercial area of Downtown Cleveland was assigned to the University Circle area due to the proximity of its centroid, and another tract that bordered a locally known dividing line (55th Street) between Downtown Cleveland and University Circle was assigned to University Circle, even though it fell on the Downtown Cleveland side of this dividing line. Both tracts were manually reassigned to Downtown Cleveland to reflect local conceptions of the geography of Cleveland.
- **Honolulu:** The Place-level geography of the City of Honolulu is designed by the Census Bureau as "Urban Honolulu." However, Honolulu is incorporated as the City and County of Honolulu, which is contiguous with the Island of Oahu. At the request of local partners in Hawaii and because the Island of Oahu is contiguous with both the City and County of Honolulu, the concentration of citywide jobs in downtown Honolulu was calculated as a percentage of the jobs in Honolulu County.
- **Houston:** Although the centroid for Harris County Census Tract 4102 fell slightly outside the one-mile area from the commercial downtown, it was included in this analysis since it was bordered nearly entirely to the north and south by two tracts included in the one-mile area.
- **Las Vegas:** The two main nodes of employment in Las Vegas's urban area are the Las Vegas Strip and Downtown Las Vegas. The areas of densest employment in the Las Vegas Strip cross two Census Designated Places, Paradise CDP and Winchester CDP. Downtown Las Vegas is located in the incorporated City of Las Vegas. Since these nodes cover three geographic areas, workers/jobs for Paradise CDP, Winchester CDP, and the City of Las Vegas were combined to calculate total worker and jobs statistics, and percentages of "citywide jobs" in each of the respective employment areas are given as a percentage of jobs found in these three areas.

- **Tempe:** Downtown Tempe experiences an anomaly in the allocation of employment to its downtown commercial area. While the University of Arizona physically employs approximately 10,000 people downtown, payroll processing for the University occurs outside the commercial areas, thereby understating downtown employment levels for this area.

SOFTWARE

Research and design for this project were conducted using:

- R, a free software programming language and statistical computing environment
- Esri ArcGIS 10.1, a geographic information systems software package
- Microsoft Excel
- Adobe CS5

NOTES

1. Elizabeth Kneebone, *Job Sprawl Revisited: The Changing Geography of Metropolitan Employment*, Brookings Institution, April 2009.
2. Throughout this study, the term "city" is used explicitly to refer to the political boundaries of incorporated cities and does not refer to broader metro areas. This study examined 148 of the largest American cities, based on number of jobs, and also includes Arlington and Tyson's Corner, Virginia, two Census Designated Places (CDPs), a term the Census Bureau uses for settled concentrations of population identifiable by name but not legally incorporated under the laws of the states in which they are located. Las Vegas is a unique situation in which Paradise CDP and Winchester CDP were combined with the incorporated boundaries for the City of Las Vegas in order to capture the major employment nodes downtown and along the Strip.
3. See "Appendix IV: About the Data," for more information.
4. The geographic size of cities and incorporated places has obvious implications for the number of jobs that they hold, though the density of jobs matters as well. For example, the number of jobs included in Phoenix's 516 square miles may be larger than what can be contained in Seattle's 83 square miles. But job density in downtown Seattle is 150 jobs per acre, while Phoenix's downtown is 89 per acre, with much lower densities outside the city center. (Midtown Manhattan has the highest U.S. job density at 920 jobs/acre.) In this study, we chose to organize our list of top 10 cities by the total number of jobs in the entire city. Had we used the size of the primary downtown employment node to establish this list, Phoenix, Dallas, San Diego, and San Antonio would have dropped from the top 10, while San Francisco, Seattle, the Las Vegas Strip, and Minneapolis would be added.
5. 2007-2011 American Community Survey 5-year Estimates, U.S. Census Bureau.
6. Robert Weissbourd and Christopher Berry, "The Changing Dynamics of Urban America," analysis prepared for CEOs for Cities, October 2003, and Edward Glaeser, *The Triumph of the City*, page 253.
7. The Census Bureau has made some efforts to identify central business districts, recently used in a 2009 Brookings Institution study by Elizabeth Kneebone, *Job Sprawl Revisited*. This analysis relied on central business district definitions derived from the 30-year-old 1982 Census of Retail Trade, a survey of local leaders that designated the geographic business center of cities across the country.
8. Edward Glaeser, *Triumph of the City*, page 6.
9. Glaeser, page 25.
10. Two recent books that describe these trends include *The Great Inversion and the Future of the American City* (2012) by Alan Ehrenhalt and *The End of the Suburbs* (2013) by Leigh Gallagher.
11. Christopher B. Leinberger, *The Option of Urbanism*.
12. The detailed Decennial Census produces data at the Census Block level, which in cities is typically a city block. But data collected by more frequent surveys, such as the American Community Survey, are only produced at the Census Block Group level (a grouping of a few dozen blocks) and are subject to sampling error. These Block Groups are the sub-components of Census Tracts, the most widely known Census Bureau geography, and can be aggregated to counties. But without sophisticated analysis tools such as geographic information systems (GIS) software, it is difficult to manage and analyze data below the Tract level given the number of geographic components that need to be assembled.
13. For more about the Local Employment Dynamics data, see "Appendix IV: Methodology." One limitation of the LED data is that it counts only wage and salary employees covered by a state's unemployment insurance system. As such, it does not include the self-employed or those compensated as partners. Detailed research in Philadelphia found that those compensated as partners, such as lawyers and accountants, added another 3% to downtown workforce numbers. The Center for Economic Studies of the U.S. Census Bureau indicates that LED covers on average 95% of all private-sector jobs.
14. Among local variables to be considered are natural topographical features such as rivers and mountains and the absence or presence of limited-access ring roads around downtown; the absence or presence of a pre-existing or new downtown-oriented, regional transit system; the absence or presence of pre-existing housing stock or convertible lofts still standing adjacent to downtown; and whether the overall city population is increasing or decreasing. The duration of downtown reinvestment is also a major factor. Center City Philadelphia is an example of a place where an active policy of downtown housing development has been pursued for 58 years. In each Decennial Census, the number of households in the downtown has increased. As prices have risen, particularly in the last 15 years with the return of empty-nesters, the ring of communities that surrounds the business district that are considered downtown neighborhoods has steadily expanded. Each successive release of LED data has shown an increasing percentage of residents living in neighborhoods at the expanding edge who are working in the downtown and/or the adjacent University City area. This has made investments in public transit and bike lanes from these neighborhoods a top priority. See "Leading the Way: Population Growth Downtown" (www.centercityphila.org/docs/CCR_Demographics2011.pdf), "Center City Housing: The Rebound Continues" (www.centercityphila.org/docs/CCR12_housing.pdf), and "How Philadelphia Gets to Work: Investing for Growth" (http://www.centercityphila.org/docs/CCR13_transportation.pdf).
15. Maps and profiles of employment centers were sent to contacts in 72 of the 150 cities for review.
16. The Census Bureau includes in its definition of Economic Places not only downtowns and employment centers in incorporated towns and cities but also employment centers that are not incorporated as part of a municipality or township but represent a cluster of at least 5,000 people or jobs. This study includes four such unincorporated places: Paradise and Winchester, Nevada, which were combined with the City of Las Vegas, and Arlington and Tyson's Corner in Virginia.
17. Please see "Appendix IV: Methodology" for more details.
18. Matthew Marlay and Todd K. Gardner, "Identifying Concentrations of Employment in Metropolitan Areas," U.S. Census Bureau.
19. Only one dense employment node in the study did not fit this framework, the Newport News, VA port area.
20. Just as commercial office districts have diversified, traditional inward-facing, urban college and medical campuses have been adding ground-floor retail, residences, hotels, and other amenities and playing a more proactive role in their cities. Often these diversification efforts are part of a strategy to attract and retain employees and students. The trend is strikingly similar to the development path pursued by well-managed downtowns.
21. Bruce Katz and Jennifer Bradley's *The Metropolitan Revolution* describes in Chapter 6 how traditional, auto-oriented research parks are following a similar pattern of land-use diversification to stay competitive.
22. As the original "downtown," lower Manhattan clearly fits the "older city" category, and the Downtown Alliance was a pioneer in residential conversions and economic repositioning. But New York City is an outlier today since it has three major, transit-oriented downtowns and multiple university and medical centers.
23. A prime example of why there is a continuing need for local involvement in defining downtown populations is the inclusion of institutional group quarters in the total population data provided by the Census Bureau. Institutional group quarters facilities house individuals "who are primarily ineligible, unable, or unlikely to participate in the labor force while resident" and include adult and juvenile correctional facilities, skilled nursing facilities, and other in-patient medical facilities, which may be located in or adjacent to a downtown. A case might be made that prisoners, in particular, are individuals who have not chosen to live in the downtown and therefore should not be counted as downtown residents. But local knowledge of specific facilities is required to make these determinations. Our analysis of the 27 employment nodes in the 10 largest cities suggests that, on average, residents of institutional group quarters account for only 2.6% of the population in these areas. This issue emerged most clearly in the case of downtown Houston, however, where the closing of a downtown correctional facility resulted in a significant decline in downtown population between 2000 and 2010, even as downtown added new housing units and a steady increase in individuals choosing to live in that downtown occurred. The downtown population data in this report also includes non-institutional group quarters, defined by the Census Bureau as facilities that house those who are primarily eligible, able, or likely to participate in the labor force that live in group settings. These facilities include college/university student housing, military quarters, and emergency and transitional shelters for people experiencing homelessness.
24. LED can also enable downtown managers, developers, and retailers to look beyond current, local definitions of their downtowns to better appreciate the purchasing power that is located within 15 to 20 minutes of the commercial downtown.
25. Bruce Katz and Jennifer Bradley, *The Metropolitan Revolution*.
26. LEHD Program, U.S. Census Bureau.

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Central Atlanta Progress, Inc. / Atlanta DID, Inc. – Atlanta, GA
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Downtown Arlington Management Corporation – Arlington, TX
Downtown Austin Alliance – Austin, TX
Downtown Cleveland Alliance – Cleveland, OH
Downtown Cincinnati, Inc. – Cincinnati, OH
Downtown Council of Kansas City – Kansas City, MO
Downtown Dallas, Inc. – Dallas, TX
Downtown DC BID Corporation – Washington, DC
Downtown Denver Partnership – Denver, CO
Downtown Partnership of Baltimore, Inc. – Baltimore, MD
Downtown Seattle Association – Seattle, WA
Grand Central Partnership – New York, NY
Indianapolis Downtown, Inc. – Indianapolis, IN
Milwaukee Downtown, BID #21 – Milwaukee, WI
Nashville Downtown Partnership – Nashville, TN
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Downtown Alliance – Salt Lake City, UT
Downtown Center Business Improvement District – Los Angeles, CA
Downtown Columbus – Columbus, OH
Downtown Committee of Syracuse, Inc. – Syracuse, NY
Downtown Fort Worth, Inc. – Fort Worth, TX
Downtown Fresno Partnership – Fresno, CA
Downtown Memphis Commission – Memphis, TN
Downtown Omaha – Omaha, NE
Downtown Raleigh Alliance – Raleigh, NC
The Downtown Sacramento Partnership – Sacramento, CA
Downtown Tempe Community – Tempe, AZ
East Midtown Partnership – New York, NY
Green Building Alliance – Pittsburgh, PA
Miami Downtown Development Authority – Miami, FL
Rogers Park Business Alliance – Chicago, IL
San Jose Downtown Association – San Jose, CA
University City District – Philadelphia, PA
Urban Districts Alliance – Springfield, MO
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For additional supporting materials and further information on this research, please visit www.definingdowntown.org.

