





# City Vitals:

A detailed set of statistical measures for urban leaders to understand their city's performance in four key areas, **talent** [  ], **innovation** [  ], **connections** [  ] and **distinctiveness** [  ], in comparison to the fifty largest metropolitan areas in the United States.

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# City Vitals:



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## The **Talented** City

The indispensable asset in a knowledge economy is smart people. Cities are places where people build knowledge through education and experience. Cities attract smart people and create opportunities for them to develop and apply what they know. Talent, which we measure by educational attainment, the number of creative professionals, the migration of well-educated young adults and the number of foreign-born college graduates, reveals the underlying intellectual capital a region can draw on to build its economy and to weather the inevitable shocks of competition and change.



## The **Innovative** City

The ability to generate new ideas and to turn those ideas into reality is a critical source of competitive advantage not just for businesses but for regions, as well. Economies and regions advance by a process of trial and error. Those places that generate many trials of novel products and services are most likely to move ahead. Invisible and weightless, ideas can't be measured directly, but the footprints they leave in the economic landscape can be traced by counting numbers of patents, the dollar value of venture capital investments, the extent of personal entrepreneurship and the number of small businesses.



## The **Connected** City

Cities thrive as places where people can easily interact and connect. These connections are of two sorts: the easy interaction of local residents and easy connections to the rest of the world. Both internal and external connections are important. Internal connections help promote the creation of new ideas and make cities work better for their residents. External connections enable people and businesses to tap into the global economy. We measure the local connectedness of cities by looking at a diverse array of factors including voting, community involvement, economic integration and transit use. Our measures of external connections include foreign travel, the presence of foreign students and broadband Internet use.



## The **Distinctive** City

The unique characteristics of place may be the only truly defensible source of competitive advantage for regions. In a world of global competition, a strategy of "pretty much the same, maybe cheaper" is a recipe for mediocrity and economic stagnation. Our measures of distinctiveness are inherently incomplete. Every city has its own unique characteristics for which there are few, if any, statistics. We offer some initial measures of distinctiveness drawn from market data about consumer behavior and its variance across U.S. metropolitan areas.



## Metro Performance

The four dimensions of City Vitals—talent, innovation, connections, and distinctiveness—are important because they underpin urban prosperity. For each metropolitan area, we examined key indicators of economic well-being: per capita income and the rate of poverty. Per capita income provides a broad measure of overall living standards, while the poverty rate captures the extent of economic distress. Urban areas that do well in generating and attracting talent, encouraging innovation, building connections and capitalizing on distinctiveness are the best positioned to improve the income of their residents and to reduce poverty, especially in the long run.



## Core Vitality

A strong urban core also plays a critical economic role. The urban center of metropolitan areas is the focus of cultural activities, civic identity, governmental institutions and usually has the densest employment, particularly in financial, professional and creative services. Urban cores are also the iconic centers of cities, where interaction and connections are strongest.

To measure the vibrancy of urban centers, we computed the income, educational attainment and poverty levels of the urban neighborhoods within 5 miles of the center of each region's central business district. (We use this common yardstick to overcome the problem that arises from using widely varying city boundaries to make inter-metropolitan comparisons.)

Urban leaders can use City Vitals to assess where their city stands and to explore each dimension. By design, we have not constructed a single, overall ranking of cities based on these data. One key insight from our work is that there is no single recipe for metropolitan success. Cities can combine the four dimensions in different ways, building on their own unique strengths and weaknesses to position themselves to compete and prosper in a global economy. Not all cities have the same opportunities or desire the same results.

### A Note about the Data

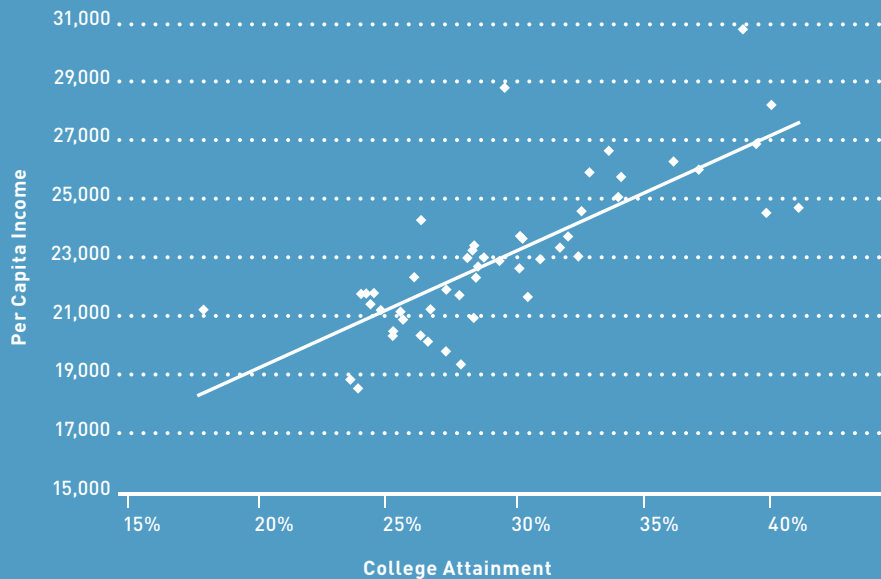
Indicators are computed at the metropolitan level, using the metropolitan area definitions adopted by the Office of Management and Budget. Metropolitan Statistical Areas generally encompass entire metropolitan economies and are the best reflection of regional economic performance. Political jurisdictions, like incorporated cities and counties, usually capture only a portion of a regional economy. The great variation in the scope of political boundaries makes it almost impossible to make reasonable comparisons of economic indicators across groups of cities.

We have compiled data in each of our four areas—talent, innovation, connections and distinctiveness—to illuminate and better define the discussion of what it takes to build a successful metropolitan economy. While the data are the best and most recent available, they are at best only indicators of the broad subjects we discuss. Our lead indicator of talent—the educational attainment of the adult population, for example—is a good, general measure of skill but shouldn't be taken to imply that only those with a college degree are talented. Nor do such broad measures capture the highly specialized talents that exist for corporate finance in New York, for movie production in Los Angeles, for petroleum geology in Houston or for logistics in Memphis.



## The **Talented** City

In a knowledge-based economy, the skills and abilities of a region’s residents have become the decisive factor in shaping economic prosperity. There is a strong and growing correlation between a person’s level of income and a person’s amount of education. Over the past decade, those with higher levels of educational attainment have, on average, seen their real incomes rise; those with lower levels of education have seen their



incomes fall. What is true for individuals is also true for cities. The best educated enjoy the highest levels of income. Statistically, variations in the level of adult college attainment explain 60 percent of the variation in per capita incomes across metropolitan areas. As this chart illustrates, the correlation is very strong.

These data confirm a number of studies that underscore the importance of education to urban success. Paul Gottlieb and Michael Fogarty found that cities with the highest levels of college attainment saw their incomes rise almost twice as much during the 1990s as the cities with the lowest levels of college attainment (Gottlieb and Fogarty 2003). Bob Weissbourd and his colleagues concluded after an extensive statistical analysis of urban growth in the past decade that the percentage of adults with college degrees was highly correlated with population, income and wage growth at the city and metropolitan area level (Weissbourd 2004).

We use a variety of measures to assess the talent level of the local population. These include college attainment, the presence of creative professionals, concentration of young, well-educated workers and the extent to which well-educated workers are in industries that export products from the metropolitan region.

## College Attainment

College attainment is an indicator of the level of skill or human capital of an area's population. The fraction of the adult population with a four-year degree or higher level of education varies from more than two-fifths to less than a fifth with the typical metropolitan area

having an adult college attainment rate of about 29.5 percent. In Raleigh-Durham and Washington-Baltimore college attainment exceeds 40 percent. The least well-educated metropolitan areas—Las Vegas, New Orleans, San Antonio, Jacksonville and Tampa-St. Petersburg—are all in the South and West.

Percentage of the metropolitan population 25 years old or older who have completed a four-year college degree

|    |                                    |       |    |                          |       |
|----|------------------------------------|-------|----|--------------------------|-------|
| 1  | Raleigh   Durham                   | 41.0% | 26 | Charlotte                | 28.4% |
| 2  | Washington   Baltimore             | 40.0% | 27 | Pittsburgh               | 28.4% |
| 3  | Austin                             | 39.7% | 28 | Indianapolis             | 28.3% |
| 4  | Boston                             | 39.3% | 29 | Cincinnati               | 28.1% |
| 5  | San Francisco   Oakland   San Jose | 38.8% | 30 | Oklahoma City            | 27.9% |
| 6  | Denver                             | 37.1% | 31 | Houston                  | 27.8% |
| 7  | Minneapolis   St. Paul             | 36.1% | 32 | Salt Lake City           | 27.3% |
| 8  | Seattle                            | 34.1% | 33 | Phoenix                  | 27.3% |
| 9  | Atlanta                            | 34.0% | 34 | Orlando                  | 26.7% |
| 10 | New York                           | 33.6% | 35 | Buffalo                  | 26.6% |
| 11 | Hartford                           | 32.9% | 36 | Detroit                  | 26.4% |
| 12 | Chicago                            | 32.6% | 37 | Memphis                  | 26.3% |
| 13 | Columbus                           | 32.5% | 38 | Cleveland                | 26.1% |
| 14 | Richmond                           | 32.0% | 39 | Grand Rapids             | 25.7% |
| 15 | Kansas City                        | 31.7% | 40 | Los Angeles              | 25.5% |
| 16 | San Diego                          | 31.0% | 41 | Miami   Fort Lauderdale  | 25.3% |
| 17 | Rochester                          | 30.5% | 42 | Norfolk   Virginia Beach | 25.2% |
| 18 | Dallas   Fort Worth                | 30.3% | 43 | Providence               | 24.8% |
| 19 | Philadelphia                       | 30.2% | 44 | Louisville               | 24.5% |
| 20 | Portland                           | 30.1% | 45 | Greensboro               | 24.4% |
| 21 | West Palm Beach                    | 29.6% | 46 | Tampa   St. Petersburg   | 24.2% |
| 22 | Nashville                          | 29.4% | 47 | Jacksonville             | 24.0% |
| 23 | Milwaukee                          | 28.8% | 48 | San Antonio              | 23.9% |
| 24 | St. Louis                          | 28.6% | 49 | New Orleans              | 23.6% |
| 25 | Sacramento                         | 28.5% | 50 | Las Vegas                | 17.9% |

## Creative Professionals

Creative professionals are persons who regularly have wide discretion in their jobs to use accumulated knowledge to develop, design and deliver new products and services. They are generally highly educated. As Richard Florida has argued, this group of workers plays a disproportionately important role in driving metropolitan economic growth (Florida 2002).

To gauge the number of creative professionals in each region, we tabulate occupational data from Census 2000. This measure counts the percentage of all workers in the metropolitan area who are employed

in a series of creative professional occupations. These occupations are: Mathematicians, Scientists, Artists, Engineers, Architects and Designers.

In the 50 largest metropolitan areas about 7.5 percent (slightly less than one in twelve) workers are creative professionals. San Francisco-Oakland-San Jose, Raleigh-Durham, and Washington-Baltimore have the highest levels of creative professional employment as a fraction of the workforce, each exceeding one in eight workers. Las Vegas, Greensboro, Buffalo and Memphis have the smallest fraction of creative professionals—less than five percent.

## Percentage of workers employed as Mathematicians, Scientists, Artists, Engineers, Architects and Designers

|                                      |       |                             |      |
|--------------------------------------|-------|-----------------------------|------|
| 1 San Francisco   Oakland   San Jose | 13.2% | 26 Salt Lake City           | 7.3% |
| 2 Raleigh   Durham                   | 12.8% | 27 Cincinnati               | 7.2% |
| 3 Washington   Baltimore             | 12.6% | 28 St. Louis                | 7.0% |
| 4 Austin                             | 12.0% | 29 Orlando                  | 7.0% |
| 5 Denver                             | 10.6% | 30 Milwaukee                | 7.0% |
| 6 Boston                             | 10.4% | 31 Nashville                | 6.9% |
| 7 Seattle                            | 10.1% | 32 Indianapolis             | 6.8% |
| 8 San Diego                          | 9.2%  | 33 Norfolk   Virginia Beach | 6.5% |
| 9 Minneapolis   St. Paul             | 9.2%  | 34 Pittsburgh               | 6.4% |
| 10 Sacramento                        | 8.7%  | 35 Charlotte                | 6.2% |
| 11 Detroit                           | 8.5%  | 36 Cleveland                | 6.1% |
| 12 Atlanta                           | 8.4%  | 37 West Palm Beach          | 6.1% |
| 13 Rochester                         | 8.4%  | 38 Providence               | 6.1% |
| 14 New York                          | 8.3%  | 39 Tampa   St. Petersburg   | 6.0% |
| 15 Dallas   Fort Worth               | 8.3%  | 40 Jacksonville             | 5.6% |
| 16 Hartford                          | 8.3%  | 41 Oklahoma City            | 5.6% |
| 17 Columbus                          | 8.0%  | 42 Grand Rapids             | 5.5% |
| 18 Portland                          | 7.9%  | 43 New Orleans              | 5.5% |
| 19 Houston                           | 7.9%  | 44 San Antonio              | 5.3% |
| 20 Los Angeles                       | 7.7%  | 45 Louisville               | 5.2% |
| 21 Philadelphia                      | 7.6%  | 46 Miami   Fort Lauderdale  | 5.2% |
| 22 Richmond                          | 7.5%  | 47 Memphis                  | 5.2% |
| 23 Chicago                           | 7.5%  | 48 Buffalo                  | 5.1% |
| 24 Kansas City                       | 7.5%  | 49 Greensboro               | 5.0% |
| 25 Phoenix                           | 7.4%  | 50 Las Vegas                | 4.3% |

## Young & Restless

Young, well-educated workers are among the most mobile people in our nation, i.e. most likely to move across state lines. Their mobility makes them an important indicator of trends in workforce education and availability. Places with lots of well-educated young workers today are likely to have lots of well-educated workers in the years ahead. Our measure of the young and restless is the percentage of the metropolitan population that is 25 to 34 years old and has completed at least a four-year college degree. These data are drawn from our analysis of census data dealing with the change in the young adult population between 1990 and 2000 (Cortright 2005).

College-educated 25- to 34-year-olds make up slightly more than 4 percent of the workforce in the typical large metropolitan area, but there are significant variations across metropolitan areas. Raleigh-Durham, Austin and San Francisco-Oakland-San Jose have workforces composed of at least 6.5 percent college-educated young adults. A series of Sunbelt cities (Las Vegas, Tampa-St. Petersburg, West Palm Beach and Jacksonville) have fewer than half as many college-educated young adults as a fraction of their working age population.

Percentage of the metropolitan population that are 25 to 34 years old who have completed at least a four-year college degree

|                                      |      |                             |      |
|--------------------------------------|------|-----------------------------|------|
| 1 Raleigh   Durham                   | 7.9% | 26 Pittsburgh               | 4.1% |
| 2 Austin                             | 7.1% | 27 St. Louis                | 4.1% |
| 3 San Francisco   Oakland   San Jose | 6.7% | 28 Rochester                | 4.1% |
| 4 Boston                             | 6.5% | 29 Orlando                  | 4.1% |
| 5 Atlanta                            | 6.3% | 30 Houston                  | 4.0% |
| 6 Denver                             | 6.3% | 31 Cleveland                | 3.9% |
| 7 Washington   Baltimore             | 6.2% | 32 Salt Lake City           | 3.9% |
| 8 Minneapolis   St. Paul             | 6.1% | 33 Phoenix                  | 3.9% |
| 9 Columbus                           | 5.7% | 34 Greensboro               | 3.8% |
| 10 New York                          | 5.4% | 35 Grand Rapids             | 3.8% |
| 11 Charlotte                         | 5.4% | 36 Memphis                  | 3.8% |
| 12 Chicago                           | 5.3% | 37 Buffalo                  | 3.8% |
| 13 Seattle                           | 5.3% | 38 Louisville               | 3.8% |
| 14 Nashville                         | 5.2% | 39 Miami   Fort Lauderdale  | 3.7% |
| 15 Kansas City                       | 5.0% | 40 Providence               | 3.7% |
| 16 Richmond                          | 4.9% | 41 Oklahoma City            | 3.6% |
| 17 Dallas   Fort Worth               | 4.8% | 42 Los Angeles              | 3.6% |
| 18 Indianapolis                      | 4.7% | 43 Sacramento               | 3.6% |
| 19 Hartford                          | 4.5% | 44 New Orleans              | 3.5% |
| 20 San Diego                         | 4.4% | 45 Norfolk   Virginia Beach | 3.5% |
| 21 Philadelphia                      | 4.4% | 46 San Antonio              | 3.2% |
| 22 Portland                          | 4.4% | 47 Jacksonville             | 3.2% |
| 23 Milwaukee                         | 4.3% | 48 West Palm Beach          | 3.1% |
| 24 Cincinnati                        | 4.3% | 49 Tampa   St. Petersburg   | 3.1% |
| 25 Detroit                           | 4.2% | 50 Las Vegas                | 2.5% |



## Traded Sector Talent

Traded sector talent is defined as the percentage of all workers outside of health services, education and government who have a four-year degree or higher level of education.

Local sectors of a region's economy are generally insulated from national and international competition and exist primarily to serve the needs of the region's residents. In many jobs, a college education is a requirement of employment for regulatory or other reasons. Nearly all teachers, most medical professionals and a disproportionate share of government workers have four-year and higher degrees. Examining the share of workers with a college degree excluding those working for government, education and health

care shows the extent to which the remaining segments of the private economy make use of highly skilled workers. Using public use microsample data from the 2000 Census, we were able to identify the industry of employment of college-educated workers ages 25 and older (Ruggles and Sobek 2006).

The college attainment rate of workers in sectors outside health, education and government is about 27 percent in the typical large metropolitan area in the United States. The leading areas include San Francisco-Oakland-San Jose, Raleigh-Durham and Washington-Baltimore, with about two-fifths of all workers in these sectors having a college degree. The lowest levels of college attainment among traded sector workers are recorded in Las Vegas, San Antonio, Greensboro and Norfolk-Virginia Beach.

## Percentage of metropolitan workers who have a college degree and are employed in private sector businesses excluding health care and education

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 43.0% | 26 Nashville                | 26.7% |
| 2 Raleigh   Durham                   | 39.0% | 27 Pittsburgh               | 26.6% |
| 3 Washington   Baltimore             | 38.6% | 28 St. Louis                | 26.4% |
| 4 Austin                             | 38.4% | 29 Phoenix                  | 26.2% |
| 5 Boston                             | 38.2% | 30 Sacramento               | 26.1% |
| 6 New York                           | 35.5% | 31 Milwaukee                | 26.0% |
| 7 Minneapolis   St. Paul             | 33.8% | 32 Detroit                  | 25.9% |
| 8 Atlanta                            | 33.6% | 33 Orlando                  | 25.5% |
| 9 Denver                             | 33.6% | 34 Memphis                  | 24.9% |
| 10 Seattle                           | 32.9% | 35 Salt Lake City           | 24.8% |
| 11 Dallas   Fort Worth               | 32.5% | 36 Los Angeles              | 24.4% |
| 12 Hartford                          | 32.2% | 37 Cleveland                | 24.4% |
| 13 Chicago                           | 31.8% | 38 Miami   Fort Lauderdale  | 24.1% |
| 14 Columbus                          | 30.7% | 39 Oklahoma City            | 24.1% |
| 15 San Diego                         | 30.6% | 40 Buffalo                  | 23.6% |
| 16 Richmond                          | 30.5% | 41 Louisville               | 22.9% |
| 17 Kansas City                       | 30.4% | 42 Grand Rapids             | 22.8% |
| 18 Philadelphia                      | 29.5% | 43 Providence               | 22.4% |
| 19 Rochester                         | 28.1% | 44 New Orleans              | 22.4% |
| 20 Houston                           | 28.0% | 45 Tampa   St. Petersburg   | 22.3% |
| 21 Portland                          | 28.0% | 46 Jacksonville             | 21.8% |
| 22 West Palm Beach                   | 27.9% | 47 Norfolk   Virginia Beach | 21.3% |
| 23 Charlotte                         | 27.2% | 48 Greensboro               | 21.1% |
| 24 Indianapolis                      | 27.1% | 49 San Antonio              | 20.7% |
| 25 Cincinnati                        | 27.1% | 50 Las Vegas                | 15.6% |

## International Talent

In an increasingly global economy, international talent plays an especially important role. The ability to attract the best workers from around the world has historically been an important contributor to U.S. technological leadership and economic growth. Places that can attract talented workers from other nations can grow their economies more easily than those that draw only from a domestic pool of talent. Moreover, the greater diversity of experience of workers from outside the U.S. may help U.S. firms to be more competitive. This international talent measure picks up both immigration and assimilation. It includes persons who may have moved to the U.S. to get a college education or a job as young adults, as well as those who may have moved

to the U.S. as children and been educated entirely in the U.S. These data were computed based on data from the Census 2000 microsample (Ruggles and Sobek 2006).

Slightly more than 10 percent of the college-educated workers in the typical large metropolitan area were born outside the United States, but there are large variations among metropolitan areas. In Miami-Fort Lauderdale and Los Angeles (the leaders on this measure), more than a third of all college-educated workers were born abroad, and more than a quarter of college-educated workers in San Francisco-Oakland-San Jose and New York were foreign-born. Larger coastal economies tend to have higher rates of foreign-born talent than smaller more inland cities. The lowest rates of foreign-born college-educated workers are in Grand Rapids, Pittsburgh and Greensboro, where nearly 15 of every 16 college-educated workers were born in the U.S.

## Percentage of metropolitan population 25 years and older who have completed a college degree and were born outside the United States

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 Miami   Fort Lauderdale            | 42.7% | 26 Providence               | 11.3% |
| 2 Los Angeles                        | 33.0% | 27 Denver                   | 10.4% |
| 3 San Francisco   Oakland   San Jose | 27.3% | 28 Jacksonville             | 10.1% |
| 4 New York                           | 27.2% | 29 Salt Lake City           | 10.1% |
| 5 San Diego                          | 22.8% | 30 Norfolk   Virginia Beach | 9.5%  |
| 6 Houston                            | 20.8% | 31 Columbus                 | 9.5%  |
| 7 Las Vegas                          | 18.8% | 32 Oklahoma City            | 9.3%  |
| 8 Washington   Baltimore             | 18.7% | 33 New Orleans              | 9.2%  |
| 9 West Palm Beach                    | 18.1% | 34 Rochester                | 8.8%  |
| 10 Chicago                           | 18.1% | 35 Cleveland                | 8.5%  |
| 11 Sacramento                        | 16.3% | 36 Richmond                 | 8.1%  |
| 12 Seattle                           | 16.0% | 37 Minneapolis   St. Paul   | 7.9%  |
| 13 Boston                            | 16.0% | 38 Charlotte                | 7.6%  |
| 14 Orlando                           | 15.9% | 39 Buffalo                  | 7.5%  |
| 15 Dallas   Fort Worth               | 14.6% | 40 Memphis                  | 7.5%  |
| 16 Detroit                           | 13.9% | 41 St. Louis                | 7.1%  |
| 17 Austin                            | 13.8% | 42 Cincinnati               | 7.0%  |
| 18 Tampa   St. Petersburg            | 13.5% | 43 Louisville               | 6.8%  |
| 19 Atlanta                           | 13.0% | 44 Nashville                | 6.8%  |
| 20 Hartford                          | 12.6% | 45 Milwaukee                | 6.3%  |
| 21 Raleigh   Durham                  | 12.4% | 46 Indianapolis             | 6.2%  |
| 22 Portland                          | 12.3% | 47 Kansas City              | 6.2%  |
| 23 Phoenix                           | 12.2% | 48 Greensboro               | 6.2%  |
| 24 Philadelphia                      | 11.9% | 49 Pittsburgh               | 6.1%  |
| 25 San Antonio                       | 11.4% | 50 Grand Rapids             | 6.0%  |



## The **Innovative** City

As Thomas Edison famously observed, invention is 10 percent inspiration and 90 percent perspiration. Being smart doesn't necessarily translate into being innovative. A thousand years ago China's levels of education and scientific knowledge far exceeded those in Europe, but a society and a culture that was averse to change and innovation meant that this knowledge was not translated into economic progress (Landes 1998).

The key factor propelling economic growth, according to the latest work in economics (New Growth Theory), is the generation of new ideas. The ability to create new ideas—everything from earth-shaking breakthroughs in genetic engineering and

nanotechnology, to better ways to deliver packages or sew a shirt—is what drives prosperity. And despite proclamations by some that the world is flat, the capability of generating new ideas is not evenly distributed across space. Certain places, with strong aggregations of talent, clusters of innovative firms, key research institutions and a business and social climate conducive to change and risk-taking, account for a disproportionate share of these valuable new ideas.

We measure innovation in a variety of ways: patents, venture capital, new business formation and the number of small businesses.

## Patents

Patent data measure the rate at which a region's economy creates economically valuable new ideas. Our data are drawn from tabulations by the U.S. Patent and Trademark Office and represent the number of patents issued to inventors in each metropolitan area in the United States per 1,000 population. We report patent data compiled by Harvard University (Institute for Strategy and Competitiveness 2006).

Patenting is an important step in the process of securing the intellectual property rights associated with an idea. Of course, not all good ideas are patented, and many ideas that are patented turn out to be worthless, but patent activity is a

useful proxy for innovation. Research has shown that concentrations of patents reflect the localized process of knowledge creation (Jaffe, Trachtenberg et al. 1993).

There is more than a ten-fold variation in patenting (per worker) among the nation's 50 largest metropolitan areas. San Francisco-Oakland-San Jose, Rochester and Austin are the leaders, averaging more than 30 patents per 10,000 workers. The typical metropolitan area among the top 50 averages about 6.5 patents per 10,000 workers. Oklahoma City, New Orleans, Nashville and Jacksonville had the lowest levels of patenting, with fewer than three patents per 10,000 workers.

## Number of utility patents issued per 1,000 population

|                                      |      |                             |     |
|--------------------------------------|------|-----------------------------|-----|
| 1 San Francisco   Oakland   San Jose | 33.7 | 26 Providence               | 6.4 |
| 2 Rochester                          | 32.9 | 27 Indianapolis             | 5.9 |
| 3 Austin                             | 32.2 | 28 Chicago                  | 5.9 |
| 4 San Diego                          | 18.2 | 29 St. Louis                | 5.8 |
| 5 Sacramento                         | 17.8 | 30 Washington   Baltimore   | 5.5 |
| 6 Raleigh   Durham                   | 16.4 | 31 Atlanta                  | 5.1 |
| 7 Portland                           | 15.7 | 32 West Palm Beach          | 4.0 |
| 8 Minneapolis   St. Paul             | 15.5 | 33 Orlando                  | 4.0 |
| 9 Boston                             | 14.5 | 34 Miami   Fort Lauderdale  | 4.0 |
| 10 Detroit                           | 12.4 | 35 Columbus                 | 4.0 |
| 11 Seattle                           | 10.6 | 36 Greensboro               | 3.9 |
| 12 Denver                            | 10.5 | 37 Richmond                 | 3.7 |
| 13 Phoenix                           | 8.6  | 38 Tampa   St. Petersburg   | 3.4 |
| 14 Hartford                          | 8.3  | 39 Kansas City              | 3.4 |
| 15 Cincinnati                        | 8.3  | 40 San Antonio              | 3.2 |
| 16 Houston                           | 8.2  | 41 Norfolk   Virginia Beach | 3.0 |
| 17 Dallas   Fort Worth               | 7.6  | 42 Grand Rapids             | 2.9 |
| 18 Los Angeles                       | 7.4  | 43 Charlotte                | 2.9 |
| 19 Philadelphia                      | 7.2  | 44 Memphis                  | 2.8 |
| 20 Buffalo                           | 7.0  | 45 Louisville               | 2.7 |
| 21 Cleveland                         | 6.8  | 46 Las Vegas                | 2.6 |
| 22 Salt Lake City                    | 6.6  | 47 Jacksonville             | 2.6 |
| 23 Pittsburgh                        | 6.6  | 48 Nashville                | 2.4 |
| 24 New York                          | 6.6  | 49 New Orleans              | 2.3 |
| 25 Milwaukee                         | 6.5  | 50 Oklahoma City            | 1.8 |

## Venture Capital

Venture capital—early stage equity investments in new startups and fast-growing companies—plays a vital role in promoting the development of new technologies and new industries. Venture capital has driven U.S. leadership in electronics, software and biotechnology. Because venture capitalists hedge the risk of their investments by working closely with the firms they invest in, venture capital turns out to be a very localized business, with most venture capitalists investing their funds in businesses in their region. As a result, the local availability of venture capital is an important determinant and indicator of an innovative city.

For each metropolitan area, we tabulate the amount of venture capital investment announced in the past year as part of the quarterly Moneytree survey (PriceWaterhouseCoopers 2006).

Venture capital is highly concentrated in a relatively few metropolitan areas. While the typical metropolitan area averages about \$250 per 1,000 workers in venture capital funding, the leader, San Francisco-Oakland-San Jose, averages 40 times that amount, more than \$10,000 per 1,000 workers. Several metropolitan areas had no recorded venture capital investment in the past year. Other leading metropolitan areas include high-tech centers like Boston, Austin, San Diego and Raleigh-Durham.

## Amount of venture capital raised per 1,000 population

|                                      |        |                             |     |
|--------------------------------------|--------|-----------------------------|-----|
| 1 San Francisco   Oakland   San Jose | 10,641 | 26 Chicago                  | 233 |
| 2 Boston                             | 3,953  | 27 Orlando                  | 225 |
| 3 Austin                             | 3,889  | 28 Providence               | 214 |
| 4 San Diego                          | 3,253  | 29 Sacramento               | 199 |
| 5 Raleigh   Durham                   | 3,046  | 30 San Antonio              | 186 |
| 6 Denver                             | 2,128  | 31 Cleveland                | 181 |
| 7 Seattle                            | 2,080  | 32 St. Louis                | 138 |
| 8 Salt Lake City                     | 1,421  | 33 Detroit                  | 135 |
| 9 Jacksonville                       | 1,034  | 34 West Palm Beach          | 103 |
| 10 Washington   Baltimore            | 981    | 35 Indianapolis             | 102 |
| 11 Dallas   Fort Worth               | 952    | 36 Hartford                 | 100 |
| 12 Portland                          | 623    | 37 Memphis                  | 97  |
| 13 Minneapolis   St. Paul            | 621    | 38 Oklahoma City            | 90  |
| 14 Atlanta                           | 591    | 39 Tampa   St. Petersburg   | 79  |
| 15 Philadelphia                      | 562    | 40 Richmond                 | 78  |
| 16 New York                          | 547    | 41 Columbus                 | 58  |
| 17 Las Vegas                         | 544    | 42 Milwaukee                | 58  |
| 18 Los Angeles                       | 540    | 43 Rochester                | 50  |
| 19 Miami   Fort Lauderdale           | 458    | 44 Cincinnati               | 32  |
| 20 Pittsburgh                        | 436    | 45 New Orleans              | 7   |
| 21 Charlotte                         | 420    | 46 Louisville               | 5   |
| 22 Nashville                         | 380    | 47 Norfolk   Virginia Beach | 1   |
| 23 Kansas City                       | 369    | 48 Greensboro               | 0   |
| 24 Houston                           | 270    | 49 Grand Rapids             | 0   |
| 25 Phoenix                           | 251    | 50 Buffalo                  | 0   |

## Self-Employment

A broader measure of the innovative potential of a region is the number of persons who own their own businesses and work for themselves. Only a tiny fraction of firms ever has reason to patent their ideas or need formal venture capital. Communities in which it is relatively easy to start new businesses or where there is a culture that supports risk-taking are more likely to give rise to the kinds of innovations that lead to economic growth.

We measure the degree of self-employment in each metropolitan area using Census data on the number of persons who report that they were self-employed in the 2000 Census.

Self-employed workers make up about 8 percent of the workforce in the typical large metropolitan area in the United States. In the leading areas, West Palm Beach, Miami-Fort Lauderdale and Los Angeles, more than one in eight are self-employed. Self-employment seems to be related to geography (Southern Florida and Southern California) and also to the presence of music and entertainment (Los Angeles and Nashville). Areas with the lowest rates of self-employment include Hartford, Atlanta, Memphis and Providence.

## Percent of the adult population who are self-employed

|                                       |       |                             |      |
|---------------------------------------|-------|-----------------------------|------|
| 1 West Palm Beach                     | 14.4% | 26 Minneapolis   St. Paul   | 8.5% |
| 2 Miami   Fort Lauderdale             | 13.0% | 27 Richmond                 | 8.4% |
| 3 Los Angeles                         | 12.6% | 28 Kansas City              | 8.3% |
| 4 San Diego                           | 12.3% | 29 Washington   Baltimore   | 8.2% |
| 5 Tampa   St. Petersburg              | 10.9% | 30 Indianapolis             | 8.2% |
| 6 Portland                            | 10.8% | 31 Philadelphia             | 8.1% |
| 7 Nashville                           | 10.4% | 32 Cleveland                | 8.0% |
| 8 Sacramento                          | 10.3% | 33 Norfolk   Virginia Beach | 8.0% |
| 9 Seattle                             | 10.2% | 34 Rochester                | 7.9% |
| 10 Orlando                            | 10.0% | 35 St. Louis                | 7.9% |
| 11 New York                           | 9.9%  | 36 Chicago                  | 7.8% |
| 12 Phoenix                            | 9.7%  | 37 Detroit                  | 7.7% |
| 13 Jacksonville                       | 9.3%  | 38 Pittsburgh               | 7.7% |
| 14 Houston                            | 9.3%  | 39 Louisville               | 7.5% |
| 15 Austin                             | 9.3%  | 40 Boston                   | 7.3% |
| 16 San Francisco   Oakland   San Jose | 9.2%  | 41 Columbus                 | 7.3% |
| 17 Denver                             | 9.2%  | 42 Grand Rapids             | 7.3% |
| 18 New Orleans                        | 9.2%  | 43 Buffalo                  | 7.2% |
| 19 San Antonio                        | 9.1%  | 44 Cincinnati               | 7.1% |
| 20 Raleigh   Durham                   | 9.1%  | 45 Las Vegas                | 6.9% |
| 21 Dallas   Fort Worth                | 9.0%  | 46 Milwaukee                | 6.8% |
| 22 Greensboro                         | 8.8%  | 47 Providence               | 6.7% |
| 23 Charlotte                          | 8.8%  | 48 Memphis                  | 6.6% |
| 24 Oklahoma City                      | 8.6%  | 49 Atlanta                  | 4.9% |
| 25 Salt Lake City                     | 8.6%  | 50 Hartford                 | 4.8% |

## Small Businesses

Another indicator of innovation is the number of small businesses in a region. Studies have shown that in many industries, particularly those that are the most innovative and make greatest use of skilled labor, smaller firms tend to be more innovative than their larger counterparts (Acs and Audretsch 1987). Like self-employment, the number of small businesses is an indicator of entrepreneurship and risk-taking in a community. Places with many small businesses may be more nimble and adaptable than economies more dominated by large businesses.

Our measure, drawn from statistics compiled by the Small Business Administration, reports the number of businesses with fewer than 20 employees per 1,000 population in 2002 (Small Business Administration 2006).

In the typical metropolitan area, about one in every six private sector wage and salary workers are employed by a firm that has fewer than 20 employees. Small businesses are proportionately most important in West Palm Beach, Miami-Fort Lauderdale, Providence and, surprisingly, New York, as well as Seattle and Portland, where they account for more than one in five private sector workers. Small businesses are relatively less important in Memphis, Las Vegas, Columbus and Dallas-Fort Worth, where fewer than 15 percent of workers are employed by firms with less than 20 employees.

## Number of firms with fewer than 20 employees per 1,000 population

|                                       |       |                           |       |
|---------------------------------------|-------|---------------------------|-------|
| 1 West Palm Beach                     | 22.2% | 26 Grand Rapids           | 16.1% |
| 2 Miami   Fort Lauderdale             | 22.2% | 27 Greensboro             | 16.1% |
| 3 Providence                          | 19.8% | 28 Tampa   St. Petersburg | 16.0% |
| 4 New York                            | 19.6% | 29 St. Louis              | 16.0% |
| 5 Seattle                             | 19.6% | 30 Hartford               | 16.0% |
| 6 Portland                            | 19.5% | 31 Richmond               | 15.9% |
| 7 Oklahoma City                       | 18.8% | 32 Milwaukee              | 15.7% |
| 8 Sacramento                          | 18.8% | 33 Louisville             | 15.6% |
| 9 San Diego                           | 18.5% | 34 Houston                | 15.5% |
| 10 San Francisco   Oakland   San Jose | 17.8% | 35 Kansas City            | 15.5% |
| 11 Denver                             | 17.7% | 36 Jacksonville           | 15.5% |
| 12 Los Angeles                        | 17.7% | 37 Rochester              | 15.3% |
| 13 New Orleans                        | 17.4% | 38 Charlotte              | 15.0% |
| 14 Cleveland                          | 17.3% | 39 San Antonio            | 14.9% |
| 15 Norfolk   Virginia Beach           | 17.1% | 40 Minneapolis   St. Paul | 14.9% |
| 16 Philadelphia                       | 16.9% | 41 Orlando                | 14.8% |
| 17 Washington   Baltimore             | 16.7% | 42 Indianapolis           | 14.8% |
| 18 Detroit                            | 16.7% | 43 Cincinnati             | 14.7% |
| 19 Boston                             | 16.7% | 44 Phoenix                | 14.6% |
| 20 Buffalo                            | 16.7% | 45 Atlanta                | 14.5% |
| 21 Pittsburgh                         | 16.6% | 46 Nashville              | 14.5% |
| 22 Salt Lake City                     | 16.3% | 47 Dallas   Fort Worth    | 14.0% |
| 23 Raleigh   Durham                   | 16.3% | 48 Columbus               | 13.7% |
| 24 Austin                             | 16.2% | 49 Las Vegas              | 13.6% |
| 25 Chicago                            | 16.2% | 50 Memphis                | 13.4% |



## The **Connected** City

In a global economy, the essence of success is the ability to tap into the global marketplace. Ideas and knowledge are more valuable because there are so many more communities, consumers and businesses that can use them. Bill Gates would not be numbered among the richest people in the world if he could sell software only to people in Seattle or Washington State.

There are many dimensions in which a city has to connect. The simplest and most obvious are the physical connections—ports and airports—that facilitate the flow of goods among nations. But the importance of goods movement is increasingly being surpassed by the connections among people, which are the lifeblood of nearly all urban economies. We define these connections broadly, from the far-reaching global to the intensely local. Great cities are connected at all these levels. Consequently, we measure key international connections, especially among people, by examining the number of persons traveling outside the U.S. in each metropolitan area, as well as the number of foreign students each metropolitan area hosts. We also look at the extent to which metro area residents are well-equipped with

broadband Internet access. At the other end of the spectrum, we consider more local connections in the form of civic participation: voting and volunteering, both indicators of how connected people are in their role as citizens. We also examine economic integration—the extent to which people in different income strata live near one another in the metropolitan area.

Global connections are a complement, not a substitute for, strong local connections. Communities have to be good at both. As Harald Bathelt and his colleagues have observed in a slightly different context, local success in the global economy is a function of “local buzz and global pipelines.” Urban areas have to have their own strong localized interactions and knowledge and function well locally, but they must also have easy and extensive connections to other places with “buzz” around the world [Bathelt, Malmberg et al. 2002]. Our measures consider both kinds of connections.



## Voting

One of the most basic measures of connection to community is whether people participate in the democratic process. The extent to which citizens register and vote is a good indication of their level of awareness of political issues and their commitment to their fellow citizens. As Robert Putnam has argued, voting is a key indicator of social capital (Putnam 2000).

We measure voting in cities as the number of ballots cast in the November 2004 presidential election divided by the voting age population of the metropolitan area (Leip 2006). This measure is more broadly defined than conventional measures that look only at the number of persons who vote divided by the total number of registered voters. Not registering is an even stronger indicator of disconnectedness from civic life than non-voting. In addition, because Census data counts all persons residing in the U.S. regardless of citizenship status, the denominator of our measure includes many adults

who are not legally eligible to vote.

As a result, rather than simply reflecting voter turnout, this measure reflects the extent to which the adult population of a community is actually participating in the most basic way in its governance.

There are pronounced differences in voting among U.S. metropolitan areas. The leader is Minneapolis-St. Paul, where more than three-quarters of all adults of voting age cast ballots in 2004. More than two-thirds of adults in Milwaukee, Grand Rapids and Cleveland also voted. In the typical metropolitan area, the number of votes cast was equal to slightly less than 60 percent of the voting age population. The lowest levels of voting were in the Southwest. Los Angeles, Las Vegas, Houston, San Antonio, Phoenix and Dallas-Fort Worth were all below 50 percent, reflecting, in part, the high numbers of non-citizens in these states. Voter turnout was relatively high in Cleveland, Cincinnati and Columbus, reflecting Ohio's status as a 2004 presidential battleground.

## Number of votes cast in the November 2004 presidential election divided by the voting age population of the metropolitan area

|                           |       |                                       |       |
|---------------------------|-------|---------------------------------------|-------|
| 1 Minneapolis   St. Paul  | 76.9% | 26 Washington   Baltimore             | 57.8% |
| 2 Milwaukee               | 72.1% | 27 Memphis                            | 56.7% |
| 3 Grand Rapids            | 68.1% | 28 Salt Lake City                     | 56.3% |
| 4 Cleveland               | 66.8% | 29 Oklahoma City                      | 55.9% |
| 5 Cincinnati              | 66.3% | 30 Greensboro                         | 55.7% |
| 6 St. Louis               | 66.3% | 31 Orlando                            | 55.7% |
| 7 Portland                | 66.2% | 32 West Palm Beach                    | 55.6% |
| 8 Columbus                | 65.9% | 33 Indianapolis                       | 54.2% |
| 9 Jacksonville            | 65.5% | 34 Chicago                            | 54.1% |
| 10 Kansas City            | 64.9% | 35 Norfolk   Virginia Beach           | 54.0% |
| 11 Detroit                | 64.7% | 36 Providence                         | 54.0% |
| 12 Seattle                | 63.5% | 37 Sacramento                         | 53.6% |
| 13 Philadelphia           | 63.2% | 38 Atlanta                            | 53.6% |
| 14 Pittsburgh             | 63.1% | 39 Charlotte                          | 53.5% |
| 15 Louisville             | 62.7% | 40 San Francisco   Oakland   San Jose | 53.5% |
| 16 Rochester              | 62.1% | 41 Austin                             | 53.4% |
| 17 Buffalo                | 62.0% | 42 San Diego                          | 52.0% |
| 18 Raleigh   Durham       | 61.9% | 43 New York                           | 50.2% |
| 19 Denver                 | 61.4% | 44 Miami   Fort Lauderdale            | 47.5% |
| 20 Hartford               | 61.1% | 45 Dallas   Fort Worth                | 47.3% |
| 21 Boston                 | 60.9% | 46 Phoenix                            | 46.2% |
| 22 Richmond               | 60.9% | 47 San Antonio                        | 46.1% |
| 23 New Orleans            | 59.6% | 48 Houston                            | 44.2% |
| 24 Tampa   St. Petersburg | 58.8% | 49 Las Vegas                          | 44.2% |
| 25 Nashville              | 58.1% | 50 Los Angeles                        | 43.8% |

## Community Involvement

Volunteerism and personal engagement in non-profit and community-oriented endeavors have traditionally been a point of pride for Americans. The degree to which people freely give of their time and energy to advance community interests is a good indicator of community involvement. Community involvement has economic as well as social benefits. Communities that promote easy interaction among community members facilitate their economic interaction.

Since there is no comprehensive government data on the extent of volunteerism, we rely on private surveys that have asked a representative sample of persons about their private activities. Our source of data is the DDB Lifestyle Survey, which over a period of years has asked how many times participants had done volunteer work in the previous year (DDB Worldwide 1998).

About half of surveyed adults report having volunteered for some type of civic or community project in the typical large metropolitan area. Volunteering is highest in Salt Lake and Minneapolis-St. Paul (slightly over 60 percent) and lowest in New York (45 percent) and Providence (41 percent).

## Percentage of the metropolitan area population who reported volunteering for a community activity in the past year

|                                       |       |                             |       |
|---------------------------------------|-------|-----------------------------|-------|
| 1 Salt Lake City                      | 61.5% | 26 Atlanta                  | 50.1% |
| 2 Minneapolis   St. Paul              | 60.8% | 27 Richmond                 | 50.0% |
| 3 Grand Rapids                        | 58.7% | 28 Boston                   | 49.7% |
| 4 Austin                              | 58.3% | 29 New Orleans              | 49.6% |
| 5 Raleigh   Durham                    | 57.6% | 30 Cleveland                | 49.6% |
| 6 Denver                              | 57.6% | 31 Pittsburgh               | 49.4% |
| 7 Portland                            | 57.6% | 32 West Palm Beach          | 49.2% |
| 8 Columbus                            | 56.9% | 33 Oklahoma City            | 49.2% |
| 9 Greensboro                          | 56.1% | 34 Kansas City              | 49.2% |
| 10 Rochester                          | 54.7% | 35 Phoenix                  | 49.2% |
| 11 St. Louis                          | 54.7% | 36 Chicago                  | 49.1% |
| 12 Charlotte                          | 54.0% | 37 Buffalo                  | 49.1% |
| 13 Seattle                            | 54.0% | 38 Houston                  | 49.1% |
| 14 Washington   Baltimore             | 53.3% | 39 Memphis                  | 48.9% |
| 15 Hartford                           | 53.1% | 40 Philadelphia             | 48.7% |
| 16 Milwaukee                          | 53.1% | 41 Los Angeles              | 48.7% |
| 17 San Francisco   Oakland   San Jose | 53.1% | 42 Orlando                  | 48.4% |
| 18 Sacramento                         | 52.4% | 43 Las Vegas                | 47.8% |
| 19 Cincinnati                         | 52.3% | 44 Dallas   Fort Worth      | 47.7% |
| 20 Indianapolis                       | 51.7% | 45 Tampa   St. Petersburg   | 47.7% |
| 21 Jacksonville                       | 51.2% | 46 Norfolk   Virginia Beach | 47.6% |
| 22 Louisville                         | 51.1% | 47 Nashville                | 46.6% |
| 23 San Antonio                        | 50.6% | 48 Miami   Fort Lauderdale  | 45.6% |
| 24 Detroit                            | 50.6% | 49 New York                 | 44.8% |
| 25 San Diego                          | 50.2% | 50 Providence               | 40.7% |

## Economic Integration

A key aspect of connectedness is the extent to which our neighbors and acquaintances represent the diversity of our population. While America often fancies itself as a society that makes no distinctions on class, many urban areas are carved up into distinct, economically homogeneous neighborhoods. As a number of studies have shown, economic isolation exacerbates poverty. Neighborhoods with concentrated poverty make it harder for people living there to find positive role models and connect to social networks that enable employment, and they intensify problems of crime and drug abuse (Jargowsky 2003). Well-connected metropolitan areas have less division among economic groups.

We use a measure of economic integration to assess the extent to which a region's high- and low-income populations live close to one another. This measure is based on a dissimilarity index developed by demographers at the Lewis Mumford Center at the State University of New York at Albany

(The Lewis Mumford Center for Comparative Urban and Regional Research 2002). The index computes the number of persons in one group who would have to move to a different census tract to make the distribution of persons in that group the same in each census tract as it is in the entire metropolitan area. Our measure of economic integration is stated as the reciprocal of the dissimilarity index. It is the share of persons who would not have to move in order to balance the proportion of low- and high-income persons in each neighborhood to the metropolitan average.

The cities with the least geographic separation between low- and high-income households were San Francisco-Oakland-San Jose, Grand Rapids and Portland. In each of these places, our dissimilarity measure suggests that two-thirds or more of the population would stay in their same census tract if each census tract's proportion of high- and low-income households mirrored the metropolitan distribution. The greatest relative separation between rich and poor households is found in Memphis, Austin and San Antonio, where nearly half of all households would have to be relocated if the tract level distribution of high- and low-income households were to equal the metropolitan pattern.

Percentage of the population who would not have to move from their current neighborhoods in order to equalize the distribution of high-income and low-income households across all neighborhoods in the metropolitan area

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 69.0% | 26 Cincinnati               | 60.2% |
| 2 Grand Rapids                       | 68.4% | 27 Miami   Fort Lauderdale  | 59.7% |
| 3 Portland                           | 67.1% | 28 Cleveland                | 59.6% |
| 4 Greensboro                         | 67.1% | 29 Salt Lake City           | 59.5% |
| 5 Boston                             | 67.1% | 30 San Diego                | 59.3% |
| 6 Seattle                            | 65.7% | 31 Indianapolis             | 59.2% |
| 7 Pittsburgh                         | 65.4% | 32 Los Angeles              | 59.1% |
| 8 Jacksonville                       | 64.1% | 33 Norfolk   Virginia Beach | 58.9% |
| 9 Providence                         | 63.8% | 34 Washington   Baltimore   | 58.4% |
| 10 Orlando                           | 63.5% | 35 Oklahoma City            | 58.1% |
| 11 Rochester                         | 63.0% | 36 West Palm Beach          | 58.0% |
| 12 Nashville                         | 62.9% | 37 New York                 | 58.0% |
| 13 Tampa   St. Petersburg            | 62.6% | 38 Kansas City              | 57.9% |
| 14 Raleigh   Durham                  | 62.6% | 39 Philadelphia             | 57.6% |
| 15 Charlotte                         | 62.5% | 40 Milwaukee                | 57.0% |
| 16 Buffalo                           | 62.0% | 41 Las Vegas                | 57.0% |
| 17 Hartford                          | 61.5% | 42 Richmond                 | 56.7% |
| 18 Minneapolis   St. Paul            | 61.4% | 43 Phoenix                  | 55.6% |
| 19 New Orleans                       | 61.2% | 44 Dallas   Fort Worth      | 55.3% |
| 20 St. Louis                         | 61.1% | 45 Columbus                 | 55.2% |
| 21 Sacramento                        | 60.7% | 46 Houston                  | 55.0% |
| 22 Detroit                           | 60.6% | 47 Denver                   | 54.7% |
| 23 Chicago                           | 60.5% | 48 San Antonio              | 54.4% |
| 24 Atlanta                           | 60.5% | 49 Austin                   | 53.7% |
| 25 Louisville                        | 60.3% | 50 Memphis                  | 53.0% |

## Transit Use

A comprehensive and well-functioning public transit system gives metropolitan residents more choices of how to travel and can be critical to the mobility of the young, the old, the disabled and the poor. And unlike private automobile transportation, which isolates citizens from one another, public transit requires us to sit and stand side-by-side with strangers. In order to gauge the degree to which transit use is a choice, rather than a necessity, we are especially interested in the extent to which the non-poor population uses public transportation.

Our data on transit use are drawn from the American Housing Survey, which asks residents whether they have access to public transportation and whether any member of their household has used it daily or weekly (U.S. Department of Housing and Urban Development and U.S. Census Bureau 1998-2004). Unlike the

decennial census, which asks only about journey to work, these data capture whether any member of a household uses transit for any purpose. We compute the percentage of non-poor households that report having used public transportation in the past week. (Because the American Housing Survey includes only the 39 largest metropolitan areas, no data on this measure are available for 11 metropolitan areas on our list.)

About one in 10 non-poor households in the typical large metropolitan area uses public transportation at least weekly. In larger cities with rail transit systems, the rate of use is highest, with 45 percent of households in New York and a quarter or more of households in Boston, Chicago and San Francisco-Oakland-San Jose using transit. Less than 5 percent of non-poor households regularly use transit in Oklahoma City, Indianapolis and Charlotte.

## Percentage of non-poor households that use public transportation at least once per week

|                                      |       |                             |      |
|--------------------------------------|-------|-----------------------------|------|
| 1 New York                           | 45.0% | 26 Providence               | 8.5% |
| 2 Boston                             | 28.6% | 27 St. Louis                | 7.5% |
| 3 Chicago                            | 26.3% | 28 Hartford                 | 7.2% |
| 4 San Francisco   Oakland   San Jose | 24.8% | 29 Dallas   Fort Worth      | 6.7% |
| 5 Philadelphia                       | 21.1% | 30 Rochester                | 6.7% |
| 6 Seattle                            | 19.9% | 31 Columbus                 | 6.6% |
| 7 Washington   Baltimore             | 19.7% | 32 Memphis                  | 6.2% |
| 8 Portland                           | 18.9% | 33 Tampa   St. Petersburg   | 5.9% |
| 9 Los Angeles                        | 18.5% | 34 Norfolk   Virginia Beach | 5.5% |
| 10 Miami   Fort Lauderdale           | 14.8% | 35 Kansas City              | 5.0% |
| 11 San Diego                         | 14.0% | 36 Detroit                  | 4.7% |
| 12 Milwaukee                         | 13.6% | 37 Charlotte                | 4.1% |
| 13 New Orleans                       | 13.5% | 38 Indianapolis             | 3.5% |
| 14 Denver                            | 13.4% | 39 Oklahoma City            | 2.3% |
| 15 Pittsburgh                        | 12.5% | 40 —                        | —    |
| 16 Buffalo                           | 11.6% | 41 —                        | —    |
| 17 Cincinnati                        | 11.2% | 42 —                        | —    |
| 18 Cleveland                         | 11.2% | 43 —                        | —    |
| 19 San Antonio                       | 10.8% | 44 —                        | —    |
| 20 Atlanta                           | 10.5% | 45 —                        | —    |
| 21 Minneapolis   St. Paul            | 10.4% | 46 —                        | —    |
| 22 Salt Lake City                    | 9.6%  | 47 —                        | —    |
| 23 Phoenix                           | 9.1%  | 48 —                        | —    |
| 24 Sacramento                        | 9.0%  | 49 —                        | —    |
| 25 Houston                           | 8.7%  | 50 —                        | —    |

## International Students

As the economy becomes increasingly global, connections to people in other countries become more important as a means of building understanding and providing a basis for commerce. The United States has long attracted many of the world's best and brightest to attend college, and the relationships and impressions foreign students form while here often last a lifetime.

Using data on foreign student enrollment gathered by the Institute for International Education, an affiliate of the United Nations, we are able to count the number of international students enrolled in institutions of higher education in every metropolitan area in the United States (Institute of International Education 2005). We use

these data to calculate the number of international students per 1,000 population in each of the nation's 50 largest metropolitan areas.

The typical metropolitan area in the United States has about 17 foreign college students per each 1,000 residents. The leading areas—Austin, Buffalo and Raleigh–Durham—have roughly triple that amount, with about 50 foreign students per 1,000 residents. Communities with smaller higher education establishments in the center of the country tend to have fewer foreign students. Jacksonville and West Palm Beach have only about three foreign college students per 1,000 population.

## Number of foreign students enrolled in institutions of higher education in the metropolitan area per 1,000 population

|                                      |      |                             |      |
|--------------------------------------|------|-----------------------------|------|
| 1 Austin                             | 54.2 | 26 Salt Lake City           | 16.8 |
| 2 Buffalo                            | 51.1 | 27 Cleveland                | 15.3 |
| 3 Raleigh   Durham                   | 45.6 | 28 Chicago                  | 15.1 |
| 4 Boston                             | 43.9 | 29 Denver                   | 14.0 |
| 5 Oklahoma City                      | 38.7 | 30 St. Louis                | 13.9 |
| 6 San Francisco   Oakland   San Jose | 32.7 | 31 Cincinnati               | 13.8 |
| 7 Columbus                           | 32.6 | 32 Tampa   St. Petersburg   | 12.8 |
| 8 Washington   Baltimore             | 31.8 | 33 Las Vegas                | 12.7 |
| 9 Dallas   Fort Worth                | 28.9 | 34 Memphis                  | 12.2 |
| 10 Miami   Fort Lauderdale           | 28.0 | 35 Norfolk   Virginia Beach | 12.0 |
| 11 New York                          | 25.6 | 36 Richmond                 | 11.9 |
| 12 Rochester                         | 24.1 | 37 Orlando                  | 11.6 |
| 13 Pittsburgh                        | 22.9 | 38 San Antonio              | 11.1 |
| 14 Los Angeles                       | 22.0 | 39 Greensboro               | 10.9 |
| 15 Houston                           | 21.7 | 40 Portland                 | 10.9 |
| 16 Seattle                           | 21.4 | 41 Nashville                | 10.8 |
| 17 Detroit                           | 20.7 | 42 Milwaukee                | 9.9  |
| 18 San Diego                         | 20.6 | 43 Louisville               | 9.9  |
| 19 Atlanta                           | 20.2 | 44 Kansas City              | 9.7  |
| 20 Providence                        | 20.0 | 45 Indianapolis             | 7.5  |
| 21 Philadelphia                      | 19.7 | 46 Hartford                 | 7.2  |
| 22 Sacramento                        | 19.6 | 47 Charlotte                | 6.7  |
| 23 Phoenix                           | 18.1 | 48 Grand Rapids             | 6.6  |
| 24 New Orleans                       | 17.5 | 49 West Palm Beach          | 3.3  |
| 25 Minneapolis   St. Paul            | 17.1 | 50 Jacksonville             | 2.8  |

## Foreign Travel

A clear indicator of global connections is the extent to which Americans travel outside the United States. Foreign travel, whether for business or pleasure, expands the awareness of a region's residents to other places and cultures. These wider connections and experience can prove to be an economic advantage.

Survey data collected by market researchers explores the extent to which Americans travel outside the country (SRDS/Equifax 2003). A minority of Americans report recent international travel. Slightly fewer than one in six has taken a trip outside the country in the past few

years in the typical metropolitan area. San Francisco-Oakland-San Jose records the highest rate of foreign travel with nearly a third of its population having traveled abroad recently. More than a quarter of the residents of Miami-Fort Lauderdale, San Diego, New York and Washington-Baltimore also report recent travel abroad. The least well-traveled metro areas include Louisville, Memphis and Pittsburgh, where only slightly more than one in 10 residents has taken a foreign trip recently.

## Percent of the population reporting taking a trip outside the United States

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 31.8% | 26 Providence               | 17.2% |
| 2 Miami   Fort Lauderdale            | 27.5% | 27 Raleigh   Durham         | 17.0% |
| 3 San Diego                          | 26.5% | 28 Detroit                  | 16.9% |
| 4 New York                           | 25.9% | 29 San Antonio              | 16.6% |
| 5 Washington   Baltimore             | 25.0% | 30 Jacksonville             | 16.0% |
| 6 Los Angeles                        | 24.1% | 31 Norfolk   Virginia Beach | 15.7% |
| 7 Seattle                            | 23.6% | 32 Milwaukee                | 15.7% |
| 8 Boston                             | 23.4% | 33 Rochester                | 15.2% |
| 9 West Palm Beach                    | 23.1% | 34 Richmond                 | 15.2% |
| 10 Denver                            | 23.0% | 35 Charlotte                | 14.9% |
| 11 Austin                            | 21.4% | 36 St. Louis                | 14.0% |
| 12 Chicago                           | 20.5% | 37 New Orleans              | 13.8% |
| 13 Houston                           | 20.2% | 38 Cincinnati               | 13.7% |
| 14 Atlanta                           | 19.9% | 39 Kansas City              | 13.5% |
| 15 Portland                          | 19.3% | 40 Greensboro               | 12.8% |
| 16 Salt Lake City                    | 19.1% | 41 Grand Rapids             | 12.8% |
| 17 Dallas   Fort Worth               | 19.0% | 42 Indianapolis             | 12.6% |
| 18 Philadelphia                      | 18.7% | 43 Columbus                 | 12.6% |
| 19 Las Vegas                         | 18.7% | 44 Nashville                | 12.5% |
| 20 Sacramento                        | 18.6% | 45 Cleveland                | 12.4% |
| 21 Hartford                          | 18.4% | 46 Oklahoma City            | 12.3% |
| 22 Minneapolis   St. Paul            | 18.2% | 47 Buffalo                  | 12.3% |
| 23 Orlando                           | 17.7% | 48 Pittsburgh               | 11.4% |
| 24 Tampa   St. Petersburg            | 17.5% | 49 Memphis                  | 11.4% |
| 25 Phoenix                           | 17.4% | 50 Louisville               | 10.8% |

## Wireless Internet Access

Over the past decade the Internet has matured from cutting-edge technological marvel to fundamental artery of business and personal interaction. Once a novelty, the Internet is now a necessity to stay connected. The Internet carries every imaginable form of data—from email communications and phone calls to music, videos and every manner of web page and electronic publication—and more uses are popping up daily. While wired Internet access is common everywhere, the cutting edge of Internet access today is the availability of wireless Internet connections, commonly referred to as “wi-fi.” Many cities are already exploring the possibility of creating a wireless “cloud” of Internet coverage that would allow near universal access for a region’s residents and businesses.

We measure the relative availability of wireless Internet connections in metropolitan areas

by counting the number of wi-fi hotspots reported by Ji-Wire.Com, which maintains a publicly accessible directory of more than 40,000 access points nationwide. For each metropolitan area, we count the number of hotspots within 20 miles of the central business district and divide that number by the local population to compute the number of hotspots per 100,000 population. (Hotspots may be free or part of a subscription network.)

The typical metropolitan area has about 14 listed wi-fi access points per 100,000 population. The cities with the greatest numbers of access points relative to population were Austin, Orlando, Seattle and Portland, all with 20 or more hotspots per 100,000 population. The lowest levels of hotspots per 100,000 population were in New York, Detroit, Philadelphia and Los Angeles—all with fewer than six access points per 100,000 population.

## Number of wi-fi hotspots per 100,000 population

|                                       |      |                             |      |
|---------------------------------------|------|-----------------------------|------|
| 1 Austin                              | 37.0 | 26 Richmond                 | 13.3 |
| 2 Orlando                             | 20.7 | 27 Milwaukee                | 13.3 |
| 3 Seattle                             | 20.6 | 28 Buffalo                  | 13.1 |
| 4 Portland                            | 20.4 | 29 Memphis                  | 11.8 |
| 5 Minneapolis   St. Paul              | 19.4 | 30 Cincinnati               | 11.7 |
| 6 San Diego                           | 18.4 | 31 Tampa                    | 10.9 |
| 7 Las Vegas                           | 18.4 | 32 Norfolk   Virginia Beach | 10.4 |
| 8 Columbus                            | 17.1 | 33 Providence               | 10.3 |
| 9 Phoenix                             | 17.0 | 34 Pittsburgh               | 10.3 |
| 10 Denver                             | 16.9 | 35 Salt Lake City           | 10.3 |
| 11 Charlotte                          | 16.8 | 36 Miami   Fort Lauderdale  | 10.2 |
| 12 Raleigh   Durham                   | 16.4 | 37 Washington   Baltimore   | 9.9  |
| 13 Louisville                         | 16.4 | 38 Dallas                   | 9.9  |
| 14 Indianapolis                       | 16.4 | 39 Houston                  | 9.5  |
| 15 Nashville                          | 15.9 | 40 St. Louis                | 9.0  |
| 16 San Antonio                        | 15.9 | 41 Grand Rapids             | 8.3  |
| 17 Kansas City                        | 15.7 | 42 Chicago                  | 8.1  |
| 18 San Francisco   Oakland   San Jose | 15.6 | 43 Boston                   | 8.0  |
| 19 New Orleans                        | 15.1 | 44 Cleveland                | 7.2  |
| 20 Sacramento                         | 15.1 | 45 Rochester                | 7.0  |
| 21 Atlanta                            | 15.1 | 46 Greensboro               | 6.8  |
| 22 Hartford                           | 15.0 | 47 Los Angeles              | 5.9  |
| 23 Oklahoma City                      | 14.4 | 48 Philadelphia             | 5.7  |
| 24 Jacksonville                       | 14.4 | 49 Detroit                  | 5.2  |
| 25 West Palm Beach                    | 13.6 | 50 New York                 | 4.3  |



## The **Distinctive** City

One of the paradoxes of globalization is that as the globe has become more closely connected by commerce, communication and entertainment, the distinctive differences that distinguished one place from another have been muted by shared global commodities like Levi's, Coke, cell phones, fast food and so on. Despite the increasing sameness, however, the remaining local distinctiveness plays an increasingly important economic role. Business strategists like Michael Porter remind us that strategy is ultimately about difference—the ability to do something one's competitors can't do. And as pioneering urbanist Jane Jacobs tells us, "The greatest asset that a city or a city neighborhood can have is something that's different from every other place." Local differences in tastes can give rise to new ideas and new products. The insatiable fascination of Japanese and Korean consumers for ever smaller, more capable electronic devices gives rise to clever and innovative new products that eventually pave the way for worldwide distribution of products with similar capabilities (Porter 1990).

The insights and original ideas behind many breakthrough business models emerged from practical experience gained in a local marketplace. In the 1960s, at a time when it was rare for most adults to exercise publicly, many people in Eugene, Oregon, took up the hobby of jogging and running. A small company formed to sell them imported sneakers. That company eventually became Nike, the world leader in shoes and sport apparel (Cortright 2002).

There are many dimensions to distinctiveness, and because each community has its own special strengths and characteristics, no single measure or set of measures can capture this adequately. Recognizing this limitation, we've compiled a broad set of measures that begins to assess which urban areas differ most from U.S. averages in a series of key behaviors, including consumption, culture, food and entertainment.

The differences that distinguish cities shape their future economic opportunities. The demographics of Salt Lake, the youngest of the 50 largest metropolitan areas, give it different choices than West Palm Beach, the nation's oldest. Size, climate, history and region all give each city its own unique problems and potential.



## Weirdness Index

Americans engage in a wide variety of pastimes and choose to spend their disposable incomes in a wide variety of ways. Some of these variations reflect pronounced regional and local preferences. Marketing research firms have assembled extensive databases that track the activities and spending patterns of consumers throughout the country. We have assembled a composite of these data on consumption behavior to measure the differences between the residents of a particular metropolitan area and those of the typical American.

SRDS, a market research firm, publishes a summary of market research for the nation's principal metropolitan areas that includes data on 75 different behaviors and activities, from sports and fitness, to hobbies and interests, appliance ownership and various aspects of home life (SRDS/ Equifax 2003). Using these data, we identify for each metropolitan area the 10 behaviors that differ most from the national average for those behaviors

and examine the extent to which they differ from the national average. We summarize these differences from the national average by computing the variance—a statistical measure of how much each metro area differs from all others. Places that differ most from the average have a high variance; those most similar to the nation as a whole have a low variance.

Consumption patterns varied most from the national average in San Francisco-Oakland-San Jose, Salt Lake City and Denver, where residents were more likely to engage in a wide range of recreational and cultural activities than the typical metropolitan resident. No large metropolitan area's consumption patterns exactly mirrored those of the nation as a whole. Every metropolitan area has some pastimes and products that make up a bigger share of its consumption, but a few metro areas are very close to the overall average. Five metropolitan areas in two states, Ohio and Missouri, have the consumption patterns that vary least from the U.S. average.

Average of the extent to which the metropolitan area's 10 most distinctive consumer behaviors exceed the national norm for each behavior

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 161.0 | 26 Jacksonville             | 121.1 |
| 2 Salt Lake City                     | 160.2 | 27 Raleigh   Durham         | 120.9 |
| 3 Denver                             | 150.6 | 28 New Orleans              | 120.7 |
| 4 West Palm Beach                    | 140.5 | 29 Tampa   St. Petersburg   | 120.3 |
| 5 Seattle                            | 138.6 | 30 Charlotte                | 119.2 |
| 6 Washington   Baltimore             | 137.7 | 31 Milwaukee                | 119.1 |
| 7 San Diego                          | 137.3 | 32 Norfolk   Virginia Beach | 119.1 |
| 8 Miami   Fort Lauderdale            | 134.6 | 33 Detroit                  | 118.3 |
| 9 Minneapolis   St. Paul             | 133.6 | 34 Chicago                  | 118.0 |
| 10 Boston                            | 133.4 | 35 San Antonio              | 117.9 |
| 11 Portland                          | 133.2 | 36 Orlando                  | 117.3 |
| 12 Las Vegas                         | 131.7 | 37 Hartford                 | 117.1 |
| 13 Los Angeles                       | 131.0 | 38 Rochester                | 116.7 |
| 14 New York                          | 130.8 | 39 Richmond                 | 116.2 |
| 15 Atlanta                           | 130.7 | 40 Providence               | 116.0 |
| 16 Sacramento                        | 130.6 | 41 Buffalo                  | 115.5 |
| 17 Austin                            | 128.9 | 42 Philadelphia             | 113.6 |
| 18 Grand Rapids                      | 127.1 | 43 Louisville               | 113.3 |
| 19 Memphis                           | 124.0 | 44 Pittsburgh               | 111.3 |
| 20 Oklahoma City                     | 123.9 | 45 Indianapolis             | 109.0 |
| 21 Dallas   Fort Worth               | 123.5 | 46 Columbus                 | 108.2 |
| 22 Houston                           | 122.4 | 47 Cleveland                | 107.9 |
| 23 Phoenix                           | 121.8 | 48 Cincinnati               | 107.6 |
| 24 Greensboro                        | 121.6 | 49 Kansas City              | 106.5 |
| 25 Nashville                         | 121.1 | 50 St. Louis                | 106.1 |

## Culture /Cable Ratio

Individuals have substantial choice over the types of entertainment they enjoy. Residents of every metropolitan area have wide access to mass entertainment, like television, as well as to a broad range of cultural events. One aspect of community distinctiveness is the extent to which people participate in local cultural activities (which vary enormously from place to place) as opposed to the passive consumption of the electronic media (which generally offer the same set of choices everywhere).

We measure the relative consumption of mass entertainment and local culture by computing the “culture/cable” ratio: the percentage of persons reporting attendance at local cultural events divided by the percentage of persons who subscribe to cable television. These data are drawn from SRDS marketing data.

Overall, Americans are much more likely to report that they subscribe to cable television than attend cultural events, such as theater, concerts and museum exhibits. The ratio of attendance to cultural events to cable subscriptions is highest in San Francisco-Oakland-San Jose, Denver, Miami-Fort Lauderdale, Washington-Baltimore, Los Angeles and Dallas-Fort Worth. In each of these cities, about a third as many households have attended cultural events as subscribe to cable television. The metropolitan areas with the lowest patronage of cultural events relative to cable viewing are Nashville, Pittsburgh and Louisville. In these cities, the ratio of households attending cultural events to those subscribing to cable is less than one in four.

Ratio of persons attending cultural events to number of persons regularly watching cable television

|                                      |       |                             |       |
|--------------------------------------|-------|-----------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 37.5% | 26 Detroit                  | 27.1% |
| 2 Denver                             | 36.1% | 27 Orlando                  | 26.8% |
| 3 Miami   Fort Lauderdale            | 35.2% | 28 Tampa   St. Petersburg   | 26.7% |
| 4 Washington   Baltimore             | 35.0% | 29 St. Louis                | 26.5% |
| 5 Los Angeles                        | 34.8% | 30 Norfolk   Virginia Beach | 26.0% |
| 6 Dallas   Fort Worth                | 34.6% | 31 Columbus                 | 25.9% |
| 7 Austin                             | 33.4% | 32 Buffalo                  | 25.7% |
| 8 Portland                           | 32.8% | 33 Hartford                 | 25.7% |
| 9 Chicago                            | 32.3% | 34 Philadelphia             | 25.5% |
| 10 West Palm Beach                   | 32.1% | 35 Grand Rapids             | 25.4% |
| 11 New York                          | 32.0% | 36 Oklahoma City            | 25.3% |
| 12 Seattle                           | 31.9% | 37 New Orleans              | 25.0% |
| 13 Minneapolis   St. Paul            | 31.8% | 38 Kansas City              | 25.0% |
| 14 Phoenix                           | 31.7% | 39 Cincinnati               | 24.9% |
| 15 Atlanta                           | 30.7% | 40 Las Vegas                | 24.7% |
| 16 Houston                           | 30.7% | 41 Charlotte                | 24.6% |
| 17 Raleigh   Durham                  | 29.9% | 42 Cleveland                | 24.6% |
| 18 Rochester                         | 29.8% | 43 Providence               | 24.5% |
| 19 San Diego                         | 29.7% | 44 Indianapolis             | 23.9% |
| 20 Sacramento                        | 29.4% | 45 Jacksonville             | 23.8% |
| 21 Salt Lake City                    | 29.3% | 46 Greensboro               | 23.4% |
| 22 San Antonio                       | 28.8% | 47 Memphis                  | 22.6% |
| 23 Boston                            | 28.8% | 48 Louisville               | 22.5% |
| 24 Milwaukee                         | 27.7% | 49 Pittsburgh               | 21.7% |
| 25 Richmond                          | 27.7% | 50 Nashville                | 21.4% |

## Restaurant Variety

Americans spend nearly half of their food budgets on meals outside the home. Metropolitan areas offer a wide array of choices of different kinds of cuisines and settings for these meals. The typical large metropolitan area has thousands of dining options from which to choose, ranging from fast food or “quick service restaurants” to “sit down” or more formal dining. Because the restaurant business has low entry and exit costs and very high turnover, and because local demand is critical, the composition of the local restaurant industry is a good reflection of the demand of local customers.

We measure the variety of local restaurants by computing the ratio of ethnic restaurants to fast food restaurants in each of the nation’s 50 largest metropolitan areas. Our data are drawn from business directories that list restaurants by format or cuisine. Restaurants self-select the categories in which they are listed (Verizon 2006). Our definition of ethnic restaurants

excludes the three most common categories of “ethnic” restaurants—Chinese, Italian and Mexican—and looks instead at all other cuisines.

Every large American metropolitan area has more fast food restaurants than ethnic restaurants (excluding those serving Chinese, Italian and Mexican food). Our highest ranking city, San Francisco-Oakland-San Jose, exhibits near parity; there are 96 percent as many diverse ethnic restaurants as fast food restaurants, a ratio of 24 diverse ethnic restaurants for every 25 fast food restaurants. New York (88 percent), Boston (60 percent) and Portland (56 percent) also show relatively high concentrations of diverse ethnic restaurants. The typical metropolitan area has about one diverse ethnic restaurant for every four fast food restaurants. The lowest ratio of diverse ethnic restaurants is in Cincinnati, Louisville, and Memphis, which each has only about one diverse ethnic restaurant for every 12 fast food restaurants.

## Ratio of ethnic restaurants to fast food restaurants in the metropolitan area

|                                      |       |                           |       |
|--------------------------------------|-------|---------------------------|-------|
| 1 San Francisco   Oakland   San Jose | 95.9% | 26 Atlanta                | 21.0% |
| 2 New York                           | 88.2% | 27 Buffalo                | 19.7% |
| 3 Boston                             | 60.1% | 28 Austin                 | 19.4% |
| 4 Portland                           | 56.3% | 29 Dallas   Fort Worth    | 19.4% |
| 5 Seattle                            | 49.3% | 30 Jacksonville           | 18.7% |
| 6 West Palm Beach                    | 42.3% | 31 Greensboro             | 17.7% |
| 7 Washington   Baltimore             | 41.4% | 32 Columbus               | 17.4% |
| 8 Tampa   St. Petersburg             | 41.4% | 33 Pittsburgh             | 16.2% |
| 9 Miami   Fort Lauderdale            | 40.1% | 34 Houston                | 15.7% |
| 10 Las Vegas                         | 39.1% | 35 Nashville              | 13.6% |
| 11 Los Angeles                       | 37.1% | 36 New Orleans            | 13.6% |
| 12 Norfolk   Virginia Beach          | 36.3% | 37 San Antonio            | 12.9% |
| 13 Rochester                         | 34.9% | 38 Minneapolis   St. Paul | 12.5% |
| 14 Chicago                           | 30.2% | 39 Kansas City            | 12.1% |
| 15 Orlando                           | 28.7% | 40 Cleveland              | 11.7% |
| 16 San Diego                         | 28.4% | 41 Milwaukee              | 11.7% |
| 17 Sacramento                        | 28.2% | 42 Charlotte              | 11.4% |
| 18 Phoenix                           | 27.9% | 43 St. Louis              | 11.2% |
| 19 Richmond                          | 27.9% | 44 Detroit                | 9.9%  |
| 20 Philadelphia                      | 27.7% | 45 Grand Rapids           | 9.3%  |
| 21 Denver                            | 27.6% | 46 Indianapolis           | 9.1%  |
| 22 Salt Lake City                    | 26.7% | 47 Oklahoma City          | 8.8%  |
| 23 Providence                        | 26.3% | 48 Memphis                | 8.5%  |
| 24 Raleigh   Durham                  | 24.8% | 49 Louisville             | 7.9%  |
| 25 Hartford                          | 22.6% | 50 Cincinnati             | 7.8%  |

## Movie Variety

One of the principal forms of entertainment for Americans is attending movies. National theater chains and widespread distribution assure that every large metropolitan area has ready access to the leading titles each year. The biggest grossing films nationally, like Star Wars Episode III in 2005, tend to be the most popular films in every metropolitan area. Still, audiences in different metropolitan areas exhibit preferences for different kinds of films.

We compute the degree of difference between each local market and the national market by calculating the variance in the market shares of each of the 60 most popular movies of 2005 from the national market share of that movie (Rentrak Corporation 2006). Metropolitan areas whose relative preference for each title

was most similar to the national preferences have a low variance; metropolitan areas whose preference varies most from the national average have high variances.

Salt Lake City's movie viewing preferences varied the most from national averages of any large metropolitan area in the United States. (Salt Lake City has a proportionately younger population than any other large metropolitan area, which likely influences which movies get the largest audiences.) New Orleans, Portland and Memphis also exhibit substantial variation from the national pattern in movie attendance. At the other end of the spectrum, two metropolitan areas almost exactly track national preferences; Milwaukee and Sacramento exhibited less than a 1 percent variance from the national average attendance at the top 60 movies of 2005.

## Variance of local movie attendance from national movie attendance for the top 60 motion pictures nationally in 2005

|                                       |       |                           |      |
|---------------------------------------|-------|---------------------------|------|
| 1 Salt Lake City                      | 29.1% | 26 Louisville             | 3.7% |
| 2 New Orleans                         | 22.6% | 27 Nashville              | 3.5% |
| 3 Portland                            | 12.1% | 28 Houston                | 3.4% |
| 4 Memphis                             | 11.8% | 29 Pittsburgh             | 3.2% |
| 5 Rochester                           | 8.1%  | 30 Austin                 | 3.2% |
| 6 Norfolk   Virginia Beach            | 7.6%  | 31 Phoenix                | 3.2% |
| 7 West Palm Beach                     | 6.8%  | 32 Grand Rapids           | 3.0% |
| 8 Seattle                             | 6.6%  | 33 Buffalo                | 2.9% |
| 9 Richmond                            | 6.0%  | 34 San Diego              | 2.8% |
| 10 Denver                             | 6.0%  | 35 Detroit                | 2.7% |
| 11 Boston                             | 5.7%  | 36 Las Vegas              | 2.4% |
| 12 Jacksonville                       | 5.5%  | 37 Chicago                | 2.4% |
| 13 San Francisco   Oakland   San Jose | 5.4%  | 38 Philadelphia           | 2.4% |
| 14 Providence                         | 5.4%  | 39 St. Louis              | 2.3% |
| 15 Greensboro                         | 5.3%  | 40 Los Angeles            | 2.2% |
| 16 New York                           | 4.8%  | 41 Orlando                | 2.2% |
| 17 Miami   Fort Lauderdale            | 4.8%  | 42 Indianapolis           | 2.0% |
| 18 Charlotte                          | 4.7%  | 43 Tampa   St. Petersburg | 2.0% |
| 19 Washington   Baltimore             | 4.2%  | 44 Kansas City            | 1.9% |
| 20 Atlanta                            | 4.2%  | 45 Columbus               | 1.6% |
| 21 Raleigh   Durham                   | 4.1%  | 46 Dallas   Fort Worth    | 1.6% |
| 22 Minneapolis   St. Paul             | 4.1%  | 47 Cleveland              | 1.6% |
| 23 San Antonio                        | 4.0%  | 48 Hartford               | 1.5% |
| 24 Oklahoma City                      | 3.9%  | 49 Sacramento             | 1.3% |
| 25 Cincinnati                         | 3.9%  | 50 Milwaukee              | 1.2% |



## Metro Performance + Core Vitality



Ultimately, the four dimensions of success that we have outlined in the City Vitals—talent, innovation, connections and distinctiveness—are reflected in the measurable performance of metropolitan economies.

### PERFORMANCE INDICATORS

**Per Capita Income** Per capita income measures the average economic well-being of a region's residents. Per capita income is computed by dividing a region's total personal income (all income received by individuals) by the total population.

Per capita income data is collected as part of the decennial census. More recent data on per capita income is available from the Bureau of Economic Analysis but is tabulated according to the 2004 Office of Management and Budget definitions of metropolitan areas.

**Core Vitality** The nucleus of a metropolitan area plays a key role in its economic health. In metropolitan areas, the greatest

density of employment and population is generally in and around the central business district, which also serves as the hub of the metropolitan transportation system and the principal location for business, civic and cultural interactions.

Usually the center of a metropolitan region is the heart of its largest municipality, but for the purposes of making comparisons across metropolitan areas, political boundaries are too variable to allow meaningful conclusions. In some metropolitan areas, particularly those in the South and West with more recent growth and more liberal annexation policies, cities represent a very different fraction of a metropolitan area (and a very different mix of urban and suburban development) than they do in other areas, particularly the Northeast, where annexation is rarer and more difficult, and the central municipality may be a small fraction of a total metropolitan area.

Consequently, to compare core vitality across metropolitan areas we use a standard 5-mile radius, drawn from the center of the central business district of each metropolitan area. We define this portion of the metropolitan area as its urban core. Our approach is similar to other intra-metropolitan comparisons of employment and population (Glaeser, Kahn et al. 2001) (Stoll 2005).

Specifically, we look at the vitality of these core areas in three dimensions: income, poverty, and educational attainment. They measure to what extent core neighborhoods have high levels of income and educational attainment and low levels of poverty, relative to the rest of the nation, and the rest of the metropolitan area.

## Absolute Measures

Our analysis of core vitality examines the level of per capita income, college attainment and poverty for the population living within 5 miles of the center of each metropolitan area. Average incomes in the urban core range from \$35,831 per capita in New York to \$11,662 in Los Angeles, a difference of three to one. Poverty rates in these core areas vary by a

similar amount. The poverty rate in the center of Detroit (33 percent) is nearly three times higher than in San Francisco-Oakland-San Jose (11.4 percent). Educational attainment of the adult population (the percent of those 25 and older with a four-year degree) varies by an even wider margin. Adults in the highest ranked city center (Seattle) are about five times as likely to have a four-year degree as their counterparts in the lowest-ranked center (Las Vegas).

|                                      | Per Capita Income | College Attainment | Poverty Rate |
|--------------------------------------|-------------------|--------------------|--------------|
| 1 New York                           | 35,831            | 42.8% [4]          | 19.4% [20]   |
| 2 San Francisco   Oakland   San Jose | 34,812            | 45.0% [3]          | 11.4% [1]    |
| 3 Seattle                            | 32,686            | 49.9% [1]          | 13.3% [4]    |
| 4 Washington   Baltimore             | 31,334            | 45.3% [2]          | 16.6% [12]   |
| 5 Chicago                            | 29,891            | 42.1% [5]          | 22.4% [31]   |
| 6 Portland                           | 25,716            | 40.9% [6]          | 12.6% [2]    |
| 7 Boston                             | 25,198            | 39.5% [8]          | 17.5% [15]   |
| 8 West Palm Beach                    | 24,443            | 22.9% [31]         | 17.5% [14]   |
| 9 Charlotte                          | 23,321            | 27.9% [16]         | 16.4% [11]   |
| 10 Denver                            | 23,121            | 32.6% [12]         | 16.3% [10]   |
| 11 Atlanta                           | 22,978            | 35.0% [11]         | 25.1% [38]   |
| 12 Dallas   Fort Worth               | 22,865            | 27.2% [17]         | 23.4% [33]   |
| 13 Minneapolis   St. Paul            | 22,772            | 37.8% [10]         | 16.2% [9]    |
| 14 Tampa   St. Petersburg            | 22,579            | 25.5% [22]         | 18.8% [18]   |
| 15 Houston                           | 22,249            | 28.4% [15]         | 25.2% [39]   |
| 16 Greensboro                        | 21,817            | 30.6% [14]         | 13.7% [5]    |
| 17 Raleigh   Durham                  | 21,668            | 38.0% [9]          | 15.7% [7]    |
| 18 Austin                            | 21,622            | 39.7% [7]          | 21.6% [28]   |
| 19 Hartford                          | 20,929            | 24.7% [25]         | 17.6% [16]   |
| 20 Orlando                           | 20,283            | 24.7% [24]         | 16.2% [8]    |
| 21 Salt Lake City                    | 19,663            | 31.4% [13]         | 15.2% [6]    |
| 22 Pittsburgh                        | 19,638            | 26.4% [19]         | 17.0% [13]   |
| 23 Cincinnati                        | 19,311            | 23.5% [30]         | 21.9% [30]   |
| 24 Nashville                         | 19,232            | 27.2% [18]         | 21.4% [27]   |
| 25 Sacramento                        | 19,180            | 24.2% [28]         | 21.7% [29]   |
| 26 Richmond                          | 19,178            | 25.4% [23]         | 21.0% [25]   |
| 27 Grand Rapids                      | 19,097            | 24.3% [26]         | 13.2% [3]    |
| 28 Rochester                         | 18,936            | 25.5% [21]         | 19.4% [21]   |
| 29 Louisville                        | 18,677            | 20.5% [34]         | 20.9% [24]   |
| 30 San Diego                         | 18,133            | 24.2% [29]         | 24.0% [35]   |
| 31 Columbus                          | 18,122            | 25.9% [20]         | 22.6% [32]   |
| 32 Providence                        | 17,870            | 20.8% [33]         | 19.2% [19]   |
| 33 New Orleans                       | 17,581            | 24.3% [27]         | 28.4% [43]   |
| 34 Miami   Fort Lauderdale           | 17,339            | 20.0% [35]         | 28.3% [42]   |
| 35 Jacksonville                      | 17,002            | 17.0% [40]         | 20.6% [23]   |
| 36 Norfolk   Virginia Beach          | 16,819            | 18.1% [37]         | 21.2% [26]   |
| 37 Milwaukee                         | 16,607            | 22.6% [32]         | 23.5% [34]   |
| 38 Kansas City                       | 16,219            | 17.8% [38]         | 24.1% [36]   |
| 39 Las Vegas                         | 15,889            | 10.0% [50]         | 18.0% [17]   |
| 40 Indianapolis                      | 15,818            | 12.9% [45]         | 20.4% [22]   |
| 41 Memphis                           | 15,230            | 18.4% [36]         | 32.8% [49]   |
| 42 Buffalo                           | 15,091            | 17.3% [39]         | 26.0% [40]   |
| 43 Philadelphia                      | 14,621            | 16.8% [41]         | 30.5% [47]   |
| 44 St. Louis                         | 14,362            | 16.1% [42]         | 29.3% [44]   |
| 45 Oklahoma City                     | 14,235            | 15.0% [43]         | 24.7% [37]   |
| 46 Cleveland                         | 13,779            | 12.9% [46]         | 30.1% [45]   |
| 47 Detroit                           | 13,224            | 10.6% [49]         | 33.0% [50]   |
| 48 San Antonio                       | 12,961            | 11.3% [48]         | 26.5% [41]   |
| 49 Phoenix                           | 12,381            | 12.1% [47]         | 30.3% [46]   |
| 50 Los Angeles                       | 11,662            | 13.2% [44]         | 32.1% [48]   |

## Relative Measures

(Central Area Relative to Metro Average)

This table shows measures of core vitality as a percentage of the metropolitan average for per capita income, poverty and educational attainment. While the median metropolitan area (of the 50 most populous) has a core area per capita income that is about 15 percent lower than in the metro area as a whole, nine metropolitan areas have cores that have higher levels of per capita income. New York, Seattle and Chicago core area incomes are at least 20 percent higher than in the rest of the region. In several areas, incomes are much lower in the center. Six metropolitan areas have core area per capita incomes more than one-third less than the metro average (Detroit, Los Angeles, Phoenix, Philadelphia, Cleveland and St. Louis). On average, poverty rates in the core area are nearly double the regional average.

To an important degree, the economic health of the center of a region is closely tied to the overall metropolitan economy (and vice versa), so to get a more localized view of the relative position of the center of each region relative to its metropolitan area, we have constructed a series of measures that show the urban core's performance as a percentage of the metropolitan-wide average. On average, metropolitan cores have somewhat lower incomes, universally higher rates of poverty and somewhat lower levels of educational attainment than the metropolitan areas in which they are situated, but there are wide variations among cities.

|                                      | Per Capita Income | College Attainment | Poverty Rate |
|--------------------------------------|-------------------|--------------------|--------------|
| 1 New York                           | 135%              | 140% [4]           | 150% [4]     |
| 2 Seattle                            | 127%              | 156% [1]           | 156% [8]     |
| 3 Chicago                            | 122%              | 146% [3]           | 213% [34]    |
| 4 Portland                           | 114%              | 148% [2]           | 125% [1]     |
| 5 San Francisco   Oakland   San Jose | 113%              | 121% [7]           | 131% [2]     |
| 6 Washington   Baltimore             | 111%              | 122% [6]           | 200% [29]    |
| 7 Tampa   St. Petersburg             | 104%              | 117% [9]           | 169% [13]    |
| 8 Houston                            | 103%              | 107% [16]          | 185% [19]    |
| 9 Greensboro                         | 102%              | 134% [5]           | 132% [3]     |
| 10 Charlotte                         | 100%              | 105% [18]          | 175% [15]    |
| 11 Salt Lake City                    | 99%               | 118% [8]           | 199% [27]    |
| 12 Dallas   Fort Worth               | 97%               | 96% [22]           | 217% [36]    |
| 13 Orlando                           | 96%               | 100% [20]          | 151% [5]     |
| 14 Boston                            | 94%               | 115% [10]          | 205% [30]    |
| 15 Pittsburgh                        | 94%               | 111% [12]          | 157% [9]     |
| 16 New Orleans                       | 93%               | 108% [15]          | 155% [7]     |
| 17 Atlanta                           | 92%               | 109% [13]          | 267% [45]    |
| 18 Grand Rapids                      | 91%               | 106% [17]          | 158% [10]    |
| 19 Denver                            | 89%               | 92% [26]           | 191% [22]    |
| 20 Austin                            | 88%               | 108% [14]          | 195% [26]    |
| 21 Raleigh   Durham                  | 88%               | 98% [21]           | 153% [6]     |
| 22 Rochester                         | 88%               | 94% [23]           | 188% [21]    |
| 23 Minneapolis   St. Paul            | 87%               | 114% [11]          | 241% [43]    |
| 24 Sacramento                        | 86%               | 91% [27]           | 170% [14]    |
| 25 Louisville                        | 86%               | 93% [25]           | 192% [23]    |
| 26 West Palm Beach                   | 85%               | 83% [34]           | 176% [17]    |
| 27 Miami   Fort Lauderdale           | 85%               | 87% [30]           | 186% [20]    |
| 28 Providence                        | 84%               | 88% [29]           | 163% [12]    |
| 29 Cincinnati                        | 84%               | 94% [24]           | 230% [41]    |
| 30 Nashville                         | 84%               | 101% [19]          | 212% [33]    |
| 31 Norfolk   Virginia Beach          | 83%               | 76% [37]           | 199% [28]    |
| 32 Richmond                          | 81%               | 87% [31]           | 226% [39]    |
| 33 Hartford                          | 81%               | 83% [33]           | 211% [32]    |
| 34 San Diego                         | 79%               | 82% [35]           | 193% [24]    |
| 35 Columbus                          | 79%               | 89% [28]           | 224% [38]    |
| 36 Jacksonville                      | 78%               | 74% [39]           | 193% [25]    |
| 37 Memphis                           | 75%               | 81% [36]           | 214% [35]    |
| 38 Buffalo                           | 75%               | 75% [38]           | 219% [37]    |
| 39 Las Vegas                         | 75%               | 61% [44]           | 163% [11]    |
| 40 Oklahoma City                     | 74%               | 61% [43]           | 182% [18]    |
| 41 Milwaukee                         | 72%               | 86% [32]           | 226% [40]    |
| 42 San Antonio                       | 70%               | 50% [47]           | 176% [16]    |
| 43 Kansas City                       | 70%               | 62% [42]           | 284% [47]    |
| 44 Indianapolis                      | 68%               | 50% [48]           | 238% [42]    |
| 45 St. Louis                         | 63%               | 63% [40]           | 295% [49]    |
| 46 Cleveland                         | 62%               | 55% [45]           | 285% [48]    |
| 47 Philadelphia                      | 62%               | 63% [41]           | 280% [46]    |
| 48 Phoenix                           | 57%               | 48% [49]           | 252% [44]    |
| 49 Los Angeles                       | 55%               | 54% [46]           | 205% [31]    |
| 50 Detroit                           | 54%               | 45% [50]           | 310% [50]    |

## Appendix Tables

For the reader's convenience, this appendix provides all of the data in each of our City Vitals indicators grouped according to each of the four dimensions—talent, innovation, connections and distinctiveness—plus core vitality. Cities are listed alphabetically so the reader can easily identify data for individual cities. Ranks for each indicator are shown in parentheses.

| Metropolitan Area                  | Population     | Per Capita Income |
|------------------------------------|----------------|-------------------|
| Atlanta                            | 4,112,198 [11] | 25,033 [10]       |
| Austin                             | 1,249,763 [37] | 24,516 [13]       |
| Boston                             | 5,819,101 [7]  | 26,856 [4]        |
| Buffalo                            | 1,170,111 [42] | 20,143 [46]       |
| Charlotte                          | 1,499,293 [33] | 23,417 [18]       |
| Chicago                            | 9,157,540 [3]  | 24,581 [12]       |
| Cincinnati                         | 1,979,202 [23] | 22,947 [23]       |
| Cleveland                          | 2,945,831 [16] | 22,319 [28]       |
| Columbus                           | 1,540,157 [32] | 23,020 [21]       |
| Dallas   Fort Worth                | 5,221,801 [9]  | 23,616 [17]       |
| Denver                             | 2,581,506 [19] | 26,011 [7]        |
| Detroit                            | 5,456,428 [8]  | 24,275 [14]       |
| Grand Rapids                       | 1,088,514 [47] | 20,901 [42]       |
| Greensboro                         | 1,251,509 [36] | 21,392 [36]       |
| Hartford                           | 1,183,110 [41] | 25,874 [8]        |
| Houston                            | 4,669,571 [10] | 21,701 [34]       |
| Indianapolis                       | 1,607,486 [28] | 23,198 [20]       |
| Jacksonville                       | 1,100,491 [45] | 21,763 [32]       |
| Kansas City                        | 1,776,062 [25] | 23,326 [19]       |
| Las Vegas                          | 1,563,282 [31] | 21,210 [38]       |
| Los Angeles                        | 16,373,645 [2] | 21,170 [40]       |
| Louisville                         | 1,025,598 [49] | 21,756 [33]       |
| Memphis                            | 1,135,614 [43] | 20,327 [45]       |
| Miami   Fort Lauderdale            | 3,876,380 [12] | 20,454 [43]       |
| Milwaukee                          | 1,689,572 [26] | 23,003 [22]       |
| Minneapolis   St. Paul             | 2,968,806 [15] | 26,219 [6]        |
| Nashville                          | 1,231,311 [38] | 22,874 [25]       |
| New Orleans                        | 1,337,726 [34] | 18,834 [49]       |
| New York                           | 21,199,865 [1] | 26,604 [5]        |
| Norfolk   Virginia Beach           | 1,569,541 [30] | 20,328 [44]       |
| Oklahoma City                      | 1,083,346 [48] | 19,366 [48]       |
| Orlando                            | 1,644,561 [27] | 21,232 [37]       |
| Philadelphia                       | 6,188,463 [6]  | 23,699 [15]       |
| Phoenix                            | 3,251,876 [14] | 21,907 [30]       |
| Pittsburgh                         | 2,358,695 [21] | 20,935 [41]       |
| Portland                           | 2,265,223 [22] | 22,592 [27]       |
| Providence                         | 1,188,613 [39] | 21,208 [39]       |
| Raleigh   Durham                   | 1,187,941 [40] | 24,698 [11]       |
| Richmond                           | 996,512 [50]   | 23,685 [16]       |
| Rochester                          | 1,098,201 [46] | 21,627 [35]       |
| Sacramento                         | 1,796,857 [24] | 22,302 [29]       |
| St. Louis                          | 2,603,607 [18] | 22,698 [26]       |
| Salt Lake City                     | 1,333,914 [35] | 19,781 [47]       |
| San Antonio                        | 1,592,383 [29] | 18,518 [50]       |
| San Diego                          | 2,813,833 [17] | 22,926 [24]       |
| San Francisco   Oakland   San Jose | 7,039,362 [5]  | 30,769 [1]        |
| Seattle                            | 3,554,760 [13] | 25,744 [9]        |
| Tampa   St. Petersburg             | 2,395,997 [20] | 21,784 [31]       |
| Washington   Baltimore             | 7,608,070 [4]  | 28,175 [3]        |
| West Palm Beach                    | 1,131,184 [44] | 28,801 [2]        |
| Top 50 Median                      |                | 22,786            |
| Top 50 Mean (Metro-weighted)       |                | 23,002            |
| Standard Deviation                 |                | 2,544             |



| The Talented City                  | College Attainment | Creative Professionals | Young & Restless | Traded Sector Talent | Foreign Born BA or Higher |
|------------------------------------|--------------------|------------------------|------------------|----------------------|---------------------------|
| Atlanta                            | 34.0% [9]          | 8.4% [12]              | 6.3% [5]         | 33.6% [8]            | 13.0% [19]                |
| Austin                             | 39.7% [3]          | 12.0% [4]              | 7.1% [2]         | 38.4% [4]            | 13.8% [17]                |
| Boston                             | 39.3% [4]          | 10.4% [6]              | 6.5% [4]         | 38.2% [5]            | 16.0% [13]                |
| Buffalo                            | 26.6% [35]         | 5.1% [48]              | 3.8% [37]        | 23.6% [40]           | 7.5% [39]                 |
| Charlotte                          | 28.4% [26]         | 6.2% [35]              | 5.4% [11]        | 27.2% [23]           | 7.6% [38]                 |
| Chicago                            | 32.6% [12]         | 7.5% [23]              | 5.3% [12]        | 31.8% [13]           | 18.1% [10]                |
| Cincinnati                         | 28.1% [29]         | 7.2% [27]              | 4.3% [24]        | 27.1% [25]           | 7.0% [42]                 |
| Cleveland                          | 26.1% [38]         | 6.1% [36]              | 3.9% [31]        | 24.4% [37]           | 8.5% [35]                 |
| Columbus                           | 32.5% [13]         | 8.0% [17]              | 5.7% [9]         | 30.7% [14]           | 9.5% [31]                 |
| Dallas   Fort Worth                | 30.3% [18]         | 8.3% [15]              | 4.8% [17]        | 32.5% [11]           | 14.6% [15]                |
| Denver                             | 37.1% [6]          | 10.6% [5]              | 6.3% [6]         | 33.6% [9]            | 10.4% [27]                |
| Detroit                            | 26.4% [36]         | 8.5% [11]              | 4.2% [25]        | 25.9% [32]           | 13.9% [16]                |
| Grand Rapids                       | 25.7% [39]         | 5.5% [42]              | 3.8% [35]        | 22.8% [42]           | 6.0% [50]                 |
| Greensboro                         | 24.4% [45]         | 5.0% [49]              | 3.8% [34]        | 21.1% [48]           | 6.2% [48]                 |
| Hartford                           | 32.9% [11]         | 8.3% [16]              | 4.5% [19]        | 32.2% [12]           | 12.6% [20]                |
| Houston                            | 27.8% [31]         | 7.9% [19]              | 4.0% [30]        | 28.0% [20]           | 20.8% [6]                 |
| Indianapolis                       | 28.3% [28]         | 6.8% [32]              | 4.7% [18]        | 27.1% [24]           | 6.2% [46]                 |
| Jacksonville                       | 24.0% [47]         | 5.6% [40]              | 3.2% [47]        | 21.8% [46]           | 10.1% [28]                |
| Kansas City                        | 31.7% [15]         | 7.5% [24]              | 5.0% [15]        | 30.4% [17]           | 6.2% [47]                 |
| Las Vegas                          | 17.9% [50]         | 4.3% [50]              | 2.5% [50]        | 15.6% [50]           | 18.8% [7]                 |
| Los Angeles                        | 25.5% [40]         | 7.7% [20]              | 3.6% [42]        | 24.4% [36]           | 33.0% [2]                 |
| Louisville                         | 24.5% [44]         | 5.2% [45]              | 3.8% [38]        | 22.9% [41]           | 6.8% [43]                 |
| Memphis                            | 26.3% [37]         | 5.2% [47]              | 3.8% [36]        | 24.9% [34]           | 7.5% [40]                 |
| Miami   Fort Lauderdale            | 25.3% [41]         | 5.2% [46]              | 3.7% [39]        | 24.1% [38]           | 42.7% [1]                 |
| Milwaukee                          | 28.8% [23]         | 7.0% [30]              | 4.3% [23]        | 26.0% [31]           | 6.3% [45]                 |
| Minneapolis   St. Paul             | 36.1% [7]          | 9.2% [9]               | 6.1% [8]         | 33.8% [7]            | 7.9% [37]                 |
| Nashville                          | 29.4% [22]         | 6.9% [31]              | 5.2% [14]        | 26.7% [26]           | 6.8% [44]                 |
| New Orleans                        | 23.6% [49]         | 5.5% [43]              | 3.5% [44]        | 22.4% [44]           | 9.2% [33]                 |
| New York                           | 33.6% [10]         | 8.3% [14]              | 5.4% [10]        | 35.5% [6]            | 27.2% [4]                 |
| Norfolk   Virginia Beach           | 25.2% [42]         | 6.5% [33]              | 3.5% [45]        | 21.3% [47]           | 9.5% [30]                 |
| Oklahoma City                      | 27.9% [30]         | 5.6% [41]              | 3.6% [41]        | 24.1% [39]           | 9.3% [32]                 |
| Orlando                            | 26.7% [34]         | 7.0% [29]              | 4.1% [29]        | 25.5% [33]           | 15.9% [14]                |
| Philadelphia                       | 30.2% [19]         | 7.6% [21]              | 4.4% [21]        | 29.5% [18]           | 11.9% [24]                |
| Phoenix                            | 27.3% [33]         | 7.4% [25]              | 3.9% [33]        | 26.2% [29]           | 12.2% [23]                |
| Pittsburgh                         | 28.4% [27]         | 6.4% [34]              | 4.1% [26]        | 26.6% [27]           | 6.1% [49]                 |
| Portland                           | 30.1% [20]         | 7.9% [18]              | 4.4% [22]        | 28.0% [21]           | 12.3% [22]                |
| Providence                         | 24.8% [43]         | 6.1% [38]              | 3.7% [40]        | 22.4% [43]           | 11.3% [26]                |
| Raleigh   Durham                   | 41.0% [1]          | 12.8% [2]              | 7.9% [1]         | 39.0% [2]            | 12.4% [21]                |
| Richmond                           | 32.0% [14]         | 7.5% [22]              | 4.9% [16]        | 30.5% [16]           | 8.1% [36]                 |
| Rochester                          | 30.5% [17]         | 8.4% [13]              | 4.1% [28]        | 28.1% [19]           | 8.8% [34]                 |
| Sacramento                         | 28.5% [25]         | 8.7% [10]              | 3.6% [43]        | 26.1% [30]           | 16.3% [11]                |
| St. Louis                          | 28.6% [24]         | 7.0% [28]              | 4.1% [27]        | 26.4% [28]           | 7.1% [41]                 |
| Salt Lake City                     | 27.3% [32]         | 7.3% [26]              | 3.9% [32]        | 24.8% [35]           | 10.1% [29]                |
| San Antonio                        | 23.9% [48]         | 5.3% [44]              | 3.2% [46]        | 20.7% [49]           | 11.4% [25]                |
| San Diego                          | 31.0% [16]         | 9.2% [8]               | 4.4% [20]        | 30.6% [15]           | 22.8% [5]                 |
| San Francisco   Oakland   San Jose | 38.8% [5]          | 13.2% [1]              | 6.7% [3]         | 43.0% [1]            | 27.3% [3]                 |
| Seattle                            | 34.1% [8]          | 10.1% [7]              | 5.3% [13]        | 32.9% [10]           | 16.0% [12]                |
| Tampa   St. Petersburg             | 24.2% [46]         | 6.0% [39]              | 3.1% [49]        | 22.3% [45]           | 13.5% [18]                |
| Washington   Baltimore             | 40.0% [2]          | 12.6% [3]              | 6.2% [7]         | 38.6% [3]            | 18.7% [8]                 |
| West Palm Beach                    | 29.6% [21]         | 6.1% [37]              | 3.1% [48]        | 27.9% [22]           | 18.1% [9]                 |
| Top 50 Median                      | 28.4%              | 7.4%                   | 4.1%             | 26.9%                | 11.3%                     |
| Top 50 Mean (Metro-weighted)       | 29.5%              | 7.6%                   | 4.5%             | 28.0%                | 13.1%                     |
| Standard Deviation                 | 4.9%               | 2.1%                   | 1.1%             | 5.5%                 | 7.4%                      |

| The Innovative City                | Patents   | Venture Capital | Entrepreneurship | Small Business |
|------------------------------------|-----------|-----------------|------------------|----------------|
| Atlanta                            | 5.1 [31]  | 591 [14]        | 4.9% [49]        | 14.5% [45]     |
| Austin                             | 32.2 [3]  | 3,889 [3]       | 9.3% [15]        | 16.2% [24]     |
| Boston                             | 14.5 [9]  | 3,953 [2]       | 7.3% [40]        | 16.7% [19]     |
| Buffalo                            | 7.0 [20]  | — [50]          | 7.2% [43]        | 16.7% [20]     |
| Charlotte                          | 2.9 [42]  | 420 [21]        | 8.8% [23]        | 15.0% [38]     |
| Chicago                            | 5.9 [27]  | 233 [26]        | 7.8% [36]        | 16.2% [25]     |
| Cincinnati                         | 8.3 [14]  | 32 [44]         | 7.1% [44]        | 14.7% [43]     |
| Cleveland                          | 6.8 [21]  | 181 [31]        | 8.0% [32]        | 17.3% [14]     |
| Columbus                           | 4.0 [32]  | 58 [41]         | 7.3% [41]        | 13.7% [48]     |
| Dallas   Fort Worth                | 7.6 [17]  | 952 [11]        | 9.0% [21]        | 14.0% [47]     |
| Denver                             | 10.5 [12] | 2,128 [6]       | 9.2% [17]        | 17.7% [11]     |
| Detroit                            | 12.4 [10] | 135 [33]        | 7.7% [37]        | 16.7% [18]     |
| Grand Rapids                       | 2.9 [42]  | — [49]          | 7.3% [42]        | 16.1% [26]     |
| Greensboro                         | 3.9 [36]  | — [48]          | 8.8% [22]        | 16.1% [27]     |
| Hartford                           | 8.3 [14]  | 100 [36]        | 4.8% [50]        | 16.0% [30]     |
| Houston                            | 8.2 [16]  | 270 [24]        | 9.3% [14]        | 15.5% [34]     |
| Indianapolis                       | 5.9 [27]  | 102 [35]        | 8.2% [30]        | 14.8% [42]     |
| Jacksonville                       | 2.6 [46]  | 1,034 [9]       | 9.3% [13]        | 15.5% [36]     |
| Kansas City                        | 3.4 [38]  | 369 [23]        | 8.3% [28]        | 15.5% [35]     |
| Las Vegas                          | 2.6 [46]  | 544 [17]        | 6.9% [45]        | 13.6% [49]     |
| Los Angeles                        | 7.4 [18]  | 540 [18]        | 12.6% [3]        | 17.7% [12]     |
| Louisville                         | 2.7 [45]  | 5 [46]          | 7.5% [39]        | 15.6% [33]     |
| Memphis                            | 2.8 [44]  | 97 [37]         | 6.6% [48]        | 13.4% [50]     |
| Miami   Fort Lauderdale            | 4.0 [32]  | 458 [19]        | 13.0% [2]        | 22.2% [2]      |
| Milwaukee                          | 6.5 [25]  | 58 [42]         | 6.8% [46]        | 15.7% [32]     |
| Minneapolis   St. Paul             | 15.5 [8]  | 621 [13]        | 8.5% [26]        | 14.9% [40]     |
| Nashville                          | 2.4 [48]  | 380 [22]        | 10.4% [7]        | 14.5% [46]     |
| New Orleans                        | 2.3 [49]  | 7 [45]          | 9.2% [18]        | 14.5% [13]     |
| New York                           | 6.6 [22]  | 547 [16]        | 9.9% [11]        | 19.6% [4]      |
| Norfolk   Virginia Beach           | 3.0 [41]  | 1 [47]          | 8.0% [33]        | 17.1% [15]     |
| Oklahoma City                      | 1.8 [50]  | 90 [38]         | 8.6% [24]        | 18.8% [7]      |
| Orlando                            | 4.0 [32]  | 225 [27]        | 10.0% [10]       | 14.8% [41]     |
| Philadelphia                       | 7.2 [19]  | 562 [15]        | 8.1% [31]        | 16.9% [16]     |
| Phoenix                            | 8.6 [13]  | 251 [25]        | 9.7% [12]        | 14.6% [44]     |
| Pittsburgh                         | 6.6 [22]  | 436 [20]        | 7.7% [38]        | 16.6% [21]     |
| Portland                           | 15.7 [7]  | 623 [12]        | 10.8% [6]        | 19.5% [6]      |
| Providence                         | 6.4 [26]  | 214 [28]        | 6.7% [47]        | 19.8% [3]      |
| Raleigh   Durham                   | 16.4 [6]  | 3,046 [5]       | 9.1% [20]        | 16.3% [23]     |
| Richmond                           | 3.7 [37]  | 78 [40]         | 8.4% [27]        | 15.9% [31]     |
| Rochester                          | 32.9 [2]  | 50 [43]         | 7.9% [34]        | 15.3% [37]     |
| Sacramento                         | 17.8 [5]  | 199 [29]        | 10.3% [8]        | 18.8% [8]      |
| St. Louis                          | 5.8 [29]  | 138 [32]        | 7.9% [35]        | 16.0% [29]     |
| Salt Lake City                     | 6.6 [22]  | 1,421 [8]       | 8.6% [25]        | 16.3% [22]     |
| San Antonio                        | 3.2 [40]  | 186 [30]        | 9.1% [19]        | 14.9% [39]     |
| San Diego                          | 18.2 [4]  | 3,253 [4]       | 12.3% [4]        | 18.5% [9]      |
| San Francisco   Oakland   San Jose | 33.7 [1]  | 10,641 [1]      | 9.2% [16]        | 17.8% [10]     |
| Seattle                            | 10.6 [11] | 2,080 [7]       | 10.2% [9]        | 19.6% [5]      |
| Tampa   St. Petersburg             | 3.4 [38]  | 79 [39]         | 10.9% [5]        | 16.0% [28]     |
| Washington   Baltimore             | 5.5 [30]  | 981 [10]        | 8.2% [29]        | 16.7% [17]     |
| West Palm Beach                    | 4.0 [32]  | 103 [34]        | 14.4% [1]        | 22.2% [1]      |
| Top 50 Median                      | 6         | 241.8           | 8.6%             | 16.1%          |
| Top 50 Mean (Metro-weighted)       | 8         | 847.2           | 8.7%             | 16.5%          |
| Standard Deviation                 | 8         | 1,706           | 1.8%             | 2.0%           |

| The Connected City                 | Voting     | Community Involvement | Economic Integration | Transit Use | Foreign Travel | Intl. Students | Wi-Fi HotSpots |
|------------------------------------|------------|-----------------------|----------------------|-------------|----------------|----------------|----------------|
| Atlanta                            | 53.6% [38] | 50.1% [26]            | 60.5% [23]           | 10.5% [20]  | 19.9% [14]     | 20.2 [19]      | 15.1 [21]      |
| Austin                             | 53.4% [41] | 58.3% [4]             | 53.7% [49]           | — [NA]      | 21.4% [11]     | 54.2 [1]       | 37.0 [1]       |
| Boston                             | 60.9% [21] | 49.7% [28]            | 67.1% [3]            | 28.6% [2]   | 23.4% [8]      | 43.9 [4]       | 8.0 [43]       |
| Buffalo                            | 62.0% [17] | 49.1% [37]            | 62.0% [16]           | 11.6% [16]  | 12.3% [46]     | 51.1 [2]       | 13.1 [28]      |
| Charlotte                          | 53.5% [39] | 54.0% [12]            | 62.5% [15]           | 4.1% [37]   | 14.9% [35]     | 6.7 [47]       | 16.8 [11]      |
| Chicago                            | 54.1% [34] | 49.1% [36]            | 60.5% [23]           | 26.3% [3]   | 20.5% [12]     | 15.1 [28]      | 8.1 [42]       |
| Cincinnati                         | 66.3% [5]  | 52.3% [19]            | 60.2% [26]           | 11.2% [17]  | 13.7% [38]     | 13.8 [31]      | 11.7 [30]      |
| Cleveland                          | 66.8% [4]  | 49.6% [30]            | 59.6% [28]           | 11.2% [18]  | 12.4% [45]     | 15.3 [27]      | 7.2 [44]       |
| Columbus                           | 65.9% [8]  | 56.9% [8]             | 55.2% [45]           | 6.6% [31]   | 12.6% [42]     | 32.6 [7]       | 17.1 [8]       |
| Dallas   Fort Worth                | 47.3% [45] | 47.7% [44]            | 55.3% [44]           | 6.7% [29]   | 19.0% [17]     | 28.9 [9]       | 9.9 [38]       |
| Denver                             | 61.4% [19] | 57.6% [6]             | 54.7% [47]           | 13.4% [14]  | 23.0% [10]     | 14.0 [29]      | 16.9 [10]      |
| Detroit                            | 64.7% [11] | 50.6% [24]            | 60.6% [22]           | 4.7% [36]   | 16.9% [28]     | 20.7 [17]      | 5.2 [49]       |
| Grand Rapids                       | 68.1% [3]  | 58.7% [3]             | 68.4% [2]            | — [NA]      | 12.8% [41]     | 6.6 [48]       | 8.3 [41]       |
| Greensboro                         | 55.7% [30] | 56.1% [9]             | 67.1% [3]            | — [NA]      | 12.8% [40]     | 10.9 [39]      | 6.8 [46]       |
| Hartford                           | 61.1% [20] | 53.1% [15]            | 61.5% [17]           | 7.2% [28]   | 18.4% [21]     | 7.2 [46]       | 15.0 [22]      |
| Houston                            | 44.2% [48] | 49.1% [38]            | 55.0% [46]           | 8.7% [25]   | 20.2% [13]     | 21.7 [15]      | 9.5 [39]       |
| Indianapolis                       | 54.2% [33] | 51.7% [20]            | 59.2% [31]           | 3.5% [38]   | 12.6% [42]     | 7.5 [45]       | 16.4 [14]      |
| Jacksonville                       | 65.5% [9]  | 51.2% [21]            | 64.1% [8]            | — [NA]      | 16.0% [30]     | 2.8 [50]       | 14.4 [24]      |
| Kansas City                        | 64.9% [10] | 49.2% [34]            | 57.9% [38]           | 5.0% [35]   | 13.5% [39]     | 9.7 [44]       | 15.7 [17]      |
| Las Vegas                          | 44.2% [49] | 47.8% [43]            | 57.0% [40]           | — [NA]      | 18.7% [18]     | 12.7 [33]      | 18.4 [7]       |
| Los Angeles                        | 43.8% [50] | 48.7% [41]            | 59.1% [32]           | 18.5% [9]   | 24.1% [6]      | 22.0 [14]      | 5.9 [47]       |
| Louisville                         | 62.7% [15] | 51.1% [22]            | 60.3% [25]           | — [NA]      | 10.8% [50]     | 9.9 [43]       | 16.4 [13]      |
| Memphis                            | 56.7% [27] | 48.9% [39]            | 53.0% [50]           | 6.2% [32]   | 11.4% [48]     | 12.2 [34]      | 11.8 [29]      |
| Miami   Fort Lauderdale            | 47.5% [44] | 45.6% [48]            | 59.7% [27]           | 14.8% [10]  | 27.5% [2]      | 28.0 [10]      | 10.2 [36]      |
| Milwaukee                          | 72.1% [2]  | 53.1% [16]            | 57.0% [40]           | 13.6% [12]  | 15.7% [31]     | 9.9 [42]       | 13.3 [27]      |
| Minneapolis   St. Paul             | 76.9% [1]  | 60.8% [2]             | 61.4% [18]           | 10.4% [21]  | 18.2% [22]     | 17.1 [25]      | 19.4 [5]       |
| Nashville                          | 58.1% [25] | 46.6% [47]            | 62.9% [12]           | — [NA]      | 12.5% [44]     | 10.8 [41]      | 15.9 [15]      |
| New Orleans                        | 59.6% [23] | 49.6% [29]            | 61.2% [19]           | 13.5% [13]  | 13.8% [37]     | 17.5 [24]      | 15.1 [19]      |
| New York                           | 50.2% [43] | 44.8% [49]            | 58.0% [36]           | 45.0% [1]   | 25.9% [4]      | 25.6 [11]      | 4.3 [50]       |
| Norfolk   Virginia Beach           | 54.0% [35] | 47.6% [46]            | 58.9% [33]           | 5.5% [34]   | 15.7% [31]     | 12.0 [35]      | 10.4 [32]      |
| Oklahoma City                      | 55.9% [29] | 49.2% [33]            | 58.1% [35]           | 2.3% [39]   | 12.3% [46]     | 38.7 [5]       | 14.4 [23]      |
| Orlando                            | 55.7% [31] | 48.4% [42]            | 63.5% [10]           | — [NA]      | 17.7% [23]     | 11.6 [37]      | 20.7 [2]       |
| Philadelphia                       | 63.2% [13] | 48.7% [40]            | 57.6% [39]           | 21.1% [5]   | 18.7% [18]     | 19.7 [21]      | 5.7 [48]       |
| Phoenix                            | 46.2% [46] | 49.2% [35]            | 55.6% [43]           | 9.1% [23]   | 17.4% [25]     | 18.1 [23]      | 17.0 [9]       |
| Pittsburgh                         | 63.1% [14] | 49.4% [31]            | 65.4% [7]            | 12.5% [15]  | 11.4% [48]     | 22.9 [13]      | 10.3 [34]      |
| Portland                           | 66.2% [7]  | 57.6% [7]             | 67.1% [3]            | 18.9% [8]   | 19.3% [15]     | 10.9 [40]      | 20.4 [4]       |
| Providence                         | 54.0% [36] | 40.7% [50]            | 63.8% [9]            | 8.5% [26]   | 17.2% [26]     | 20.0 [20]      | 10.3 [33]      |
| Raleigh   Durham                   | 61.9% [18] | 57.6% [5]             | 62.6% [13]           | — [NA]      | 17.0% [27]     | 45.6 [3]       | 16.4 [12]      |
| Richmond                           | 60.9% [22] | 50.0% [27]            | 56.7% [42]           | — [NA]      | 15.2% [34]     | 11.9 [36]      | 13.3 [26]      |
| Rochester                          | 62.1% [16] | 54.7% [10]            | 63.0% [11]           | 6.7% [30]   | 15.2% [33]     | 24.1 [12]      | 7.0 [45]       |
| Sacramento                         | 53.6% [37] | 52.4% [18]            | 60.7% [21]           | 9.0% [24]   | 18.6% [20]     | 19.6 [22]      | 15.1 [20]      |
| St. Louis                          | 66.3% [6]  | 54.7% [11]            | 61.1% [20]           | 7.5% [27]   | 14.0% [36]     | 13.9 [30]      | 9.0 [40]       |
| Salt Lake City                     | 56.3% [28] | 61.5% [1]             | 59.5% [29]           | 9.6% [22]   | 19.1% [16]     | 16.8 [26]      | 10.3 [35]      |
| San Antonio                        | 46.1% [47] | 50.6% [23]            | 54.4% [48]           | 10.8% [19]  | 16.6% [29]     | 11.1 [38]      | 15.9 [16]      |
| San Diego                          | 52.0% [42] | 50.2% [25]            | 59.3% [30]           | 14.0% [11]  | 26.5% [3]      | 20.6 [18]      | 18.4 [6]       |
| San Francisco   Oakland   San Jose | 53.5% [40] | 53.1% [17]            | 69.0% [1]            | 24.8% [4]   | 31.8% [1]      | 32.7 [6]       | 15.6 [18]      |
| Seattle                            | 63.5% [12] | 54.0% [13]            | 65.7% [6]            | 19.9% [6]   | 23.6% [7]      | 21.4 [16]      | 20.6 [3]       |
| Tampa   St. Petersburg             | 58.8% [24] | 47.7% [45]            | 62.6% [13]           | 5.9% [33]   | 17.5% [24]     | 12.8 [32]      | 10.9 [31]      |
| Washington   Baltimore             | 57.8% [26] | 53.3% [14]            | 58.4% [34]           | 19.7% [7]   | 25.0% [15]     | 31.8 [8]       | 9.9 [37]       |
| West Palm Beach                    | 55.6% [32] | 49.2% [32]            | 58.0% [36]           | — [NA]      | 23.1% [19]     | 3.3 [49]       | 13.6 [25]      |
| Top 50 Median                      | 58.0%      | 50.1%                 | 60.3%                | 10.5%       | 17.3%          | 17.0           | 20.0           |
| Top 50 Mean (Metro-weighted)       | 58.0%      | 51.4%                 | 60.3%                | 12.5%       | 17.8%          | 19.4           | 20.8           |
| Standard Deviation                 | 7.4%       | 4.1%                  | 3.9%                 | 8.3%        | 4.8%           | 11.7           | 5.3            |

| The Distinctive City               | Weirdness  | Culture/ Cable | Restaurant Variety | Movie Variety |
|------------------------------------|------------|----------------|--------------------|---------------|
| Atlanta                            | 130.7 [15] | 30.7% [15]     | 21.0% [26]         | 4.2% [20]     |
| Austin                             | 128.9 [17] | 33.4% [7]      | 19.4% [28]         | 3.2% [30]     |
| Boston                             | 133.4 [10] | 28.8% [23]     | 60.1% [3]          | 5.7% [11]     |
| Buffalo                            | 115.5 [41] | 25.7% [32]     | 19.7% [27]         | 2.9% [33]     |
| Charlotte                          | 119.2 [30] | 24.6% [41]     | 11.4% [42]         | 4.7% [18]     |
| Chicago                            | 118.0 [34] | 32.3% [9]      | 30.2% [14]         | 2.4% [37]     |
| Cincinnati                         | 107.6 [48] | 24.9% [39]     | 7.8% [50]          | 3.9% [25]     |
| Cleveland                          | 107.9 [47] | 24.6% [42]     | 11.7% [40]         | 1.6% [47]     |
| Columbus                           | 108.2 [46] | 25.9% [31]     | 17.4% [32]         | 1.6% [45]     |
| Dallas   Fort Worth                | 123.5 [21] | 34.6% [6]      | 19.4% [29]         | 1.6% [46]     |
| Denver                             | 150.6 [3]  | 36.1% [2]      | 27.6% [21]         | 6.0% [10]     |
| Detroit                            | 118.3 [33] | 27.1% [26]     | 9.9% [44]          | 2.7% [35]     |
| Grand Rapids                       | 127.1 [18] | 25.4% [35]     | 9.3% [45]          | 3.0% [32]     |
| Greensboro                         | 121.6 [24] | 23.4% [46]     | 17.7% [31]         | 5.3% [15]     |
| Hartford                           | 117.1 [37] | 25.7% [33]     | 22.6% [25]         | 1.5% [48]     |
| Houston                            | 122.4 [22] | 30.7% [16]     | 15.7% [34]         | 3.4% [28]     |
| Indianapolis                       | 109.0 [45] | 23.9% [44]     | 9.1% [46]          | 2.0% [42]     |
| Jacksonville                       | 121.1 [26] | 23.8% [45]     | 18.7% [30]         | 5.5% [12]     |
| Kansas City                        | 106.5 [49] | 25.0% [38]     | 12.1% [39]         | 1.9% [44]     |
| Las Vegas                          | 131.7 [12] | 24.7% [40]     | 39.1% [10]         | 2.4% [36]     |
| Los Angeles                        | 131.0 [13] | 34.8% [5]      | 37.1% [11]         | 2.2% [40]     |
| Louisville                         | 113.3 [43] | 22.5% [48]     | 7.9% [49]          | 3.7% [26]     |
| Memphis                            | 124.0 [19] | 22.6% [47]     | 8.5% [48]          | 11.8% [4]     |
| Miami   Fort Lauderdale            | 134.6 [8]  | 35.2% [3]      | 40.1% [9]          | 4.8% [17]     |
| Milwaukee                          | 119.1 [31] | 27.7% [24]     | 11.7% [41]         | 1.2% [50]     |
| Minneapolis   St. Paul             | 133.6 [9]  | 31.8% [13]     | 12.5% [38]         | 4.1% [22]     |
| Nashville                          | 121.1 [25] | 21.4% [50]     | 13.6% [35]         | 3.5% [27]     |
| New Orleans                        | 120.7 [28] | 25.0% [37]     | 13.6% [36]         | 22.6% [2]     |
| New York                           | 130.8 [14] | 32.0% [11]     | 88.2% [2]          | 4.8% [16]     |
| Norfolk   Virginia Beach           | 119.1 [32] | 26.0% [30]     | 36.3% [12]         | 7.6% [6]      |
| Oklahoma City                      | 123.9 [20] | 25.3% [36]     | 8.8% [47]          | 3.9% [24]     |
| Orlando                            | 117.3 [36] | 26.8% [27]     | 28.7% [15]         | 2.2% [41]     |
| Philadelphia                       | 113.6 [42] | 25.5% [34]     | 27.7% [20]         | 2.4% [38]     |
| Phoenix                            | 121.8 [23] | 31.7% [14]     | 27.9% [18]         | 3.2% [31]     |
| Pittsburgh                         | 111.3 [44] | 21.7% [49]     | 16.2% [33]         | 3.2% [29]     |
| Portland                           | 133.2 [11] | 32.8% [8]      | 56.3% [4]          | 12.1% [3]     |
| Providence                         | 116.0 [40] | 24.5% [43]     | 26.3% [23]         | 5.4% [14]     |
| Raleigh   Durham                   | 120.9 [27] | 29.9% [17]     | 24.8% [24]         | 4.1% [21]     |
| Richmond                           | 116.2 [39] | 27.7% [25]     | 27.9% [19]         | 6.0% [9]      |
| Rochester                          | 116.7 [38] | 29.8% [18]     | 34.9% [13]         | 8.1% [5]      |
| Sacramento                         | 130.6 [16] | 29.4% [20]     | 28.2% [17]         | 1.3% [49]     |
| St. Louis                          | 106.1 [50] | 26.5% [29]     | 11.2% [43]         | 2.3% [39]     |
| Salt Lake City                     | 160.2 [2]  | 29.3% [21]     | 26.7% [22]         | 29.1% [1]     |
| San Antonio                        | 117.9 [35] | 28.8% [22]     | 12.9% [37]         | 4.0% [23]     |
| San Diego                          | 137.3 [7]  | 29.7% [19]     | 28.4% [16]         | 2.8% [34]     |
| San Francisco   Oakland   San Jose | 161.0 [1]  | 37.5% [1]      | 95.9% [1]          | 5.4% [13]     |
| Seattle                            | 138.6 [5]  | 31.9% [12]     | 49.3% [5]          | 6.6% [8]      |
| Tampa   St. Petersburg             | 120.3 [29] | 26.7% [28]     | 41.4% [8]          | 2.0% [43]     |
| Washington   Baltimore             | 137.7 [6]  | 35.0% [4]      | 41.4% [7]          | 4.2% [19]     |
| West Palm Beach                    | 140.5 [4]  | 32.1% [10]     | 42.3% [6]          | 6.8% [7]      |
| Top 50 Median                      | 121.1      | 27.4%          | 21.8%              | 3.8%          |
| Top 50 Mean (Metro-weighted)       | 124.1      | 28.3%          | 26.5%              | 4.9%          |
| Standard Deviation                 | 12.2       | 4.1%           | 18.5%              | 4.9%          |

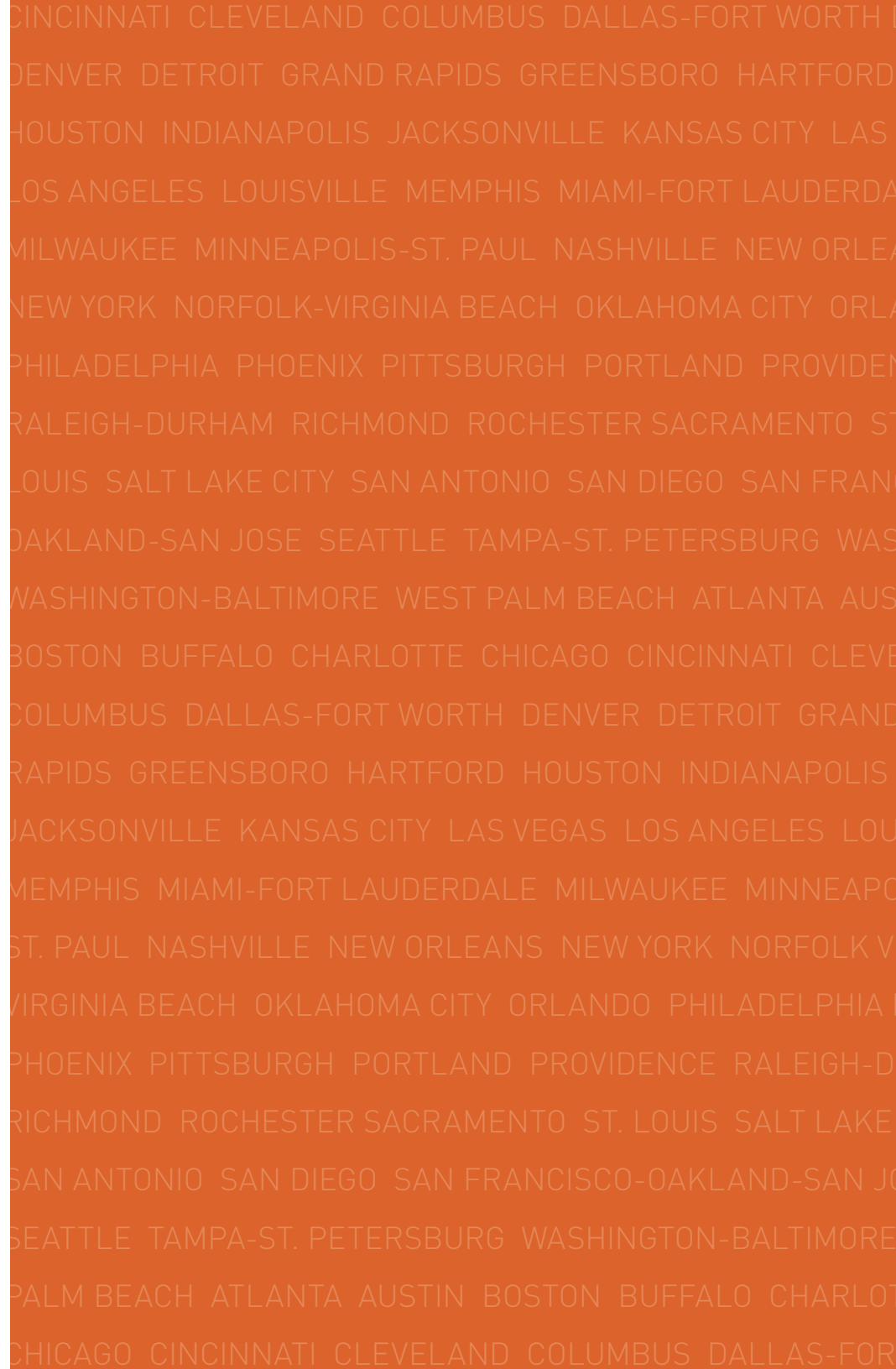
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For simplicity, we've identified each metropolitan area by the name of its largest city or cities.  
 Data in tables in this report refer generally to the federally designated metropolitan areas shown below

| Metropolitan Area                  | Official MSA Name                               |
|------------------------------------|---|
| Atlanta                            | Atlanta, GA MSA                                 |
| Austin                             | Austin-San Marcos, TX MSA                       |
| Boston                             | Boston-Worcester-Lawrence, MA-NH-ME-CT CMSA     |
| Buffalo                            | Buffalo-Niagara Falls, NY MSA                   |
| Charlotte                          | Charlotte-Gastonia-Rock Hill, NC-SC MSA         |
| Chicago                            | Chicago-Gary-Kenosha, IL-IN-WI CMSA             |
| Cincinnati                         | Cincinnati-Hamilton, OH-KY-IN CMSA              |
| Cleveland                          | Cleveland-Akron, OH CMSA                        |
| Columbus                           | Columbus, OH MSA                                |
| Dallas   Fort Worth                | Dallas-Fort Worth, TX CMSA                      |
| Denver                             | Denver-Boulder-Greeley, CO CMSA                 |
| Detroit                            | Detroit-Ann Arbor-Flint, MI CMSA                |
| Grand Rapids                       | Grand Rapids-Muskegon-Holland, MI MSA           |
| Greensboro                         | Greensboro-Winston-Salem-High Point, NC MSA     |
| Hartford                           | Hartford, CT MSA                                |
| Houston                            | Houston-Galveston-Brazoria, TX CMSA             |
| Indianapolis                       | Indianapolis, IN MSA                            |
| Jacksonville                       | Jacksonville, FL MSA                            |
| Kansas City                        | Kansas City, MO-KS MSA                          |
| Las Vegas                          | Las Vegas, NV-AZ MSA                            |
| Los Angeles                        | Los Angeles-Riverside-Orange County, CA CMSA    |
| Louisville                         | Louisville, KY-IN MSA                           |
| Memphis                            | Memphis, TN-AR-MS MSA                           |
| Miami   Fort Lauderdale            | Miami-Fort Lauderdale, FL CMSA                  |
| Milwaukee                          | Milwaukee-Racine, WI CMSA                       |
| Minneapolis   St. Paul             | Minneapolis-St. Paul, MN-WI MSA                 |
| Nashville                          | Nashville, TN MSA                               |
| New Orleans                        | New Orleans, LA MSA                             |
| New York                           | New York-Northern New Jersey-Long Island, NY-NJ |
| Norfolk   Virginia Beach           | Norfolk-Virginia Beach-Newport News, VA-NC MSA  |
| Oklahoma City                      | Oklahoma City, OK MSA                           |
| Orlando                            | Orlando, FL MSA                                 |
| Philadelphia                       | Philadelphia-Wilmington-Atlantic City, PA-NJ-D  |
| Phoenix                            | Phoenix-Mesa, AZ MSA                            |
| Pittsburgh                         | Pittsburgh, PA MSA                              |
| Portland                           | Portland-Salem, OR-WA CMSA                      |
| Providence                         | Providence-Fall River-Warwick, RI-MA MSA        |
| Raleigh   Durham                   | Raleigh-Durham-Chapel Hill, NC MSA              |
| Richmond                           | Richmond-Petersburg, VA MSA                     |
| Rochester                          | Rochester, NY MSA                               |
| Sacramento                         | Sacramento-Yolo, CA CMSA                        |
| St. Louis                          | St. Louis, MO-IL MSA                            |
| Salt Lake City                     | Salt Lake City-Ogden, UT MSA                    |
| San Antonio                        | San Antonio, TX MSA                             |
| San Diego                          | San Diego, CA MSA                               |
| San Francisco   Oakland   San Jose | San Francisco-Oakland-San Jose, CA CMSA         |
| Seattle                            | Seattle-Tacoma-Bremerton, WA CMSA               |
| Tampa   St. Petersburg             | Tampa-St. Petersburg-Clearwater, FL MSA         |
| Washington   Baltimore             | Washington-Baltimore, DC-MD-VA-WV CMSA          |
| West Palm Beach                    | West Palm Beach-Boca Raton, FL MSA              |



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