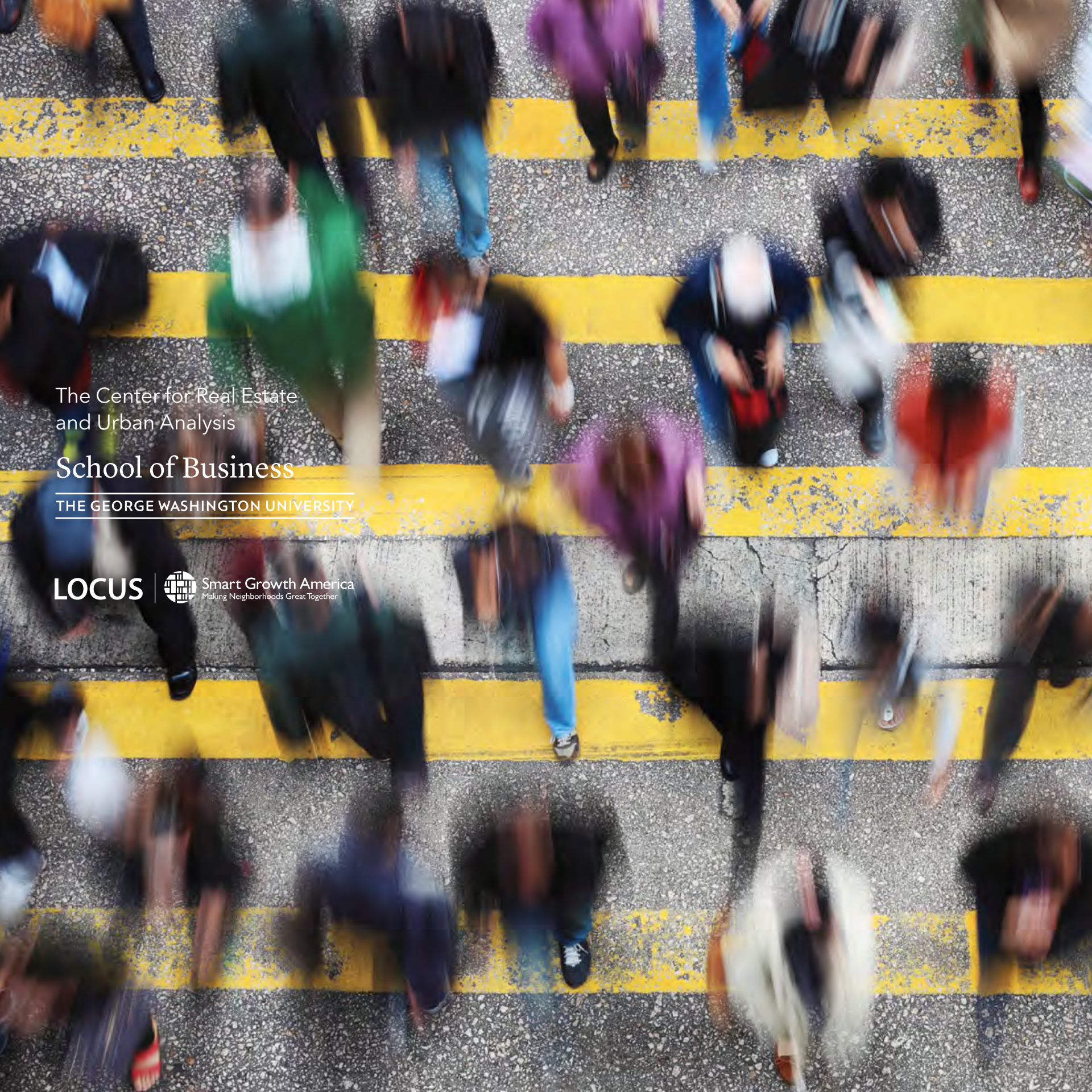# Foot Traffic *Ahead*

Ranking Walkable Urbanism in America's Largest Metros

By **Christopher B. Leinberger & Patrick Lynch**

The George Washington University School of Business

The Center for Real Estate
and Urban Analysis

School of Business

THE GEORGE WASHINGTON UNIVERSITY

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Foot Traffic *Ahead*

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America's Largest Metros

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Executive Summary

This report indicates that metros found to have high walkable urbanism are models for the future development patterns of many—and possibly most—of the largest 30 U.S. metros.

These trends suggest future demand for tens of millions square feet of walkable urban development and hundreds of new WalkUPs.

This demand would provide an economic foundation for the U.S. economy, similar to the building of drivable suburbs in the mid to late 20th century.

KEY FINDINGS

- **There are 558 WalkUPs**, or regionally significant, walkable urban places, in the 30 largest metropolitan areas in the United States.

- **The 30 metros are ranked** according to their current walkable urbanism and categorized into four levels:

  LEVEL 1: High Walkable Urbanism
  Metros that augur the end of sprawl, as their current development is concentrated in creating and expanding WalkUPs rather than drivable sub-urban areas.

  LEVEL 2: Moderate Walkable Urbanism
  Metros that are developing both drivable sub-urban and walkable urban places, but are trending more toward a walkable urban future.

  LEVEL 3: Tentative Walkable Urbanism
  Metros that are trending toward WalkUP development in their central cities—along with a few examples in suburbs—despite being dominated by drivable sub-urban patterns.

  LEVEL 4: Low Walkable Urbanism
  Metros that continue to build in the drivable sub-urban pattern. Any brights spots of walkable urbanism tend to be located in revitalizing center cities.

- **Future-oriented metrics** show that some metropolitan areas, such as Miami, Atlanta, Los Angeles and Denver, are making some surprising and unexpected shifts toward walkable urban development.

- **The most walkable urban metro areas** have substantially higher GDPs per capita and percentages of college graduates over 25 years of age in the population. These relationships are correlations. Determining the causal relationships will require further research.

- **Walkable urban office space** in the 30 largest metros commands a 74 percent rent-per-square-foot premium over rents in drivable suburban areas. And, these price premiums continue to grow.

- **Walkable urban development** is not limited to the revitalization of center cities; it is also the urbanization of suburbs.

INTRODUCTION & METHODOLOGY

(Walkable) Urban Renewal

It is time for a new approach to urbanism and real estate analysis. With the rebirth of walkable urban development, we can no longer categorize metropolitan real estate as simply "city" or "suburb."

Since 1950, metropolitan areas in the United States have been divided into the two broad U.S. Census categories of "central city" and "outlying counties," many times referred to in the popular press as "urban" and "suburban." New development patterns suggest this old dichotomy is less meaningful today. Now, the only reason to use the old dichotomy is to show how far we have moved beyond it.

A far more useful understanding of metropolitan[1] America is "walkable urban" and "drivable sub-urban" development. Because both types of development can occur in a metro's central city and in its suburbs, the old dichotomy is now obsolete.

During the second half of the 20th century, the familiar drivable sub-urban approach dominated real-estate development. Drivable sub-urban was characterized by low-density development connected only by car or truck, with real estate product types such as housing, office, industrial, and retail segregated from one another.

Most real estate developers and investors, government regulators, and financiers understood this model well, turning it into successful development formulas. In addition to real estate, this model fueled demand for automobiles and trucks, drove road construction, and supported the finance, insurance, and oil industries. In short, this development model provided a solid foundation for the U.S. economy throughout the mid- to late-twentieth century.

Walkable urban development is characterized by much higher density and a mix of diverse real estate types, connected to surrounding areas via multiple transportation options, such as bus and rail, bike routes, and motor vehicles. For those living or visiting a walkable urban place, everyday destinations, such as home, work, school, stores, and restaurants, are within walking distance.

Walkable urbanism is already a powerful driver of the economy, as shown by substantial downtown and suburban town center redevelopment, the redevelopment of regional malls into mixed-use developments, brown and green field walkable urban development, and the rise of the New Urbanism movement. This report will demonstrate that over the next generation, walkable urban development will spur even greater economic growth as demand for walkable urban development is met. The future growth of walkable urban places could provide the same economic base in the 21st century that drivable sub-urbanism did in the mid- to late-20th century. However, this growth will not be realized without appropriate infrastructure, zoning, and financing mechanisms at the federal, state, and local levels.

Two development *forms* dominate metropolitan development trends: walkable urban and drivable sub-urban. While each form includes a spectrum of densities, these two forms are fundamentally different, requiring different land acquisition, zoning, construction, financing, marketing, and management.

Form Meets Function

Moving toward understanding one hundred percent of metropolitan land use for the first time.

Metropolitan land use is categorized as playing one of two economic *functions*, either regionally significant or local-serving. Regionally significant places, sometimes referred to as "sub-markets" by the commercial brokerage community, have concentrations of employment (particularly in base/export or regional-serving bu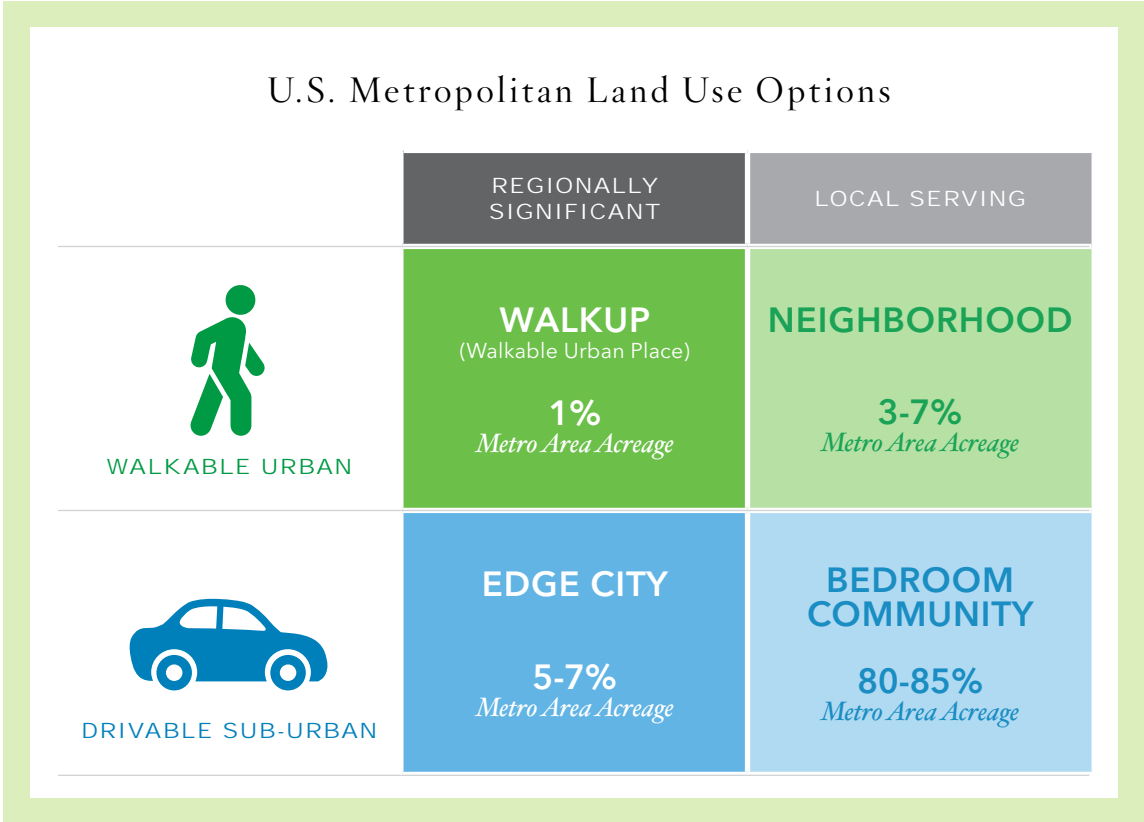sinesses and jobs) and typically house civic centers, institutions of higher education, major medical centers, and regional retail, as well as one-of-a-kind cultural, entertainment, and sports assets.

Local-serving locations, frequently called bedroom communities, are dominated by residential development and complemented with support commercial such as grocery stores, doctors and dentists offices, and realtors, as well as civic services like primary and secondary schools, police and fire stations, and police and fire stations. Generally speaking, regionally significant places are where the metropolitan area earns its living, while local-serving places are where most residents spend their lives outside of work.

Combining the two *forms*—walkable urban and drivable sub-urban—and two *functions*—regionally significant and local-serving—of metropolitan land use results in a simple four-cell matrix. This matrix defines the land-use options available for any metropolitan area. The matrix shown on the left also includes an estimate of the metropolitan land employed for each of the four form-meets-function possibilities.

The research in this report focuses on the upper left-hand corner of the matrix—regionally significant, walkable urban places (WalkUPs for short). Our hypothesis is that wealth-creating development in many metropolitan areas has begun a permanent shift away from drivable sub-urban to walkable urban. As such, we predict that WalkUP development, already prevalent in some of the 30 metropolitan areas included in this study, may come to dominate real estate development in many more.

U.S. Metropolitan Land Use Options

	REGIONALLY SIGNIFICANT	LOCAL SERVING
WALKABLE URBAN	**WALKUP** (Walkable Urban Place) **1%** *Metro Area Acreage*	**NEIGHBORHOOD** **3-7%** *Metro Area Acreage*
DRIVABLE SUB-URBAN	**EDGE CITY** **5-7%** *Metro Area Acreage*	**BEDROOM COMMUNITY** **80-85%** *Metro Area Acreage*

Methodology

Ranking the country's 30 largest metropolitan areas on walkable urbanism began with identifying the existence and geographic boundaries of each metro's regionally significant walkable urban places (WalkUPs).

Data Sources:

Office & Retail Data:
CoStar, the leading provider of office and retail in the U.S.

Walkablility:
Walk Score index
(www.walkscore.com)

Rail Transit Information:
Local transit agency web sites

Educational Attainment & Population Data:
The American Community Survey

Per Capita GDP:
U.S. Bureau of Economic Analysis

*Walk Scores are measured on a 0-100 scale. The Brookings methodology defines a WalkUP as having an average minimum Walk Score of 70.5 across all of its acreage. The more liberal standard above was employed in this research since it was easier to obtain and apply across the 30 largest metros.

1 FINDING THE WALKUPS

The research used to identify WalkUPs in each of the U.S. top 30 metros is based on a 2012 Brookings Institution methodology that geographically and economically defines WalkUPs and allows them to be ranked using two metrics: economic performance and social equity performance.[2]

Using the Brookings methodology as our guide, we statistically defined regionally significant walkable urban places as having:

- **OFFICE & RETAIL SPACE**

  - **Office:** ≥1.4 million square feet or more

  and/or

  - **Retail:** ≥ 340,000 square feet or more

- **WALK SCORE:**[3] Value ≥ 70 at the 100 percent location of the WalkUP*

2 RANKING THE METROS

Only office and retail space was employed to rank the walkable urbanism of the U.S.' 30 largest metropolitan areas.

In our evaluations of individual metropolitan areas, as we have done for metro Atlanta, Boston, and Washington, DC, we have been able to assess all real estate product types. Due to resource constraints in looking across all 30 metros, we have used office and retail as a proxy for development trends.

Categories of WalkUPs:

Our previous research determined that there are seven types of WalkUPs.[4]

Generally speaking, the first four types of WalkUPs are located in a metro's central city, and the last three occur in its suburbs. Using the traditional dichotomy of city versus suburbs shows that walkable urban development is not simply a phenomenon of revitalization in central cities, but also a trend of urbanizing the suburbs.

Generally found in **CENTER CITIES**

Downtown:
The traditional center of a metro's central city.[5] Occasionally there is a Secondary Downtown.

Any Traditional Downtown
St. Paul *Minneapolis Secondary*
Tacoma *Seattle Secondary*

Downtown Adjacent:
WalkUPs that cluster around the central city Downtown.

Dupont Circle *DC*
Capital Hill *Seattle*
Uptown *Dallas*

Urban Commercial:
Former local-serving commercial districts in decline during the late 20th century, recently revitalized as regionally significant WalkUPs.

Columbia Heights *DC*
Lincoln Park *Chicago*
Melrose *Los Angeles*

Urban University:
Places where institutions of higher learning have embraced, and are integrated with, their community.

Westwood (UCLA) *Los Angeles*
University City *Philadelphia*
Columbia University
New York City

Generally found in **SUBURBS**

Suburban Town Center:
Eighteenth and 19th-century towns eventually swallowed by larger metro areas and recently revitalized.

Evanston *Chicago*
Bellevue *Seattle*
Pasadena *Los Angeles*

Redeveloped Drivable Sub-urban:
Places originally developed as strip commercial and/or regional malls that have since been urbanized.

Belmar *Denver*
Tysons *DC*
Perimeter *Atlanta*

Green or Brown Field:
WalkUPs developed from scratch.

Reston Town Center *DC*
Atlantic Station *Atlanta*
Easton Town Center *Columbus*

METROPOLITAN RANKINGS

Where the WalkUPs Are

This study identifies WalkUPs in the 30 largest metros—and then ranks those metros according to current *and* future levels of walkable urbanism.

This study determines the geographic locations of WalkUPs in the country's 30 largest metropolitan areas. It then ranks each metro from greatest to least amount of walkable urban development. These rankings update findings from a 2007 Brookings Institution report; the 2007 report more primitively defined and measured this emerging trend compared with this analysis and the 2012 Brookings methodology on which this research is based.[5]

Defining the WalkUPs in each of the 30 largest metropolitan areas yielded 558 WalkUPs, although within each metro area their numbers range considerably. Metro New York contains 66 WalkUPs, while metro San Antonio has only two. A variety of sources were employed to determine the locations and boundaries of each metro area's WalkUPs:

- **WalkScore heat maps** to identify the walkable areas with scores above 70

- **"Submarket" definitions** from commercial brokerage firms

- **Business improvement district boundaries**

- **Neighborhood boundaries** from local sources, where available

- **Satellite aerials** to confirm walkable versus drivable environments[6]

MICE THAT ROAR

With 146 million residents, the 30 largest U.S. metropolitan areas are home to 46 percent of the total U.S. population. According to the Bureau of Economic Analysis, these 30 metros also account for 58 percent of the U.S. GDP.[7]

Within these metro areas, WalkUPs occupy a relatively small portion of land. Research in this report, observations, and in-depth analysis of metro Atlanta, Boston, and Washington, DC, suggest that WalkUPs account for about 1 percent of all metropolitan land in the 30 largest metros.

In defining the geographic boundaries of WalkUPs, it becomes clear that their small geographic size delivers outsized economic impact.

For example, Washington, DC's WalkUPs occupy less than 1 percent of the metro area's acreage—yet has almost half of its office, retail, and apartment square footage.

In defining the geographic boundaries of WalkUPs, we find that their small geographic size delivers outsized economic benefits. Analysis of metro Washington, DC, in 2012 identified 45 WalkUPs that on average occupy 408 acres each—or approximately 17,500 acres in total.[8] In the current real estate cycle, which began in 2009, these WalkUPs, which make up less than 1 percent of the metro area's acreage, have accounted for 48 percent of the metro area's new office, hotel, and rental apartment square footage.

As in metro DC, Atlanta's WalkUPs account for less than 1 percent of its total metro land mass. The 27 WalkUPs in metro Atlanta occupy an average of 374 acres each, or approximately 10,000 acres in total. Together, these WalkUPs accounted for 50 percent

of the metro area's office, retail, hotel, and apartment square footage developed from 2009 to 2013.

This analysis does not account for the location and size of owner-user space. Owner-user space is employment space occupied by its owners. Many public and private sector organizations occupy their own real estate. For example, federal and state governments, and universities and medical centers tend to be owner-occupied. Because no comprehensive regional or national database exists for these real estate types, as much as 30 to 40 percent of employment space cannot be classified and therefore measured. This omission represents a gap in all studies of development patterns, including this one.

WALKABLE URBANISM OF THE 30 LARGEST U.S. METROPOLITANS:

Current Ranking

RANK	METRO AREA	# OF WALKUPS	POPULATION			OFFICE & RETAIL SPACE			% of WalkUP Office & Retail Space in the Central City
			Total in Metro Area	Per WalkUP	Rank (Pop. per WalkUP)	Located in WalkUPs (sq. ft.)	Total in Metro Area (sq. ft.)	Share of Total Located in WalkUPs	
1	Washington, DC	45	5,047,000	112,000	2	297,300,000	696,441,000	**43%**	51%
2	New York	66	22,166,000	336,000	19	773,405,000	2,033,660,000	**38%**	89%
3	Boston	37	3,981,000	108,000	1	171,835,000	482,929,000	**36%**	67%
4	San Francisco	57	7,298,000	128,000	3	227,537,000	766,010,000	**30%**	83%
5	Chicago	38	8,509,000	224,000	10	262,374,000	893,718,000	**29%**	94%
6	Seattle	23	3,864,000	168,000	6	100,879,000	373,966,000	**27%**	82%
7	Portland	10	2,153,000	215,000	9	46,238,000	208,246,000	**22%**	91%
8	Atlanta	27	4,306,000	159,000	4	121,948,000	577,060,000	**21%**	75%
9	Pittsburgh	11	2,576,000	234,000	11	56,489,000	274,246,000	**21%**	98%
10	Cleveland	10	2,065,000	206,000	8	45,579,000	231,987,000	**20%**	94%
11	Baltimore	16	2,722,000	170,000	7	52,043,000	267,538,000	**19%**	84%
12	Minneapolis	10	2,953,000	295,000	17	66,450,000	343,821,000	**19%**	99%
13	Philadelphia	17	5,318,000	313,000	18	97,419,000	514,308,000	**19%**	95%
14	Denver	18	2,968,000	165,000	5	60,341,000	331,682,000	**18%**	90%
15	Houston	12	6,481,000	540,000	25	109,089,000	638,333,000	**17%**	93%
16	Columbus	7	2,064,000	295,000	16	33,676,000	211,799,000	**16%**	98%
17	Kansas City	7	1,966,000	281,000	13	35,859,000	227,534,000	**16%**	96%
18	Los Angeles	54	18,529,000	343,000	22	223,747,000	1,439,440,000	**16%**	65%
19	St. Louis	9	2,584,000	287,000	14	43,204,000	285,413,000	**15%**	77%
20	Cincinnati	7	2,024,000	289,000	15	33,234,000	222,225,000	**15%**	100%
21	Sacramento	6	2,384,000	397,000	23	26,815,000	209,797,000	**13%**	94%
22	Detroit	14	4,711,000	337,000	20	48,886,000	462,624,000	**11%**	71%
23	Miami	17	5,828,000	343,000	21	52,952,000	522,592,000	**10%**	51%
24	San Diego	13	3,211,000	247,000	12	24,966,000	251,671,000	**10%**	85%
25	Dallas	9	6,926,000	770,000	28	67,409,000	720,569,000	**9%**	93%
26	Las Vegas	3	2,028,000	676,000	27	13,904,000	170,856,000	**8%**	100%
27	San Antonio	2	2,387,000	1,193,000	30	12,152,000	196,033,000	**6%**	100%
28	Tampa	6	3,038,000	506,000	24	17,496,000	282,723,000	**6%**	92%
29	Phoenix	4	4,009,000	1,002,000	29	19,625,000	366,099,000	**5%**	69%
30	Orlando	3	1,960,000	653,000	26	10,417,000	199,300,000	**5%**	90%

Metropolitan areas are ranked according to their current levels of walkable urbanism.

The walkable urbanism of each metro is determined to be the share of office and retail space located in its WalkUPs, through the first quarter of 2014.

Rankings are divided into four levels of walkable urbanism, which are explained on the following pages.

KEY:

Levels of Current Walkable Urbanism
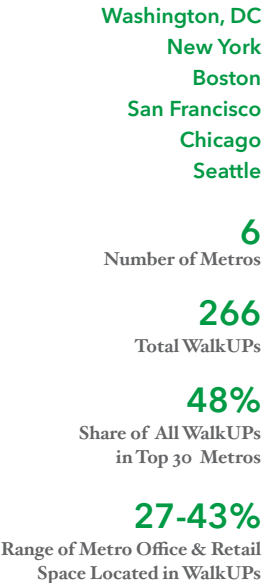
🟩 **LEVEL 1:** HIGH WALKABLE URBANISM

🟦 **LEVEL 2:** MODERATE WALKABLE URBANISM

🟨 **LEVEL 3:** TENTATIVE WALKABLE URBANISM

🟧 **LEVEL 4:** LOW WALKABLE URBANISM

Washington, DC
New York
Boston
San Francisco
Chicago
Seattle

6
Number of Metros

266
Total WalkUPs

48%
Share of All WalkUPs
in Top 30 Metros

27-43%
Range of Metro Office & Retail
Space Located in WalkUPs

LEVEL 1:
HIGH WALKABLE URBANISM

Metro Washington, DC, ranks first. It not only has the most office and retail in WalkUPs, but also has the most balanced distribution of walkable urban space between the central city (51 percent) and suburbs (49 percent). In fact, it is the only metro that has more than half of its WalkUPs in the suburbs. Metro Boston, ranked third, experienced urbanization of its suburbs, primarily Cambridge, which contributed to its high ranking.

That Washington, DC, is ranked higher than New York, ranked second, and Chicago, ranked fifth, may be surprising to some observers. Though New York has a well-deserved reputation for walkability, that reputation is based mainly on New York City proper, and especially Manhattan—an island that makes up only 8 percent of the metro region's 22 million people and 0.3 percent of the land area. More than 89 percent of walkable urban office and retail in the metro area is located within New York City's limits, most in Manhattan. This means that much of the metro area outside the city limits does not have any WalkUPs. Metro Chicago also has the vast majority (94.5 percent) of its walkable urban office and retail space in the central city.

Portland
Atlanta
Pittsburgh
Cleveland
Baltimore
Minneapolis
Philadelphia
Denver

8
Number of Metros

119
Total WalkUPs

21%
Share of All WalkUPs
in Top 30 Metros

18-22%
Range of Metro Office & Retail
Space Located in WalkUPs

LEVEL 2:
MODERATE WALKABLE URBANISM

These metros have the vast majority of their walkable urban office and retail space in the central city (75 percent to 99 percent), indicating walkable urbanism has not yet spread to the suburbs. This characteristic particularly applies to Portland; despite its national reputation for walkable urbanism, more than 90 percent of its walkable urban space is concentrated within its central city.

Rankings of older industrial metros in this category, such as Pittsburgh, Cleveland, Baltimore, and Philadelphia, may reflect historic, early 20th-century trends. Many of these metros lack significant suburban walkable urbanism and have experienced decades of weaker economic growth and under-investment in their early 20th-century rail transit systems. However, their center city walkable urban development has been impressive.

Among these moderately ranked metros, Minneapolis and Denver are noteworthy. While most current walkable urbanism is in their central cities, both areas are significantly expanding their light rail systems and the potential of suburban urbanism.

Houston
Columbus
Kansas City
Los Angeles
St. Louis
Cincinnati

6
Number of Metros

96
Total WalkUPs

17%
Share of All WalkUPs
in Top 30 Metros

15-17%
Range of Metro Office & Retail
Space Located in WalkUPs

LEVEL 3:
TENTATIVE WALKABLE URBANISM

Four of these six metros—Houston, Columbus, Kansas City, and Cincinnati—have 93 percent or more of their walkable urban office and retail space in the central city; virtually no walkable urbanism exists in their suburbs. These four metros continued the expansion of drivable sub-urban development patterns, especially Houston with its fast-growing, energy-based economy over the last decade. Despite the predominant trend, they also possess some surprising examples of revitalizing WalkUPs.

Los Angeles and St. Louis demonstrate strong walkable urbanism in their suburbs, and both metros are aggressively expanding their rail transit systems. Los Angeles is undertaking the largest rail transit expansion in the country.

Sacramento
Detroit
Miami
San Diego
Dallas
Las Vegas
San Antonio
Tampa
Phoenix
Orlando

10
Number of Metros

77
Total WalkUPs

14%
Share of All WalkUPs
in Top 30 Metros

5-13%
Range of Metro Office & Retail
Space Located in WalkUPs

LEVEL 4:
LOW WALKABLE URBANISM

Sacramento, San Diego, Las Vegas, San Antonio, Tampa, and Orlando have low percentages of walkable urban office and retail development over-all, and nearly all of it is in the central city. While Sacramento and San Diego have invested in light rail, outside of their revitalized downtowns and downtown adjacent areas there is little evidence of this investment resulting in walkable urban development.

Historically, drivable sub-urban development has characterized metro Detroit, Miami, and Phoenix. However, in contrast to their popular reputations and low rankings at present, all three metros are experiencing revitalization of their downtowns—and even some urbanizing suburbs—with several outstanding examples of WalkUPs in them.

WALKABLE URBANISM OF THE
30 LARGEST U.S. METROPOLITANS:

Future Ranking

RANK	METRO AREA	FAIR SHARE INDEX *Q1 2010-Q1 2014*	Share of Regional Office Space Absorption in in WalkUPs *Q1 2010-Q1 2014*	Share of WalkUP Office & Retail Space in Suburbs	OFFICE RENT PREMIUMS		COMPOSITE DIRECTIONAL INDEX
					Current WalkUP Premium	Change in WalkUP Premium *Q4 2007-Q4 2014*	
1	Boston	1.21	55%	33%	182%	107%	0.82
2	Washington, DC	1.40	76%	49%	56%	24%	0.49
3	New York	<0	<0%	11%	206%	52%	0.47
4	Miami	2.03	32%	49%	38%	14%	0.44
5	Atlanta	1.74	59%	25%	30%	13%	0.38
6	Seattle	1.68	69%	18%	25%	2%	0.34
7	San Francisco	0.88	32%	17%	47%	30%	0.32
8	Detroit	1.77	34%	29%	4%	2%	0.29
9	Denver	1.02	28%	10%	44%	20%	0.28
10	Tampa	1.58	18%	8%	16%	10%	0.25
11	Los Angeles	<0	<0%	35%	42%	25%	0.20
12	Phoenix	0.73	8%	31%	27%	1%	0.19
13	Houston	0.58	17%	7%	41%	10%	0.18
14	Portland	0.53	19%	9%	21%	18%	0.18
15	Chicago	0.25	11%	6%	44%	11%	0.15
16	Philadelphia	0.52	15%	5%	19%	12%	0.14
17	Dallas	0.66	12%	7%	15%	7%	0.14
18	Orlando	0.48	5%	10%	25%	1%	0.11
19	Sacramento	<0	<0%	6%	40%	12%	0.10
20	Las Vegas	<0	<0%	0%	25%	21%	0.10
21	Pittsburgh	0.36	13%	2%	14%	1%	0.08
22	Baltimore	0.31	9%	16%	-6%	0%	0.07
23	Minneapolis	<0	<0%	1%	10%	17%	0.06
24	Cleveland	<0	<0%	6%	10%	12%	0.06
25	Cincinnati	<0	<0%	0%	16%	13%	0.06
26	St. Louis	<0	<0%	23%	-3%	6%	0.06
27	Columbus	0.25	7%	2%	8%	-1%	0.05
28	San Diego	<0	<0%	15%	3%	0%	0.04
29	Kansas City	<0	<0%	4%	-1%	10%	0.03
30	San Antonio	<0	<0%	0%	1%	-2%	0.00

More interesting is to determine where the future growth of these metropolitan areas might be heading.

A Composite Directional Index was developed to rank the 30 largest metros on how walkable or sprawling their future development is likely to be.

This Index is a blend of the following trend metrics:

Office Space Absorption:
- Fair Share Index (FSI)
- Share of Regional Office Space Absorption in WalkUPs

Central City vs. Suburban Balance:
- Share of Total Metro WalkUP Office & Retail Space Located in Suburbs

Office Rent Premiums:
- Current WalkUP Office Rent Premiums
- Change in WalkUP Office Rent Premiums

Detailed explanations of each metric are included on the next page.

KEY:
Levels of Future Walkable Urbanism

█ **LEVEL 1:**
HIGH POTENTIAL for FUTURE WALKABLE URBANISM

█ **LEVEL 2:**
MODERATE POTENTIAL for FUTURE WALKABLE URBANISM

█ **LEVEL 3:**
LOW POTENTIAL for FUTURE WALKABLE URBANISM

Boston
Washington, DC
New York
Miami
Atlanta
Seattle
San Francisco
Detroit
Denver

9

Number of Metros

LEVEL 1:
HIGH POTENTIAL for FUTURE WALKABLE URBANISM

There are nine highest-ranked metros regarding future walkable urban performance. These metro area WalkUPs are gaining market share over drivable sub-urban locations, as evidenced by FSI values greater than 1.0 and significant price premiums for walkable urban office space. These trends are not consistent in metro New York, where WalkUPs are losing office market share even as their already sky-high premiums for office rent continue to increase.

Unsurprisingly, metro Boston, New York, Washington, DC, and Seattle all rank high for future walkable urban growth. Perhaps surprisingly, metro Miami, Atlanta, Detroit, and Denver are likely to experience future growth in walkable urban development (see Metro Snapshots on pages 27 and 29, respectively). Except for Detroit, all of these metros have rent premiums for walkable urban office space on a per square foot basis of at least 25 percent over their drivable sub-urban competition.

Both metro Miami and Atlanta sprawled faster than most metro areas for decades. In this real-estate cycle, which began in 2009, these two metros indicate a fundamental shift from drivable sub-urban office development to walkable urban, as their WalkUPs are rapidly increasing their share of the office market.

While Detroit experienced the most substantial and well-publicized economic decline over the past decade, its future for growth in walkable urban development seems promising. Recently, it experienced some of the fastest-growing GDP and job growth among metros, much of it in revived WalkUPs, particularly in downtown and Midtown.

With its substantial investment in rail transit, car-dominated Denver is also showing a clear path to walkable urbanism as its dominant land-use pattern. Nearly all of the suburban regional malls have, or will, convert to WalkUPs, following the wildly successful Belmar regional mall conversion in Lakewood, an inner suburb.

Trend Metrics Used in Future Ranking

OFFICE SPACE ABSORPTION

- **Fair Share Index (FSI)**
  WalkUPs' share of the regional office absorption for a set of recent years divided by WalkUPs' market share of the office inventory at the beginning of that time period. For this analysis, we analyzed net office market absorption for 2010 through the first quarter of 2014.

  FSI values indicate the following:

  - **FSI > 1.0**
    A metro's WalkUPs have gained market share

  - **0.0 ≤ FSI ≤ 1.0**
    A metro's WalkUPs have lost market share but have positive absorption

  - **FSI < 0.0**
    A metro's WalkUPs have lost of market share and have negative absorption

  From the 1950s through the early 21st century, WalkUPs in virtually every metro area in the country lost office market share due to the dominance of drivable sub-urban land development. Select market research indicates that during these decades, the FSI for office space in WalkUPs generally ranged between 0.4 and 0.6, and was consistently less than 1.0. This study shows that this situation has begun to reverse in highly walkable urban metros.[9]

- **Share of Regional Office Space Absorption in WalkUPs**
  WalkUPs' share of regional office absorption from 2010 through the first quarter of 2014. This metric differs from the FSI described above in that it is not relative to market share in a base year; rather, it indicates share of the total regional net office absorption over the study period.

CENTRAL CITY VS. SUBURBAN BALANCE

- **Share of Total Metro WalkUP Office & Retail Space Located in Suburban WalkUPs**
  The share of a metro's total WalkUP office and retail space located in suburban WalkUPs versus central city WalkUPs. In most metro areas ranked highly for walkable urbanism, the large majority of office and retail development has occurred in the central cities. However, focusing only on redevelopment in downtown areas misses segments of the market that demand walkable urbanism in their suburbs. Increasing suburban urbanism portends future growth of WalkUPs in these metro areas.

OFFICE RENT PREMIUMS

- **Current WalkUP Office Rent Premiums**
  The premium, or discount, for office rents per square foot in WalkUPs, as compared to the average in drivable sub-urban areas. Price premiums indicate pent-up demand for a product, in this case office space in walkable urban locations.

- **Change in WalkUP Office Rent Premium**
  The increase or decrease in rent premiums for office space in WalkUPs between the fourth quarter of 2007 and the first quarter of 2014.

COMPOSITE DIRECTIONAL INDEX
The trend metrics above were blended into one index to rank the 30 metros according to how walkable or sprawling their future development is likely to be.

Tampa
Los Angeles
Phoenix
Houston
Portland
Chicago
Philadelphia
Dallas

8
Number of Metros

LEVEL 2:
MODERATE POTENTIAL for
FUTURE WALKABLE URBANISM

These eight moderately ranked metro areas show mixed indicators about their future growth. All have office price premiums (between 15 percent in Dallas to 44 percent in Chicago) for walkable urban places over their drivable sub-urban locations.

Regarding FSI, these metros generally lost market share—with FSIs under 1.0—except for Tampa, which gained market share. Even in Chicago, ranked fifth among current walkable urban metros, WalkUPs are losing market share, though the walkable urban office rent premium is a substantial 44 percent.

Compared with the high-ranked metros for future walkable urban development, most walkable urban office development in these moderately ranked metros is in the central city, not urbanizing suburbs. Again, low suburban urbanism limits the market potential.

What does walkable urban development mean for the future of these metro areas?

- **Tampa:** Tampa's ranking reflects mixed trends, including a recent surge of office walkable urban absorption over a very small base (18 percent absorption in this cycle over an 11 percent base in 2010). However, Tampa's recently built streetcar sparked a renaissance in downtown Tampa and two downtown adjacent WalkUPs. Its secondary downtown of St. Petersburg has been creating a vital walkable urban place. Together, these efforts may justify this ranking, though only time will tell.

- **Los Angeles:** Oriented around rail transit in the early 20th century, Los Angeles is a natural place to urbanize given its existing and rapidly revitalizing suburban town center WalkUPs. In addition, walkable urban growth exploded in downtown Los Angeles, along with six downtown adjacent WalkUPs. The region has

been, and will continue to, invest more in rail transit than any metro area in the country. These trends and investments demonstrate that freeway-dominated Los Angeles will become a major walkable urban metro (see Metro Snapshot on page 26).

- **Phoenix:** Famously known as a sprawling metro area, Phoenix's new light rail serving Uptown, downtown Phoenix, and Tempe—and successful revitalization efforts in downtown and Tempe, home of ASU—warrant its moderate ranking. Like Tampa, this ranking is primarily based on high walkable urban office absorption over a low base in the current real-estate cycle; only time will tell if these trends endure.

- **Houston:** The oil and gas capital of the country certainly has a natural economic inclination for driving and road building. However, Houston's new light rail system serving its revitalizing downtown and downtown adjacent WalkUPs, together with significant WalkUP office rent premiums show that walkable urbanism may characterize at least part of its future (see Metro Snapshot on page 28).

- **Portland:** Widely known for its walkable urbanism, rail transit, and bikeability, Portland has experienced little urbanization of its suburbs, continuing to build drivable sub-urban patterns in spite of its urban growth boundary.

- **Chicago:** While highly ranked for its current walkable urban development, nearly all of it is located in its central city. Development confined to the city of Chicago limits the market for walkable urbanism, since many households and businesses would not consider a location in the city. Chicago's greatest opportunity to add walkable urbanism—and by extension, enhanced economic viability—is to urbanize its suburbs. The 388 local jurisdictions in the Chicago metro that control land use have stifled urbanization of the suburbs; this opposition hinders a significant portion of market demand to be satisfied.

- **Philadelphia:** Similar to Chicago, Philadelphia's walkable urban growth occurred almost exclusively in its central city. While urbanizing suburbs present an opportunity to realize more WalkUPs, massive NIMBY opposition and a poorly maintained commuter rail system create challenges.

- **Dallas:** The market viability of WalkUPs is the result of aggressive expansion of the Dallas Area Rapid Transit (DART) system and pioneering walkable urban real estate developers, such as Robert Shaw, Robert Bass, Ross Perot, III, and Blake Pogue. The cost of expanding DART to serve a physically huge "Metroplex" is daunting, but not beyond the typical ambition of Texans.

LEVEL 3:
LOW POTENTIAL for
FUTURE WALKABLE URBANISM

These 13 metropolitan areas continue to lose market share in office and retail locating in their WalkUPs, continuing the mid- to late-20th century trend toward drivable sub-urbanism. In addition, they do not have substantial office rental price premiums. With 5 percent to 13 percent of office and retail space in WalkUPs, these metro areas have a long way to go to fully develop walkable urbanism.

Each of these metros has walkable urban proponents in government, civic organizations, and the development community; yet, these supporters comprise a distinct minority.

These metros fall into two geographic categories:

- **Former industrial-era metropolitan areas** struggling to redefine their slow-growing economies, though having an historic central city to redevelop

- **Sunbelt metros** defined by low-density, drivable sub-urban development and lacking a substantial historic urban core to redevelop

Most of these metros have the vast majority (more than 90 percent) of walkable urban office and retail development in their central cities, with a few exceptions of somewhat larger amounts in the suburbs (San Diego, 15 percent; Baltimore, 16 percent; and St. Louis, 23 percent).

The following notable efforts in selected low potential metros may shift their development to walkable urban:

- **Substantial housing development in WalkUPs**, particularly downtown and downtown adjacent areas. Observed evidence suggests this could occur in metro Baltimore, St. Louis, Cleveland, Minneapolis, and San Diego.

- **New light rail lines** in metro Sacramento, Pittsburgh, Baltimore, St. Louis, Minneapolis, and San Diego.

- **Funded and under-construction streetcars** in Kansas City and Cincinnati.

- **Regional coordination and support for walkable urban development** generally through council of government organizations in selected metros, such as Sacramento's SACOG.

However, as of now, these low potential metros still favor drivable sub-urban over walkable urban development trends.

Walkable Urbanism of the 30 Largest U.S. Metros:

Scatterplot Showing the Distribution of
Current Rankings *vs.* *Future* Rankings
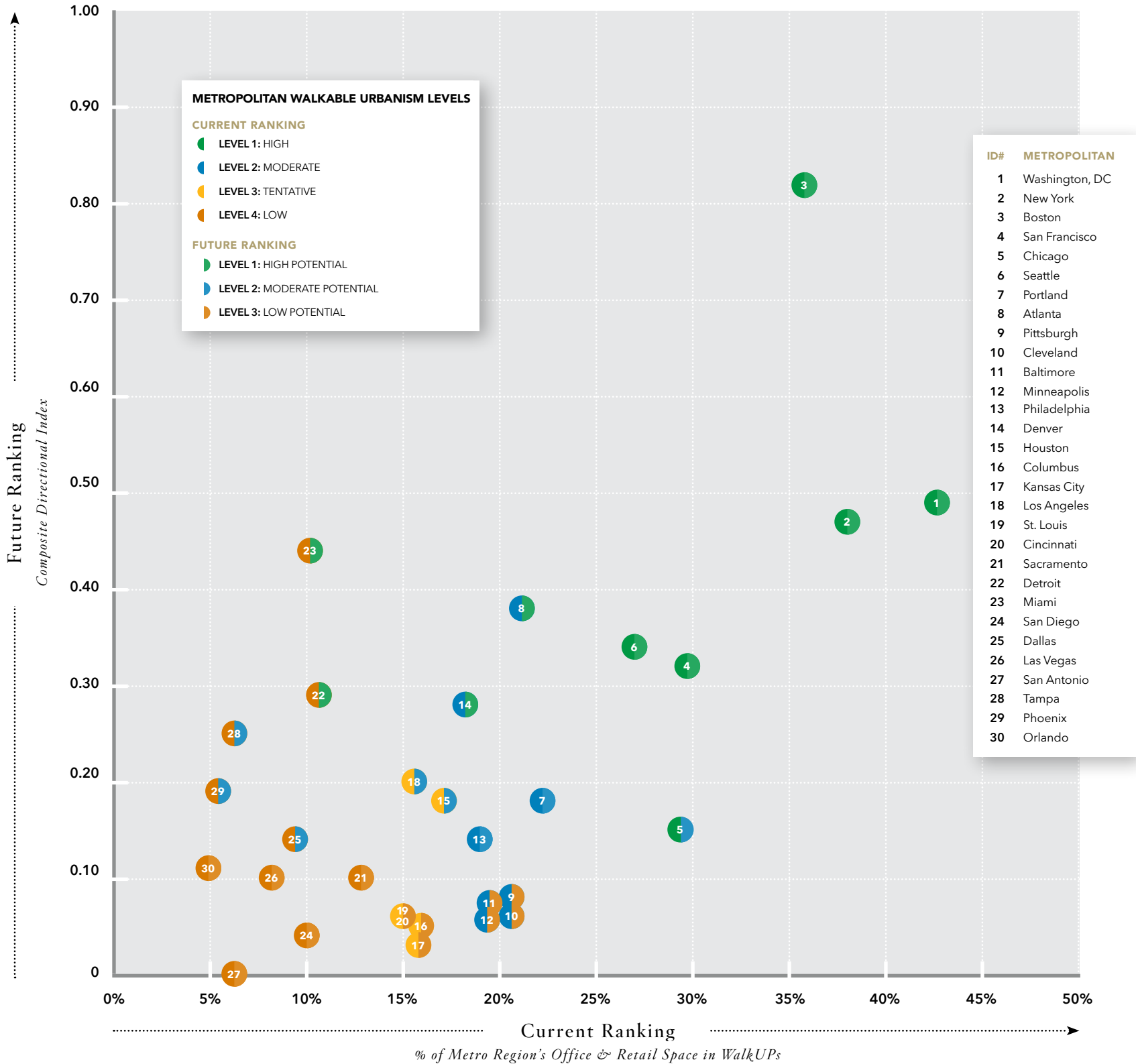
Future Ranking
Composite Directional Index

Current Ranking
% of Metro Region's Office & Retail Space in WalkUPs

METROPOLITAN WALKABLE URBANISM LEVELS

CURRENT RANKING
- LEVEL 1: HIGH
- LEVEL 2: MODERATE
- LEVEL 3: TENTATIVE
- LEVEL 4: LOW

FUTURE RANKING
- LEVEL 1: HIGH POTENTIAL
- LEVEL 2: MODERATE POTENTIAL
- LEVEL 3: LOW POTENTIAL

ID#	METROPOLITAN
1	Washington, DC
2	New York
3	Boston
4	San Francisco
5	Chicago
6	Seattle
7	Portland
8	Atlanta
9	Pittsburgh
10	Cleveland
11	Baltimore
12	Minneapolis
13	Philadelphia
14	Denver
15	Houston
16	Columbus
17	Kansas City
18	Los Angeles
19	St. Louis
20	Cincinnati
21	Sacramento
22	Detroit
23	Miami
24	San Diego
25	Dallas
26	Las Vegas
27	San Antonio
28	Tampa
29	Phoenix
30	Orlando

CORRELATIONS & FINDINGS

WalkUPs & Income

Correlations and findings indicate that walkable urban development, education, and economic vitality are linked…somehow.

WALKUPS, METROPOLITAN GDP, AND HIGHER EDUCATION

Many studies have shown the causal link between increased education of an individual or metropolitan area and increased economic performance on a per capita gross domestic product (GDP) basis, metropolitan GDP, and U.S. GDP.

The Milken Institute, for example, released a study on the GDP performance of 261 U.S. metros in January 2013 that concludes, "the overall explanatory power of the relationship [between higher education and GDP per capita] is strong and robust." It finds "over 70 percent of the variation in real GDP per capita across the 261 metros from 1990 to 2010 is explained [by higher education attainment]."[10] This causal connection underpins the same conclusions in Enrico Moretti's book, *The New Geography of Jobs*.

This study also shows significant correlation between higher education, measured by the percentage of population aged 25 years or older with a college degree, and metropolitan GDP per capita.[11]

In addition, this study shows that walkable urbanism, measured by the percentage of a metro region's office and retail square footage in WalkUPs, and higher educational attainment, measured by the percentage of a metro region's population, are positively correlated.[12]

Given the relationship between educational attainment and walkable urbanism, and the relationship between educational attainment and per capita GDP, it is not surprising that walkable urbanism and per capita GDP are also positively correlated.[13] The six highest-ranked walkable urban metropolitan areas, shown in the Current Rankings table on page 11, have an average GDP per capita of $60,400. GPD per capita in walkable urban metros is 38 percent higher than the average GDP per capita ($43,900) in the 10 low-ranked walkable urban metros.

		CURRENT WALKABLE URBANISM	WEALTH		EDUCATION LEVEL	
RANK	METRO AREA	% of Office & Retail Space Located in WalkUPs	Metro GDP per Capita (Chained 2005 Dollars)	Rank: GDP	% of Population 25 & Over with Bachelors Degree	Rank: Education
1	Washington, DC	43%	$66,400	2	48%	1
2	New York	38%	$59,400	6	37%	7
3	Boston	36%	$58,400	7	42%	3
4	San Francisco	30%	$69,900	1	43%	2
5	Chicago	29%	$51,400	12	34%	10
6	Seattle	27%	$64,200	3	37%	6
7	Portland	22%	$62,000	5	34%	11
8	Atlanta	21%	$47,000	16	35%	9
9	Pittsburgh	21%	$44,400	19	30%	19
10	Cleveland	20%	$46,200	17	28%	26
11	Baltimore	19%	$49,200	13	36%	8
12	Minneapolis	19%	$55,500	10	39%	5
13	Philadelphia	19%	$51,800	11	33%	13
14	Denver	18%	$56,400	8	41%	4
15	Houston	17%	$62,400	4	29%	22
16	Columbus	16%	$44,700	18	33%	14
17	Kansas City	16%	$48,300	15	33%	15
18	Los Angeles	16%	$44,000	20	29%	24
19	St. Louis	15%	$41,700	23	31%	17
20	Cincinnati	15%	$43,300	21	29%	20
21	Sacramento	13%	$38,400	28	30%	18
22	Detroit	11%	$43,100	22	29%	21
23	Miami	10%	$41,300	25	29%	23
24	San Diego	10%	$48,800	14	34%	12
25	Dallas	9%	$55,600	9	31%	16
26	Las Vegas	8%	$41,200	26	22%	30
27	San Antonio	6%	$35,400	30	26%	28
28	Tampa	6%	$36,600	29	26%	29
29	Phoenix	5%	$40,700	27	28%	25
30	Orlando	5%	$41,700	24	28%	27

The GDP per capita of the three highest-ranked walkable urban metros ($60,500) is 52 percent higher than the GDP per capita of the lowest three walkable urban metros ($39,700).
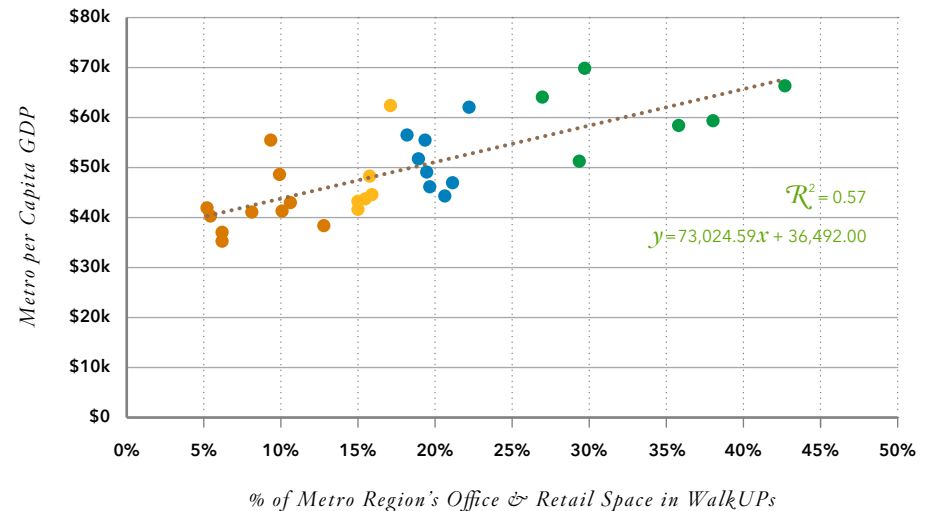
This research does not indicate whether walkable urbanism causes highly educated persons to move or stay in metro areas, or whether metro areas become more walkable urban because of higher-educated persons. Previous research suggests, though, that educated people prefer walkable urban places but does not indicate the causal connection. Richard Florida calls walkability a magnet for the creative class, and a recent study by Wisconsin PIRG finds that more than 80 percent of college students think having transportation options other than driving was either somewhat or very important in where they choose to live.[14]

Using both educational attainment and walkable urbanism together in a multiple regression analysis explains 66 percent of the variation in per capita GDP among the 30 largest metros. This correlation is only slightly stronger than the correlation between educational attainment and per capita GDP. This finding suggests that walkable urbanism's positive correlation with per capita GDP may be due to its association with educated people. At the very least, though, these relationships establish that metro areas with wealthy, educated residents tend to be walkable.

Metro Dallas and Houston seem to be outliers in this analysis, with moderate and tentative walkable urbanism but high GDP per capita. As expected, excluding Dallas and Houston from the analysis results in an even stronger correlation between walkable urbanism, higher education, and GDP per capita.[15] If they are excluded, the R^2 value for the correlation between walkable urbanism and educational attainment increases from 0.62 to 0.66. For the correlation between walkable urbanism and per capita GDP, it increases to 0.69.

Although more research needs to be done to understand why walkable urbanism is correlated with higher per-capita GDPs and education levels, this evidence suggests that encouraging walkable urbanism is a potential strategy for regional economic development.

Correlation:
Walkable Urbanism & Per Capita GDP of Metro Regions
(2012 per capita GDP, chained 2005 dollars)

$R^2 = 0.57$

$y = 73,024.59x + 36,492.00$

Metro per Capita GDP

% of Metro Region's Office & Retail Space in WalkUPs

Correlation:
Walkable Urbanism & Education of Metro Region Population

$R^2 = 0.65$

$y = 0.47x + 0.24$

% of Metro Population Age 25 and Over with a Bachelor's Degree or Higher

% of Metro Region's Office & Retail Space in WalkUPs

OFFICE RENTAL PREMIUMS:
WALKUPS VS. DRIVABLE SUB-URBAN

WalkUP office rents achieve a 74 percent premium over drivable sub-urban office rents in the 30 largest metros ($35.33 per square foot for WalkUPs compared to $20.32 per square foot for drivable sub-urban locations). Excluding metro New York City from the analysis, due to its high office rent premiums (206 percent), Walk-UPs achieve an average 44 percent price premium in the remaining 29 metros ($29.99 per square foot compared to $20.81 per square foot). Since the fourth quarter of 2007, the walkable urban premium has increased by 19 percentage points (or 21 percentage points without New York), so the trend is accelerating.

Rent premiums of this magnitude reflect pent up demand for walkable urban offices space. In addition, the existence of these price premiums likely indicate that mainly walkable urban office will be financially feasible for the foreseeable future.

WALKUP OFFICE & RETAIL:
CENTRAL CITIES VS. SUBURBS

As previously discussed, the U.S. Census Bureau's central city and suburb designations have been the predominant lens through which metropolitan development trends have been analyzed. As this research has shown, walkable urban development and drivable sub-urban development is a more relevant perspective on metropolitan development trends, since both types can occur in either the central city or the suburbs.

Yet, because the traditional central city–suburbs dichotomy dominates metropolitan-level analysis, we have analyzed these findings through that lens.

Of the 558 WalkUPs in the 30 largest metropolitan areas in the country, 58 percent are in the central city and 42 percent are in the suburbs. However, 82 percent of office and retail square footage is in WalkUPs, with 18 percent in the suburbs.

Some of the highest-ranked walkable urban metros, such as metro Washington, DC, and Boston, have a high percentage of their walkable urbanism in the suburbs in both absolute number of WalkUPs and percentage of square footage. For instance, metro Washington, DC, has 49 percent of its walkable urban office and retail square footage in its suburbs. This indicates that the urbanization of the suburbs is important to increase walkable urbanism.

While redevelopment of U.S. central cities partially explains the growth in WalkUPs, urbanization of the suburbs represents an equally important, yet often overlooked, explanation. This study finds that the urbanization of the suburbs acts as an indicator of

Correlation:
Education & Per Capita GDP of Metro Regions
(2012 per capita GDP, chained 2005 dollars)

Chart axes: Y-axis "Metro per Capita GDP" with values $0k, $5k, $10k, $15k, $20k, $25k, $30k, $35k, $80k. X-axis "% of Metro Population Age 25 and Over with Bachelor's Degree or Higher" with values 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%.

$R^2 = 0.62$

$y = 131,559.62x + 6,522.04$
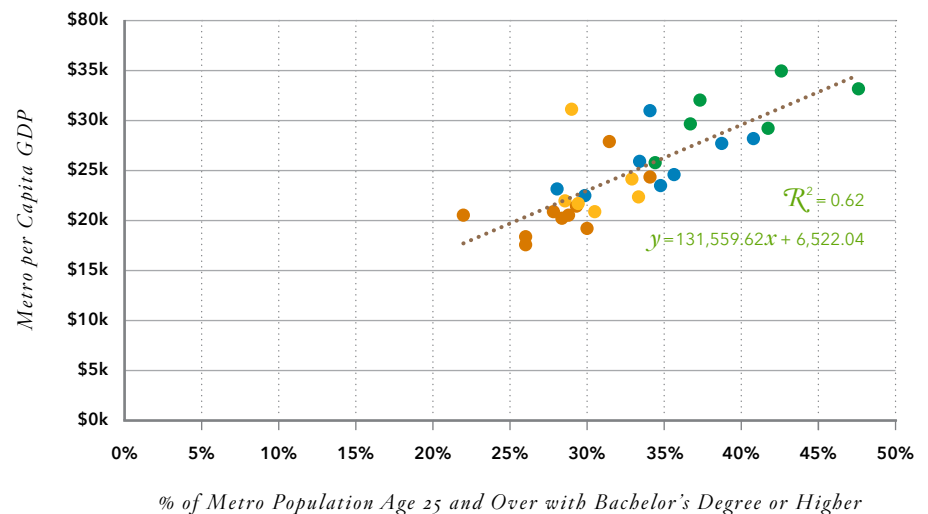
future walkable urban development in a metropolitan area. To grow economically, urbanization of the suburbs is a crucial next step for metropolitan areas over the next few real estate cycles.

DEVELOPMENT POTENTIAL FOR ADDITIONAL WALKUPS

As the prevalence of regional shopping centers grew during the late 1950s and '60s, researchers discussed how many regional malls a metropolitan area could support. This determination was often made by measuring the number of residents needed to support a regional mall. There is a similar question for the growth of WalkUPs: "How many residents are needed to support a regionally significant, walkable urban place—and how many more WalkUPs are required?"

The average weighted number of residents per WalkUP in the 30 largest metros is approximately 260,000. However, there is considerable variation in average population per WalkUP between the 30 largest metros, with the lowest number of residents being 108,000 per WalkUP in metro Boston and the highest being 1.2 million in metro San Antonio. The amount of office and retail square footage as a percentage of total real estate is another way to analyze this question; the average across the 30 largest metros is 22 percent. Metro Washington, DC, has the highest amount of all office and retail space in WalkUPs at 42.7 percent; metro Orlando has the lowest at 5.2 percent.

If metro Boston and Washington, DC, are indicative of the future, this means there is the potential for hundreds of WalkUPs to be developed throughout the country, as well as millions of walkable urban square feet. Drawing a parallel between past and contemporary real estate trends, it took decades to meet the pent-up demand for regional malls. It will likely take decades of development to satisfy the demand for walkable urbanism and new and expanded WalkUPs.

METRO SNAPSHOTS

WASHINGTON, DC

The National Model

Metro Washington, DC, continues to be the national model of walkable urban growth.

The 2007 rankings of the 30 largest U.S. metros by the Brookings Institution surprisingly ranked metropolitan Washington, DC, as the leading walkable urban metro in the country; today, metro DC is still ranked on top.

Several reasons explain why metro Washington, DC, is highly ranked, including the following:

- Forty-eight percent of metro residents over 25 years old have a college degree—the highest percentage of college graduates in the country—compared with the national average of 30 percent.

- Metrorail, one of three 1970s-era heavy rail transit systems, has continued to aggressively expand. Over the past 40 years, there have been 29 separate expansions, far greater than Atlanta's MARTA or San Francisco's BART systems, the other two 1970s systems. While the system deteriorated due to poor maintenance in the 1990s and early 2000s, recent capital improvements are improving operational performance.

- The region has seven local government bodies—the District of Columbia and six suburban counties—and a few small cities with the ability to regulate land use, far less than nearly every other large metropolitan area. This relatively small number of governmental entities enables regional coordination that embraces walkable urbanism. For example, most suburban counties encourage higher density, mixed-use zoning around their Metro stations.

- In general, metro Washington, DC, developers have mastered developing walkable urban real estate. This method is much more complex and risky than the simple, well-known drivable sub-urban formulas that many real estate developers use to zone, plan, build, construct, finance, and market their projects.

- Many WalkUPs in metro Washington, DC, are in its suburbs—a trend that underscores its high walkable urban ranking. Almost half of office and retail development (49 percent) exists in urbanizing suburbs in the metro area, far greater than any other metro area in the United States.

While metro Washington, DC, ranks first among walkable urban metros, trends suggest it may be reaching a plateau. The area is absorbing 75 percent of all office space and the majority of rental apartment space in its walkable urban places. Future growth will be less at the expense of drivable sub-urban locations, relying on the general growth of the region, which is currently weakening due to Federal cutbacks. Walkable urban growth depends on the overall economic health of the region, not just capturing demand from increasingly obsolete office parks, strip malls, and "drive-until-you-qualify" subdivisions.

PHOTOS:
Christopher Leaman Photography

A. The escalator at Dupont Circle Metro Station

B. Water feature at Georgetown Waterfront Park

C. Outdoor dining in Arlington

D. Cyclists beneath the Chinatown Friendship Gate at Gallery Place

CHICAGO   NEW YORK CITY
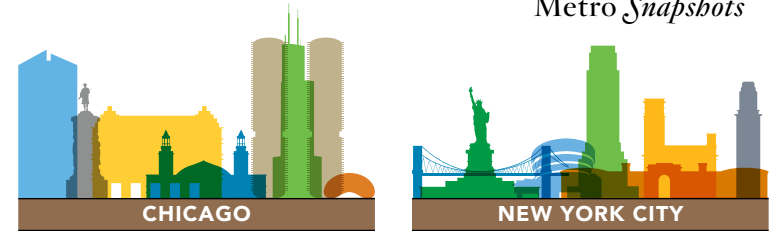
Surpassing City Limits

Metro New York & Chicago's greatest development opportunities lie in their suburbs.

The universal images of New York and Chicago from movies, television, and tourist visits—tall skyscrapers, sidewalks full of people, and multiple transit options—suggest places of intense urbanism. In this analysis, like conventional wisdom, Manhattan is the most intensely walkable urban place in the country. Yet, metro New York is ranked second, not first, while Chicago is ranked fifth among current walkable urban metros.

The reason for this is that in metro New York, 89 percent of walkable urbanism is in New York City proper, and nearly all in Manhattan. Compared with the total metro population of 22 million, Manhattan accounts for only 8 percent of all the metro's residents. And, Manhattan makes up only 0.3 of 1 percent of the metro area's landmass. In Chicago, 94 percent of the metro area's walkable urban office and retail space is in Chicago proper.

With a majority of WalkUPs within the boundaries of these cities, a great opportunity exists for both metro New York and Chicago, as well as many other metros, to urbanize their suburbs. Historically, many residential developments and businesses chose to locate in the suburbs, and drivable sub-urban development continues to dominant the suburbs of these two metros. As the metro areas of Washington, DC, Boston, Miami, and Los Angeles demonstrate, many households and businesses would not consider, or could not afford, central cities' walkable urbanism, instead preferring walkable urbanism in the suburbs.

Realizing this opportunity requires leveraging the extensive, 100-year-old rail systems of New York and Chicago, where many suburban stations are surrounded by acres of surface parking lots. It also requires overcoming massive NIMBY opposition to change in the suburbs, which hampers economic growth and limits market choice in these metros.

A. Families gather at the Crown Fountain in Chicago's Millennium Park

B. The Long Island Railroad's Huntington Station at dusk

C. Northward view of skyscrapers in Midtown and housing development in the Lower East Side, Manhattan

Photo: Dana Richter

LOS ANGELES

Back to the Future

Why metro Los Angeles may reclaim its historic walkable urbanism.

While stereotypes of Los Angeles include car-crazy people and horrendous freeway traffic, the historic development in the early 20th century of the Los Angeles Basin was primarily rail-oriented. In 1945, metro Los Angeles' rail system was the world's longest. Real estate developers like Henry Huntington built this far-flung system to transport customers to their real estate projects. Rail transit helped established a constellation of suburban town centers like Pasadena, Glendale, Santa Monica, and Long Beach—all walkable urban places from their founding.

After World War II, freeway construction dominated Los Angeles' transportation system, and its rail system was dismantled by 1962. Like most of the United States in the post-War era, drivable sub-urban development, popularized by California pop music from Jan and Dean and the Beach Boys, captured both popular imagination and the reality on the ground.

During the late 20th century, these former walkable urban suburbs, along with downtown Los Angeles, economically declined, as did similar places across the country. Today, however, LA's original walkable urban suburbs are thriving again, helped by the largest rail construction program in the country. With committed funding of more than $40 billion over the next decade, five new rail lines were under construction in 2014, adding to the eight new commuter, light, and heavy rail lines already open. Los Angeles even has a subway line from downtown to the San Fernando Valley. The former rail system that Los Angeles developed around is essentially being re-built from scratch.

Several other signs of walkable urbanism point in the same, positive direction. Only 15.5 percent of metro Los Angeles' office and retail space is in WalkUPs today, compared with nearly three times that amount in metro Washington, DC, so there is much room for growth. While the office and retail

absorption in WalkUPs has been negative, one of the reasons may have been the conversion of many class B and C offices into walkable urban residential products. Office and retail walkable urban space has high rental premiums that continue to grow, a typical indicator of pent-up demand. And, 35 percent of all office and retail walkable urban space is located in suburban WalkUPs, such as suburban town centers, all of which have prospered in the last decade.

The 2013 Oscar-nominated movie, *Her*, shows a Los Angeles in the near future, where the main characters live in high-density towers, walking to work and restaurants. None of the actors are seen in a car—they even take the subway directly to the beach. That future—of a walkable, transit-friendly Los Angeles—is being built right now. It will allow people to drive everywhere they want, assuming they can put up with the traffic, and provide the option of walkable urbanism for those who want it.

Los Angeles' Metro Gold Line departs the Chinatown Station.

Photo: Klaus Nahr

Third Street Promenade in Santa Monica.

ATLANTA

The End of Sprawl

How metro Atlanta turned the corner on sprawl development.

A 2014 Smart Growth America report, *Measuring Sprawl 2014*,[16] ranked the major metropolitan areas by how much they were sprawling. Of the largest metro areas, Atlanta ranked first. Since the early 1990s, metro Atlanta has been referred to as the "poster child of sprawl," as its geographic footprint grew faster than any human settlement in history. However, this report shows that metro Atlanta is the eighth highest of the 30 largest metros in current walkable urbanism rankings, and it ranks even higher for future walkable urban growth. Is metro Atlanta characterized more by sprawl or by walkable urbanism?

In short, both reports' characterizations of Atlanta are correct. Atlanta's sprawl is the result of 60 years of the drivable sub-urban development it perfected.

Despite its sprawling history, the strength of Atlanta's walkable urban places, relative to its peers, appears to be real. This real estate cycle, starting in 2009, represents a major shift for Atlanta toward walkable urbanism. Atlanta WalkUPs have been rapidly gaining market share of office absorption (FSI of 1.74), with 59 percent of all office space absorbed this cycle being in WalkUPs. These WalkUPs occupy less than 1 percent of the total landmass of the metro area. An in-depth analysis of metro Atlanta conducted in 2013 finds that this level of walkable urban absorption is three times greater than in the 1990s real-estate cycle. Atlanta's walkable urban office rent premiums are 30 percent higher than drivable sub-urban office space. This premium increased from a 17 percent premium at the beginning of this cycle, indicating a growing pent-up demand for walkable urbanism.

To take advantage of this changed market dynamic, the region needs to invest in the expansion and maintenance of its neglected heavy rail system, MARTA. The proposed BeltLine rail transit project, a 22-mile ring around greater downtown, along with three streetcar lines, will encourage substantial walkable urban development in the region. In addition, the residential housing market has already shifted; the highest-priced zip codes are the close-in neighborhoods directly adjacent to downtown, many of which were low-income areas 20 years ago. It used to be that the up-and-coming neighborhoods were located outside Interstate 285, also known as the Perimeter; today these neighborhoods are located inside the Perimeter.

PHOTOS:
Raftermen Photography

A. Castleberry Hill

B. A Midtown MARTA station

C. The Atlanta BeltLine is being built on old rail corridors that encircle the city's Downtown & Midtown WalkUPs

D. Centennial Olympic Park and continued development

E. The BeltLine's Eastside Trail
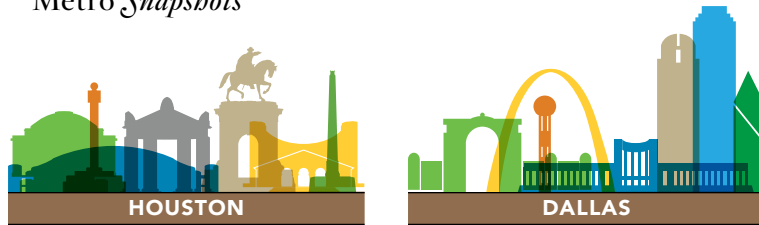
HOUSTON   DALLAS

On the Road Again (and Again)

Mixed signals from drivable sub-urban Houston and Dallas. Which way will they turn?

With Atlanta primed to shed its reputation as the "poster child of sprawl," few metros deserve this title more so than metro Houston and Dallas. Of the largest 30 metro areas, the Smart Growth America 2014 ranking of sprawl put metro Houston as the second most sprawling large metro area after Atlanta, while metro Dallas ranked third. Both metro Houston and Dallas have some of the longest beltways in the world; metro Houston's Sam Houston Tollway runs 88 miles, and when completed, the Grand Parkway will total 170 miles.

Houston is the energy capital of the United States. In 2013, Houston surpassed metro New York as the nation's leading exporter, with energy comprising two-thirds of its exports. Metro Dallas is also a major energy center, housing the headquarters of the largest oil company in the world, Exxon-Mobil. Dallas is also home to several information technology corporations, such as Texas Instruments and Dell Computer. These lucrative industries contribute to a high metro GDP per capita—$58,900 for both metro areas combined.

Among the current rankings of walkable urban metros, metro Houston ranks in the middle with 17 percent of office and retail development in WalkUPs, and Dallas ranks among the low walkable urban metros with less than 10 percent. These two metros—with their fast economic growth and sprawling develop-ment—have embodied the 20th-century American Dream.

Both metros are beginning to add walkable urban alternatives, which may shape their futures. In the future walkable urbanism rankings, both Houston and Dallas rank in the middle, at 13th and 17th, respectively. While their walkable urban office absorption is not gaining market share (FSI is 0.58 for Houston and 0.66 for Dallas), walkable urban office space in Houston has a 41 percent per square foot premium and in Dallas a 15 percent premium. Both metros experienced rent premium growth in this real estate cycle.

Significant investment in rail transit may help Dallas and Houston achieve more walkable urban development. Metro Dallas has 85 miles of light rail—with funding to expand to 147 miles—as well as commuter rail and a new streetcar downtown. Metro Houston's first light rail line, which is 13 miles long, connects two of the area's major WalkUPs—downtown and the Houston Medical Center.

However, the unique energy-based economies of Houston and Dallas do not provide realistic models for other metro areas to follow for comparable eco-nomic performance. Following Atlanta's recent path, Houston and Dallas may be shifting from exclusively drivable sub-urban development to offering both drivable sub-urban and walkable urban options.

Photo: Bruce Aleksander & Dennis Milam   A

Photo: Clark Crenshaw   B

Photo: David Kozlowski   C

D

A. Sammons Park in the Dallas Arts District

B. & C. The Uptown DART Station for the M-Line Trolley that runs along on McKinney Ave. in Dallas

D. Houston skyline and cyclists

E. Aerial view of Houston Freeways US 290 (Ronald Reagan Memorial Highway) & Beltway 8 (Sam Houston Tollway)

E

DETROIT

A. Urban decay in Detroit

B. Dining *al fresco* in downtown Detroit

C. Downtown Detroit's Campus Martius Park, ULI award winner for best urban park

D. The "People Mover," downtown Detroit's elevated circulator train

E. Annual art fair in downtown Ann Arbor

F. RiverFront Walk at dusk

Brave New Development

Rebuilding Detroit as a thoroughly modern, walkable urban metro.

Metro Detroit is synonymous with the automobile industry, and by extension, drivable sub-urban development patterns. Detroit, along with Cincinnati, Columbus, and Kansas City, is one of four large metros not to have rail transit (both Cincinnati and Kansas City will be leaving that short list since both are building new streetcar lines). However, funding exists for an initial light rail line along Woodward Avenue, linking three WalkUPs: downtown, Midtown, and New Center.

Detroit also represents a central city that suffered as the middle- and upper-middle classes abandoned it, skyrocketing crime. Complicating these trends is a stark racial divide and a bankrupt city government. Metro Detroit's current ranking of 22nd, therefore, is not a surprise.

Future walkable urban rankings show Detroit rocketing up to eighth, ranked below walkable urban San Francisco and above Denver. What explains Detroit's strong move toward walkable urban development?

Corporate investment by Quicken Loans, which recently moved its corporate headquarters to downtown Detroit, partially explains this higher ranking. Quicken Loans bought, redeveloped, and encouraged the occupancy of 40 office, retail, and residential buildings over the past five years alone. Over the last 15 years, Midtown, a downtown adjacent WalkUP, added hundreds of new residential units, new or expanded cultural and higher education facilities, new retail (including a Whole Foods), and a successful Innovation District.[17] Lastly, many urbanizing suburbs, such as Ann Arbor (home of the University of Michigan), Royal Oak, Ferndale, and Birmingham, among others, bolster this trend.

Metro Detroit has the second highest market share gain (FSI of 1.78), only behind another surprising metro, Miami (FSI of 2.08). Along with relatively high amounts of walkable urban development in the suburbs, Detroit, known as Motor City for more than 100 years, may become one of the country's fastest-growing walkable urban metros.

Photo: Ann Arbor Area Convention & Visitors Bureau

Photo: Michigan Municipal League

Innovation Districts

WalkUPs for the 21st-century knowledge economy.

The Brookings Institution has researched the rise of Innovations Districts,[18] areas at the heart of the knowledge economy where primarily tech industries concentrate, such as:

- **High-value, research-oriented sectors** such as applied sciences and the burgeoning "app economy"

- **Creative fields** such as industrial design, graphic arts, media, and architecture

- **Highly specialized, small-batch manufacturing**

Innovation Districts are a subset of WalkUPs that offer a high-density mix of different uses within walking distance. The focus on knowledge-based businesses and organizations, and networks of knowledge-based workers facilitated by close proximity and walkability, are what gives them a unique economic development strategy.

In the early era of the knowledge economy, from the 1970s until the high tech bubble of 2001, knowledge-based businesses and organizations located in isolated drivable sub-urban "campuses," similar to where most mainstream American businesses were locating themselves. These freeway-fronting concentrations included famous locations such as Silicon Valley, North Carolina's Research Triangle, and Boston's Route 128, all drivable sub-urban.

After high tech came back in the mid-2000s, a fundamentally different model emerged—the "collaborate-to-compete" model. The collaboration inherent to walkable urbanism made it the preferred business location. Emerging high tech and social media companies began locating in WalkUPs like South of Market in San Francisco, South Lake Union in Seattle, Silicon Alley (Meatpacking District) in New York City, and the various WalkUPs in Cambridge and the Seaport in metro Boston.

Isolated campuses are becoming a thing of the past for new startups. Walkable urban Innovation Districts are now "in." Companies stuck in 20th-century drivable sub-urban locations are now at a competitive disadvantage for the most important input to their business: creative class employees. The Massachusetts Secretary of Economic Development reported that businesses located on drivable sub-urban Route 128 now have to pay $25,000 more per year for software engineers over those in walkable urban Cambridge and Boston. The higher salary is necessary to entice employees to drive out into the suburbs for work from the walkable urban neighborhoods where they generally live.

So far, four WalkUP types have evolved into Innovation Districts, but there is no reason all seven types could not assume this economic strategy model. The four types to evolve so far are downtown adjacent, urban university, redeveloped drivable sub-urban, and brown field redevelopments.

Photo: James Lin

South Lake Union in Seattle.

Manhattan's Meatpacking District.

CONCLUSIONS & FURTHER STUDY

Conclusions & Further Study

Our analysis points to a gradual shift from drivable sub-urban development to walkable urban. However this shift is occurring rapidly in some metros, while more tentatively in others.

Since World War II, sprawl—the land use pattern associated with drivable sub-urban development —has characterized U.S. metropolitan growth. Land-use consumption during the late 20th century ranged from three to eight times the metropolitan population growth rate.

This analysis, coupled with findings from the *WalkUP Wake-Up Call* reports for metro Atlanta, Boston, and Washington, DC, signals the beginning of the end of sprawl in the high walkable urban metros. This marks a significant shift in U.S. growth patterns. The end of sprawl is as significant as when historian Fredrick Jackson Turner proclaimed the "closing of the frontier" in 1893.

The three metropolitan-level *WalkUp* reports found that a majority of office and retail absorption in this real estate cycle took place in WalkUPs, and that those WalkUPs occupy less than 1 percent of the land mass in each metro area. If this relationship continues in the high walkable urban (both current and future) metro areas, Washington, DC, New York, Boston, San Francisco, Chicago, and Seattle will witness the beginning of the end of sprawl.

Two caveats accompany this prediction. First, further in-depth analysis of all real estate products, particularly for-sale housing, needs to be conducted to confirm this conclusion. This analysis does not include for-sale housing, and new datasets with the location of walkable urban for-sale housing have only recently become available.

Second, the end of sprawl does not mean sprawl will disappear immediately. Rather, its end marks a gradual shift from drivable sub-urban development

as the dominant real-estate trend to walkable urban development. Even in Washington, DC, and Boston, two of the most walkable urban metros in the country, fringe, single-family drivable sub-urban housing is being built. However, this product type makes up less of the recent housing stock, as it is increasingly difficult to finance.

The end of sprawl in moderate walkable urban metros in this study largely depends on the question, "Will these metros continue to build predominantly drivable sub-urban, or will they follow the path of high walkable urban metros?" Based on current and future rankings, this analysis predicts the following metros will accelerate their evolution in a walkable urban manner:

- Denver
- Los Angeles
- Portland
- Miami
- Atlanta[19]

Low walkable urban metros generally resist walkable urban development, with a proud reliance on automobiles and trucks and drivable sub-urban development. These metros have advocates for walkable urbanism, including developers, neighborhood activists, and elected leaders. Yet, dominant infrastructure, zoning, and land-use subsidies of these metros still favor drivable sub-urban development.

FUTURE RESEARCH

Further study should include an analysis the following topics:

- **Favored Quarter:** The vast majority of growth in regionally significant development in the late 20th century occurred in a metropolitan's "favored quarter," areas of concentrated upper-middle-class housing separated from concentrated minority housing. Further research could explore to what extent favored quarter development influences future development in high walkable urban metros.

- **Rail Transit:** Many different modes of rail and high-capacity bus transit (e.g., heavy, light, and commuter rail, streetcar, and bus rapid transit) influence future walkable urbanism. Future research should explore the different economic performance of WalkUPs served by the various types of transit, while accounting for the substantially different capital and operating costs of each type.

- **Housing and Affordability:** Housing, including for-sale single-family detached homes, townhouses, stacked flats, and for-rent multifamily make up the majority of the square footage in the real estate industry. Further research is needed to determine how walkable urbanism influences housing in terms of prices, rents, affordability, and the propensity to rent versus. own. This information can, among other things, inform new strategies to preserve and develop affordable housing. Such strategies may become increasingly important as walkable urban places grow.

- **WalkUP-Education-GDP Relationship**: This report suggests a strong relationship between walkable urban places and the economic health of a metro area. Further research and analysis of this relationship could clarify the mechanisms behind it, as well as illuminate if a casual relationship exists.

APPENDICES

Endnotes

1. The definition of "metropolitan" is based on the metropolitan area definitions in use by the regional planning agencies specific to each metro. They are largely consistent with "metropolitan statistical area" or "combined metropolitan statistical area," as defined by the U.S. Census. In addition, this report uses the name of the central city of the metropolitan area to refer to the metropolitan area. For instance, Los Angeles in this report refers to the Los Angeles metropolitan area, unless otherwise noted.

2. Leinberger, C. and Alfonzo, M. "Walk this way: The economic promise of walkable places in metropolitan Washington, DC." The Brookings Institution. Available at www.brookings.edu/research/papers/2012/05/25-walkable-places-leinberger.

3. Walk Score is the most common ranking of walkability available. Walk Score assigns every address and many neighborhoods a score from 0 to 100. This score reflects a pedestrian's ability to reach a variety of daily destinations within walking distance. For full methodology, see www.walkscore.com/methodology.shtml.

    The 2012 Brookings methodology defines a WalkUP as having an average minimum Walk Score of 70.5 across its acreage. This research uses a Walk Score of 70 or greater at the most walkable intersection, because it was easier to obtain and apply across 30 metros.

4. For in-depth, metropolitan-level research of these typologies in Washington, DC, and Atlanta, GA, visit http://business.gwu.edu/walkup/ and http://business.gwu.edu/walkup/atlanta2013/.

5. Leinberger, C. (2007). "Footloose and Fancy Free: A Field Survey of Walkable Urban Places in the Top 30 U.S. Metropolitan Areas." Paper prepared for The Brookings Institution. Retrieved from www.brookings.edu/research/papers/2007/12/1128-walkableurbanism-leinberger.

6. Defining the boundaries of a place is not an exact science. Even among locals, substantial disagreement exists about where one place ends and another begins. Given these limitations, the definition of WalkUPs will continue to evolve. Nonetheless, this study represents the most comprehensive identification of such places to date.

7. U.S. Bureau of Economic Analysis.

8. In this report, the number of metro Washington, DC, WalkUPs has been increased to 45. This increase was the result of dividing 2,400 acres of Tysons Corner, VA, where four new heavy rail stations will open in 2014, into three WalkUPs.

9. For purposes of calculating the directional index, we assigned a FSI of 0 to metros where walkable urban areas experienced negative absorption from 2010 to 2014.

10. DeVol, R.; Shen, I.; Bedroussian, A.; and Zhang, N. "A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity." The Milken Institute. Available at http://www.milkeninstitute.org/pdf/matter-of-degrees-fr.pdf.

11. R-squared equals 0.63.

12. R-squared equals 0.64.

13. R-squared equals 0.56.

14. http://www.citylab.com/commute/2011/10/why-walkable-cities-arent-always-the-ones-you-think/279/. http://www.wispirg.org/news/wip/new-survey-wisconsin-brain-drain-partly-because-youth-seek-alternatives-driving.

15. These two metros differ from their counterparts in several ways: 1) they have high GDP per capita income ($58,900, compared to the high walkable urban metros of $60,668); 2) their economies, especially Houston, uniquely rely on oil and gas industries; and 3) they rank moderate to tentative on walkable urbanism.

16. Ewing, R. and Hamidi, S. (2014). "Measuring sprawl 2014." Report prepared for Smart Growth America. Retrieved from www.smartgrowthamerica.org/measuring-sprawl.

17. Katz, B. and Wager, J. "The Rise of Innovation Districts: A New Geography of Innovation in America." The Brookings Institution. Available at http://www.brookings.edu/about/programs/metro/innovation-districts.

18. Katz, B. and Wager, J. "The Rise of Innovation Districts: A New Geography of Innovation in America." The Brookings Institution. Available at http://www.brookings.edu/about/programs/metro/innovation-districts.

19. Previous research demonstrates that metro Atlanta is shifting from drivable sub-urban to walkable urban development in this real-estate cycle, and its high-ranking for future walkable urban development in this research confirms this pattern.

Acknowledgments

The Center for Real Estate
and Urban Analysis

School of Business

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APPENDIX CONTENTS

ATLANTA

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Peachtree Center	99	21,936,038	1,135,426	Downtown	Central City
GSU- Government Center	95	3,723,946	759,560	Downtown	Central City
Midtown	95	14,246,321	967,733	Downtown Adjacent	Central City
SoNo	89	3,857,782	347,800	Downtown Adjacent	Central City
Sweet Auburn	94	434,382	333,094	Downtown Adjacent	Central City
Centennial Olympic Park	93	1,165,703	259,830	Downtown Adjacent	Central City
Castleberry Hill	73	1,508,525	218,766	Downtown Adjacent	Central City
Upper Westside	73	3,413,357	477,401	Urban Commercial	Central City
Arts Center	89	3,572,238	365,786	Urban Commercial	Central City
Ponce	85	542,082	572,637	Urban Commercial	Central City
Inman Park- Beltline	75	432,981	443,516	Urban Commercial	Central City
Buckhead Village	84	2,221,666	2,337,910	Urban Commercial	Central City
West End	81	108,110	678,550	Urban Commercial	Central City
Atlanta University Center	77	1,540	135,524	Urban University	Central City
Emory	72	1,758,460	3,353	Urban University	Suburban
Georgia Tech	67	435,309	65,600	Urban University	Central City
South Buckhead	79	1,567,036	671,060	Suburban Redevelopment	Central City
Buckhead Triangle	76	2,689,209	530,836	Suburban Redevelopment	Central City
Buckhead	78	10,404,466	3,887,392	Suburban Redevelopment	Central City
Sandy Springs	78	945,421	2,649,544	Suburban Redevelopment	Suburban
Cumberland (South)	73	4,014,028	2,164,274	Suburban Redevelopment	Suburban
Lindbergh	76	1,467,550	867,218	Suburban Redevelopment	Central City
Perimeter @The Center	71	10,497,597	2,835,830	Suburban Redevelopment	Suburban
Atlantic Station	76	1,430,927	1,278,990	Greenfield/Brownfield	Central City
Decatur	88	1,778,320	764,455	Suburban Town Center	Suburban
Roswell	83	395,377	867,200	Suburban Town Center	Suburban
Marietta	77	1,039,129	741,316	Suburban Town Center	Suburban
Avg./Total	*81*	*95,587,500*	*26,360,601*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

BOSTON

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Boston	98	41,442,644	1,950,525	Downtown	Central City
Beacon Hill	97	4,367,898	270,246	Downtown Adjacent	Central City
Chinatown	100	4,642,644	1,015,772	Downtown Adjacent	Central City
Seaport	91	11,785,455	280,884	Downtown Adjacent	Central City
North End	98	2,011,794	1,252,220	Downtown Adjacent	Central City
South End	100	8,251,134	2,370,554	Downtown Adjacent	Central City
West End	98	5,532,484	105,916	Downtown Adjacent	Central City
Allston Village	88	364,426	673,047	Urban Commercial	Central City
Back Bay	98	11,897,339	1,846,383	Urban Commercial	Central City
Dorchester	82	698,670	1,233,803	Urban Commercial	Central City
East Boston	82	237,256	448,183	Urban Commercial	Central City
Jamaica Plain	88	565,417	465,215	Urban Commercial	Central City
Kenmore-Fenway	89	4,207,428	993,407	Urban University	Central City
Lower Roxbury	89	1,026,149	611,000	Urban Commercial	Central City
Mission Hill	100	2,303,654	778,451	Urban University	Central City
South Boston	88	718,996	1,260,007	Urban Commercial	Central City
Cambridgeport	98	3,053,565	67,855	Urban Commercial	Suburban
Central Sq.-Inman Sq.	95	1,447,511	855,681	Urban Commercial	Suburban
Coolidge Corner - Brookline	94	1,798,804	1,254,611	Urban Commercial	Suburban
Porter Square - Davis Square	91	521,951	823,000	Urban Commercial	Suburban
East Cambridge - Kendall Square	98	13,062,001	1,684,200	Urban University	Suburban
Harvard Square	100	2,375,792	532,924	Urban University	Suburban
Beverly	95	298,597	446,135	Suburban Town Center	Suburban
Downtown Lowell	98	2,008,240	934,786	Suburban Town Center/University	Suburban
Downtown Worcester	98	6,470,785	2,322,450	Suburban Town Center	Suburban
Fitchburg	86	417,883	660,972	Suburban Town Center	Suburban
Gloucester	88	139,896	905,032	Suburban Town Center	Suburban
Haverhill	88	608,055	783,467	Suburban Town Center	Suburban
Lawrence	86	76,984	448,495	Suburban Town Center	Suburban
Lynn	97	1,035,000	1,421,248	Suburban Town Center	Suburban
Malden	91	1,173,704	370,034	Suburban Town Center	Suburban
Newburyport	94	367,873	675,015	Suburban Town Center	Suburban
Peabody	94	69,984	465,873	Suburban Town Center	Suburban
Plymouth	85	199,305	352,836	Suburban Town Center	Suburban
Quincy	94	1,897,032	1,524,067	Suburban Town Center	Suburban
Salem	97	869,440	770,681	Suburban Town Center	Suburban
Wellesley	88	277,277	756,972	Suburban Town Center/University	Suburban
Avg./Total	*93*	*138,223,067*	*33,611,947*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

BALTIMORE

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	95	16,117,539	2,730,018	Downtown	Central City
Inner Harbor	89	7,064,131	782,828	Downtown	Central City
Federal Hill/South Baltimore	97	769,174	1,115,968	Downtown Adjacent	Central City
Fells Point/Little Italy	89	2,736,008	2,095,078	Downtown Adjacent	Central City
Mt. Vernon/State Center	91	950,419	917,211	Downtown Adjacent	Central City
Brewers Hill/Highlandtown	86	283,339	672,068	Urban Commercial	Central City
Canton	80	632,984	737,833	Urban Commercial	Central City
Charles Village/Remington	85	967,345	523,353	Urban Commercial	Central City
Hampden	95	563,756	660,418	Urban Commercial	Central City
Station North	94	1,063,885	595,203	Urban Commercial	Central City
Homewood/Johns Hopkins Univ	82	105,241	177,238	Urban University	Central City
Hopkins Medical Center	74	1,087,756	303,827	Urban University	Central City
Downtown Annapolis	97	1,094,939	527,411	Suburban Town Center/University	Suburban
Downtown Havre de Grace	82	184,972	371,736	Suburban Town Center	Suburban
Downtown Pikesville	85	430,547	492,785	Suburban Town Center	Suburban
Downtown Towson	88	3,513,599	1,774,616	Suburban Town Center	Suburban
Avg./Total	*88*	*37,565,634*	*14,477,591*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

CHICAGO

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
The Loop	98	102,490,806	3,230,599	Downtown	Central City
West Loop Gate	96	19,788,068	311,000	Downtown	Central City
University Village	86	58,784	984,832	Urban University	Central City
Gold Coast	100	12,390,237	3,268,588	Downtown Adjacent	Central City
Near North	97	8,720,229	4,035,697	Downtown Adjacent	Central City
Near West Side - Greektown	78	4,429,585	2,261,341	Downtown Adjacent	Central City
Old Town	92	228,985	1,535,000	Downtown Adjacent	Central City
River North	97	13,372,053	1,752,281	Downtown Adjacent	Central City
River West - Fulton River District	88	1,361,215	786,000	Downtown Adjacent	Central City
South Loop - Dearborn Park	98	6,675,388	3,703,187	Downtown Adjacent	Central City
Albany Park	72	172,522	2,547,313	Urban Commercial	Central City
Avondale - Irving Park	83	526,870	1,536,707	Urban Commercial	Central City
Bridgeport	85	1,307,376	1,074,117	Urban Commercial	Central City
Bucktown	88	394,322	1,954,273	Urban Commercial	Central City
Lake View East	100	168,933	2,770,132	Urban Commercial	Central City
Lake View/Wrigley	92	1,230,386	6,346,677	Urban Commercial	Central City
Lincoln Park - Old Town Triangle	85	376,401	1,393,313	Urban Commercial	Central City
Lincoln Square	98	407,673	1,722,460	Urban Commercial	Central City
Logan Square	88	429,452	3,962,876	Urban Commercial	Central City
Rogers Park (Pratt and Clark)	85	698,722	1,603,752	Urban Commercial	Central City
Sheffield - Ranch Triangle	89	913,019	2,725,886	Urban Commercial	Central City
Uptown	98	1,279,464	2,285,376	Urban Commercial	Central City
West Town	88	3,082,777	2,636,852	Urban Commercial	Central City
Wicker Park - Ukrainian Village	92	1,030,177	4,256,608	Urban Commercial	Central City
Wrightwood - Park West	91	664,750	2,488,888	Urban Commercial	Central City
Edgewater-Andersonville	85	722,381	2,270,818	Urban University	Central City
Hyde Park	92	698,226	816,454	Urban University	Central City
Downtown Arlington Heights	78	134,675	528,000	Suburban Town Center	Suburban
Downtown Aurora	77	643,988	424,000	Suburban Town Center	Suburban
Downtown Des Plaines	88	432,271	440,866	Suburban Town Center	Suburban
Downtown Highland Park	83	727,538	541,332	Suburban Town Center	Suburban
Downtown Joliet	85	719,384	1,064,617	Suburban Town Center	Suburban
Downtown Lake Forest	74	231,783	478,000	Suburban Town Center	Suburban
Downtown Naperville	97	418,370	638,983	Suburban Town Center	Suburban
Downtown Oak Park	88	636,126	257,316	Suburban Town Center	Suburban
Downtown Skokie	85	919,184	150,000	Suburban Town Center	Suburban
Downtown Wheaton	77	385,569	458,742	Suburban Town Center	Suburban
Downtown Evanston	89	2,131,799	2,131,800	Suburban Town Center/University	Suburban
Avg./Total	*88*	*190,999,488*	*71,374,683*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

CINCINATTI

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
CBD	97	21,324,074	1,996,848	Downtown	Central City
Downtown Covington, KY	94	2,572,721	824,434	Secondary Downtown	Central City-secondary
Main Strasse Covington	83	131,012	410,000	Secondary Downtown Adjacent	Central City-secondary
Over-the-Rhine	95	1,164,952	2,269,017	Downtown Adjacent	Central City
Northside	80	38,654	392,458	Urban Commercial	Central City
Oakley	97	37,200	362,262	Urban Commercial	Central City
Uptown/University of Cincinnati	85	890,146	820,000	Urban University	Central City
Avg./Total	*90*	*26,158,759*	*7,075,019*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

CLEVELAND

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	92	32,320,453	2,539,672	Downtown	Central City
Campus District	91	1,751,882	434,731	Urban University	Central City
Coventry Village	80	0	365,543	Urban Commercial	Central City
Detroit Shoreway	85	37,636	434,477	Urban Commercial	Central City
Ohio City- West Side	91	367,392	354,417	Urban Commercial	Central City
Midtown	85	3,168,567	793,000	Urban Commercial	Central City
University Circle/ Little Italy	86	83,943	303,855	Urban University	Central City
Downtown Lorain	80	540,788	574,618	Suburban Town Center	Suburban
Downtown Revenna	83	285,505	425,656	Suburban Town Center	Suburban
Lakewood	85	441,327	355,707	Suburban Town Center	Suburban
Avg./Total	*86*	*38,997,493*	*6,581,676*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

COLUMBUS

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	92	16,953,089	1,120,259	Downtown	Central City
Short North	80	728,656	1,169,854	Downtown Adjacent	Central City
Arena District	80	7,258,648	583,687	Downtown Adjacent	Central City
German Village	86	1,551,887	200,774	Downtown Adjacent	Central City
The Ohio State University	91	145,416	966,033	Urban University	Central City
Downtown Lancaster	86	310,271	381,266	Suburban Town Center	Suburban
Easton	80	623,078	1,683,559	Greenfield/Brownfield	Central City
Avg./Total	*85*	*27,571,045*	*6,105,432*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

DETROIT

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Detroit	91	23,286,547	1,647,440	Downtown	Central City
Midtown	86	2,923,957	1,226,239	Downtown Adjacent	Central City
New Center	77	4,657,573	435,000	Downtown Adjacent	Central City
Mexicantown	72	150,240	611,788	Urban Commercial	Central City
Main St. Downtown Ann Arbor	95	1,737,666	1,060,230	Suburban Town Center	Suburban
State. St. U of M. Ann Arbor	97	590,470	677,600	Suburban Town Center/University	Suburban
Downtown Birmingham	95	2,263,919	1,508,497	Suburban Town Center	Suburban
Downtown Ferndale	89	142,341	350,983	Suburban Town Center	Suburban
Downtown Pontiac	82	931,767	411,090	Suburban Town Center	Suburban
Downtown Rochester	85	63,450	708,869	Suburban Town Center	Suburban
Downtown Royal Oak	95	833,640	989,796	Suburban Town Center	Suburban
Downtown Ypsilanti	89	211,083	442,248	Suburban Town Center	Suburban
Northville	91	59,989	405,145	Suburban Town Center	Suburban
West Dearborn	80	66,390	492,091	Suburban Town Center	Suburban
Avg./Total	*87*	*37,919,032*	*10,967,016*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

DALLAS

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Dallas	98	34,768,147	1,394,618	Downtown	Central City
Uptown	88	5,688,488	539,000	Downtown Adjacent	Central City
Victory Park	91	2,458,500	94,600	Downtown Adjacent	Central City
Deep Ellum	72	376,000	684,000	Downtown Adjacent	Central City
Oak Lawn	92	3,071,931	585,847	Downtown Adjacent	Central City
Oak Cliff/Bishop	82	496,831	619,506	Urban Commercial	Central City
Downtown Fort Worth	92	11,096,671	777,784	Secondary Downtown	Central City-secondary
Plano	80	220,889	303,000	Greenfield/Brownfield	Suburban
Addison	74	3,915,550	317,727	Greenfield/Brownfield	Suburban
Avg./Total	*85*	*62,093,007*	*5,316,082*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

DENVER

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Denver- CBD	97	18,142,973	1,131,184	Downtown	Central City
Denver- LoDo	95	8,339,225	817,509	Downtown	Central City
Denver- Five Points/Arapahoe Square	83	1,173,940	986,619	Downtown Adjacent	Central City
Denver- Lincoln Park/Civic Center	97	2,313,933	1,004,267	Downtown Adjacent	Central City
Denver- North Capitol Hill/Uptown	92	6,624,152	209,000	Downtown Adjacent	Central City
Denver- South Capitol Hill	88	2,496,571	811,951	Downtown Adjacent	Central City
Denver- Colfax	92	751,814	531,000	Downtown Adjacent	Central City
Denver- Baker	95	520,632	931,660	Urban Commercial	Central City
Denver- Cherry Creek	97	1,490,857	2,252,000	Urban Commercial	Central City
Denver- Congress Park/City Park	89	959,142	340,000	Urban Commercial	Central City
Denver- Highland	83	620,946	714,247	Urban Commercial	Central City
Denver- Platt Park	80	208,043	644,327	Urban Commercial	Central City
Denver- Auraria	82	0	289,000	Urban University	Central City
Boulder- University of Colorado	83	6,674	1,642	Urban University	Suburban
Boulder- Downtown	92	2,311,845	840,191	Suburban Town Center	Suburban
Downtown Longmont	98	312,942	431,716	Suburban Town Center	Suburban
Aurora- Arts District	83	133,347	592,691	Suburban Redevelopment	Suburban
Belmar	82	370,972	1,034,460	Suburban Redevelopment	Suburban
Avg./Total	*89*	*46,778,008*	*13,563,464*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

HOUSTON

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Houston	89	48,994,268	1,549,732	Downtown	Central City
Montrose	83	54,813	428,523	Downtown Adjacent	Central City
Midtown	89	2,627,760	1,449,004	Downtown Adjacent	Central City
Museum District/Binz	80	907,262	279,000	Downtown Adjacent	Central City
Upper Kirby	80	1,602,544	980,614	Urban Commercial	Central City
Rice Village	80	467,902	721,991	Urban University	Central City
Uptown	80	15,792,674	4,959,212	Suburban Redevelopment	Central City
Greenway	80	8,632,312	8,665,815	Greenfield/Brownfield	Central City
Houston Medical Center	75	3,484,712	123,000	Greenfield/Brownfield	Central City
Sugar Land Town Center	74	583,464	605,000	Greenfield/Brownfield	Suburban
The Woodlands	77	2,217,000	1,980,840	Greenfield/Brownfield	Suburban
Downtown Galveston	80	1,216,945	764,353	Suburban Town Center	Suburban
Avg./Total	*81*	*86,581,656*	*22,507,084*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

KANSAS CITY

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Kansas City, MO	89	17,164,995	775,497	Downtown	Central City
Crossroads	82	3,040,090	943,867	Downtown Adjacent	Central City
River Market	79	680,136	388,263	Downtown Adjacent	Central City
Union Station/Crown Center	77	5,172,290	655,032	Downtown Adjacent	Central City
Old Westport (Kansas City, MO)	91	1,174,201	1,163,073	Urban Commercial	Central City
Downtown Kansas City, KS	72	1,033,656	342,376	Suburban Town Center	Suburban
Country Club District (Kansas City, MO)	83	2,419,339	906,049	Greenfield/Brownfield	Central City
Avg./Total	*82*	*30,684,707*	*5,174,157*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

LAS VEGAS

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	89	4,129,377	1,454,223	Downtown	Central City
Downtown South/Meadows Village	80	336,000	995,175	Downtown Adjacent	Central City
The Strip	71	288,000	6,701,000	Greenfield/Brownfield	Central City
Avg./Total	*80*	*4,753,377*	*9,150,398*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

LOS ANGELES

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Financial District	92	37,450,990	1,901,000	Downtown	Central City
Historic Core	95	3,899,243	1,241,000	Downtown	Central City
Civic Center	92	2,189,116	90,594	Downtown	Central City
Chinatown	91	587,605	1,085,000	Downtown Adjacent	Central City
Little Tokyo	100	675,410	402,663	Downtown Adjacent	Central City
Downtown Industrial District	82	421,305	487,000	Downtown Adjacent	Central City
Fashion District	78	4,935,784	6,299,217	Downtown Adjacent	Central City
South Park	89	2,367,330	768,000	Downtown Adjacent	Central City
Union Station/Olvera Street	83	1,295,419	42,494	Downtown Adjacent	Central City
Hollywood Entertainment/Sunset and Vine	94	3,702,536	3,700,796	Urban Commercial	Central City
Hollywood Media District	95	1,630,007	767,079	Urban Commercial	Central City
Melrose	85	131,910	731,000	Urban Commercial	Central City
Wilshire Central BID	92	10,988,952	2,236,608	Urban Commercial	Central City
Mid Wilshire	72	1,949,725	85,232	Urban Commercial	Central City
Miracle Mile	89	5,784,633	718,000	Urban Commercial	Central City
West Hollywood	100	1,885,339	971,724	Urban Commercial	Central City
North Hollywood Arts District	94	798,257	690,537	Urban Commercial	Central City
Highland Park	80	98,961	501,373	Urban Commercial	Central City
Venice	80	429,624	374,300	Urban Commercial	Central City
West Los Angeles/Rancho Park	88	719,855	1,788,261	Urban Commercial	Central City
Sawtelle	88	4,760,486	1,450,000	Urban Commercial	Central City
Byzantine Latino Quarter BID	75	263,597	1,059,000	Urban Commercial	Central City
East Beverly Hills	86	5,265,944	2,066,413	Urban Commercial	Central City
Los Feliz	86	145,658	438,634	Urban Commercial	Central City
Westwood	91	7,527,970	1,899,324	Urban University	Central City
Figueroa Corridor - USC	82	1,004,650	296,000	Urban University	Central City
Central Pasadena	95	9,922,547	4,616,301	Suburban Town Center	Suburban
Downtown Costa Mesa	97	140,609	402,696	Suburban Town Center	Suburban
Costa Mesa - South Coast Metro	72	3,195,429	2,135,512	Suburban Redevelopment	Suburban
Downtown Ventura	92	278,808	569,497	Suburban Town Center	Suburban
Downtown Santa Paula	88	10,446	343,902	Suburban Town Center	Suburban
Downtown Oxnard	98	215,854	527,667	Suburban Town Center	Suburban
Downtown Palm Springs	86	127,797	1,344,053	Suburban Town Center	Suburban
Downtown San Clemente	82	239,000	560,830	Suburban Town Center	Suburban
Downtown Huntington Beach	80	208,406	430,294	Suburban Town Center	Suburban
Downtown Santa Ana	91	2,868,235	662,956	Suburban Town Center	Suburban
Downtown Fullerton	91	225,362	373,419	Suburban Town Center	Suburban
Downtown Riverside	94	1,687,493	463,620	Suburban Town Center	Suburban
Downtown Redlands	91	178,202	458,111	Suburban Town Center	Suburban
Downtown San Bernardino	82	1,369,717	458,620	Suburban Town Center	Suburban
Downtown Pomona	91	457,844	341,373	Suburban Town Center	Suburban
Downtown Whittier	100	460,862	707,636	Suburban Town Center	Suburban
Downtown Alhambra	91	189,163	1,077,136	Suburban Town Center	Suburban
Downtown Monrovia	88	210,352	404,204	Suburban Town Center	Suburban
Huntington Park	85	180,278	1,456,155	Suburban Town Center	Suburban
Downtown Burbank	89	1,114,111	1,597,336	Suburban Town Center	Suburban
Glendale- Downtown	98	4,792,009	4,041,116	Suburban Town Center	Suburban
Glendale- Verdugo Montrose	97	153,275	536,197	Urban Commercial	Suburban
Downtown Hermosa Beach	85	316,679	576,000	Suburban Town Center	Suburban
Inglewood	83	591,732	593,311	Suburban Town Center	Suburban

LOS ANGELES

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Santa Monica	92	4,148,785	2,413,930	Suburban Town Center	Suburban
Downtown Long Beach	95	5,994,431	2,069,149	Suburban Town Center	Suburban
Downtown Beverly Hills	97	6,813,899	3,031,000	Suburban Town Center	Suburban
Century City	86	11,537,994	924,093	Greenfield/Brownfield	Central City
Avg./Total	89	158,539,625	65,207,363		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

MIAMI

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Miami	89	10,041,458	2,695,200	Downtown	Central City
Brickell	83	7,160,619	530,935	Downtown Adjacent	Central City
Little Havana- East	82	278,436	858,013	Downtown Adjacent	Central City
Midtown/Wynwood	83	1,315,334	594,692	Downtown Adjacent	Central City
Little Havana- West	86	598,802	1,455,361	Urban Commercial	Central City
Miami- Design District	89	637,360	627,616	Urban Commercial	Central City
Coconut Grove	94	1,088,847	768,658	Suburban Town Center	Suburban
Coral Gables/South Miami	91	896,481	999,604	Suburban Town Center	Suburban
Downtown Boca Raton	86	1,037,076	668,628	Suburban Town Center	Suburban
Downtown Delray Beach	89	999,993	1,005,437	Suburban Town Center	Suburban
Downtown Ft. Lauderdale	94	5,363,242	573,500	Suburban Town Center	Suburban
Downtown Hollywood	82	1,192,211	1,051,804	Suburban Town Center	Suburban
Downtown Lake Worth	97	97,685	371,155	Suburban Town Center	Suburban
Downtown West Palm Beach	95	3,017,148	2,061,838	Suburban Town Center	Suburban
Miami Beach-North Beach	83	153,939	448,131	Suburban Town Center	Suburban
Miami Beach- Lincoln Road	83	1,104,327	1,670,389	Suburban Town Center	Suburban
Miami Beach-South Beach	88	424,633	1,163,203	Suburban Town Center	Suburban
Avg./Total	*88*	*35,407,591*	*17,544,164*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

MINNEAPOLIS

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Minneapolis	95	36,552,154	4,049,777	Downtown	Central City
Cedar-Riverside	94	282,746	443,655	Downtown Adjacent	Central City
Loring Park	92	939,925	845,957	Downtown Adjacent	Central City
Minneapolis Warehouse District	85	2,806,750	745,675	Downtown Adjacent	Central City
East Bank	89	585,331	513,956	Downtown Adjacent	Central City
Uptown	91	241,661	1,459,437	Urban Commercial	Central City
Phillips	80	1,159,034	561,127	Urban Commercial	Central City
UMN/Dinkytown	91	715,225	367,526	Urban University	Central City
Downtown St. Paul	91	12,287,763	1,044,250	Secondary Downtown	Central City-secondary
Stillwater	88	198,031	649,619	Suburban Town Center	Suburban
Avg./Total	*90*	*55,768,620*	*10,680,979*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

NEW YORK

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Lower Manhattan/Wall Street	100	95,446,038	2,174,275	Downtown	Central City
Chinatown	100	3,718,989	4,017,988	Downtown Adjacent	Central City
City Hall	100	13,986,707	66,000	Downtown Adjacent	Central City
Garment District	100	32,682,544	1,495,000	Downtown Adjacent	Central City
Bryant Park	100	13,863,778	162,000	Downtown	Central City
Times Square	100	45,214,404	2,300,000	Downtown	Central City
Midtown	100	137,660,202	3,685,800	Downtown	Central City
Midtown West	100	19,803,656	1,673,000	Downtown	Central City
Midtown East - UN Plaza	100	24,348,475	1,029,000	Downtown	Central City
Jersey City	94	11,744,235	4,073,000	Secondary Downtown	Central City
Tribeca	100	11,148,047	1,126,003	Downtown Adjacent	Central City
Lower East Side	100	215,231	1,232,000	Urban Commercial	Central City
SoHo	100	6,142,387	1,448,313	Urban Commercial	Central City
Hudson Square	100	11,697,526	96,361	Urban Commercial	Central City
NoLita	100	3,640,014	3,592,850	Urban Commercial	Central City
NoHo	100	2,946,795	166,000	Urban Commercial	Central City
East Village	100	1,141,361	1,316,773	Urban Commercial	Central City
Union Square	100	8,988,775	1,548,797	Urban Commercial	Central City
Meatpacking District	100	1,462,893	607,000	Urban Commercial	Central City
West Village	100	2,220,423	704,000	Urban Commercial	Central City
Chelsea	100	23,977,088	3,632,735	Urban Commercial	Central City
Flatiron - 23rd St.	100	30,611,356	1,240,761	Urban Commercial	Central City
34th Street	100	27,642,250	3,440,770	Urban Commercial	Central City
Kips Bay/Belleveue	100	5,284,170	968,726	Urban Commercial	Central City
Hudson Yards - Hells Kitchen	97	5,495,959	931,000	Urban Commercial	Central City
Madison Avenue	100	1,107,025	750,811	Urban Commercial	Central City
Upper East Side	100	3,971,049	2,788,697	Urban Commercial	Central City
Lincoln Square	100	4,706,402	573,000	Urban Commercial	Central City
Upper West Side	100	2,097,569	3,715,000	Urban Commercial	Central City
Columbus - Amsterdam BID	100	484,630	485,000	Urban Commercial	Central City
Fordham Road - Belmont	95	2,825,213	3,219,485	Urban Commercial	Central City
Forest Hills	100	424,983	1,104,600	Urban Commercial	Central City
Sunnyside	98	147,974	601,000	Urban Commercial	Central City
Harlem/Morningside Heights	100	5,239,049	5,001,030	Urban Commercial/Urban University	Central City
Melrose/Concourse (Bronx)	85	1,873,298	2,274,468	Urban Commercial	Central City
Upper Manhattan	98	1,470,001	2,290,272	Urban Commercial	Central City
East Bronx	94	1,407,554	1,284,681	Urban Commercial	Central City
Astoria	90	4,075,957	5,071,371	Urban Commercial	Central City
Long Island City	94	6,168,360	990,467	Urban Commercial	Central City
Union City, NJ	89	159,988	1,326,000	Urban Commercial	Suburban
Greenwich Village/NYU	100	3,517,053	1,360,550	Urban Commercial/Urban University	Central City
Downtown Brooklyn - Atlantic Ave	100	16,662,434	3,859,349	Secondary Downtown	Central City-Secondary
Park Slope/Prospect Heights	96	587,239	3,268,120	Secondary Downtown Adjacent	Central City-Secondary
DUMBO	97	2,306,831	265,233	Secondary Urban Commercial	Central City-Secondary
Williamsburg	94	1,755,489	7,291,972	Secondary Urban Commercial	Central City-Secondary
Great Neck	85	1,490,323	662,430	Suburban Town Center	Suburban
Hoboken	95	2,806,444	2,779,528	Suburban Town Center	Suburban
Downtown Yonkers	89	1,536,135	1,257,000	Suburban Town Center	Suburban
Downtown Mt. Vernon	92	656,149	910,368	Suburban Town Center	Suburban
Downtown White Plains	97	4,756,893	2,755,659	Suburban Town Center	Suburban
Downtown Stamford	100	8,747,144	2,262,198	Suburban Town Center	Suburban
Downtown New Brunswick	94	1,967,145	524,000	Suburban Town Center	Suburban
Downtown Newark	94	16,764,448	2,590,386	Suburban Town Center	Suburban
Downtown Greenwich, CT	95	1,090,903	1,214,870	Suburban Town Center	Suburban
Downtown Elizabeth, NJ	83	899,421	799,364	Suburban Town Center	Suburban
Downtown Passaic, N J	94	429,645	955,676	Suburban Town Center	Suburban
Downtown Paterson, NJ	83	739,427	1,600,311	Suburban Town Center	Suburban
Downtown New Rochelle	95	926,269	1,137,874	Suburban Town Center	Suburban
Downtown New Haven	97	4,380,338	1,087,983	Suburban Town Center	Suburban

NEW YORK

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Bridgeport	89	2,795,006	521,000	Suburban Town Center	Suburban
Downtown Summit, NJ	86	487,302	464,000	Suburban Town Center	Suburban
Downtown Princeton	98	379,851	430,906	Suburban Town Center	Suburban
Downtown Somerville, NJ	88	695,969	537,825	Suburban Town Center	Suburban
Downtown Morristown, NJ	100	1,680,728	476,951	Suburban Town Center	Suburban
Downtown Trenton	98	3,361,683	605,405	Suburban Town Center	Suburban
Rockville Centre - Long Island	95	378,335	541,000	Suburban Town Center	Suburban
Avg./Total	94	659,040,959	114,363,992		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

ORLANDO

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
CBD	89	6,352,792	727,272	Downtown	Central City
Eola/Thornton Park	83	2,134,839	193,943	Downtown Adjacent	Central City
Downtown Winter Park	91	659,301	348,992	Suburban Town Center	Suburban
Avg./Total	*88*	*9,146,932*	*1,270,207*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

PHILADELPHIA

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Old City	100	1,365,326	1,445,000	Downtown	Central City
Center City East	97	21,912,181	7,443,732	Downtown	Central City
Center City West	100	35,602,002	4,136,915	Downtown	Central City
Fairmount/Art Museum	97	4,678,455	852,305	Downtown Adjacent	Central City
Queen Village/Pennsport	98	422,154	734,359	Downtown Adjacent	Central City
Bella Vista/East Passyunk	97	305,072	1,756,449	Urban Commercial	Central City
Chestnut Hill	88	126,802	419,797	Urban Commercial	Central City
Germantown	97	594,940	652,347	Urban Commercial	Central City
South Broad St.	85	895,068	980,000	Urban Commercial	Central City
Manayunk	83	210,971	574,281	Urban Commercial	Central City
Northern Liberties/Fishtown	97	500,622	957,973	Urban Commercial	Central City
University City	95	4,602,108	928,327	Urban University	Central City
Ardmore	92	325,865	750,366	Suburban Town Center	Suburban
Downtown Bryn Mawr	92	390,924	378,794	Suburban Town Center	Suburban
Downtown Phoenixville	92	139,018	126,146	Suburban Town Center	Suburban
Downtown Wayne	98	327,440	477,561	Suburban Town Center	Suburban
Downtown West Chester	98	1,510,610	895,000	Suburban Town Center	Suburban
Avg./Total	*94*	*73,909,558*	*23,509,352*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

PHOENIX

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Phoenix	95	8,834,476	637,000	Downtown	Central City
Downtown Tempe	86	1,629,587	315,534	Suburban Town Center	Suburban
24th & Camelback	74	3,816,278	197,449	Suburban Redevelopment	Central City
Downtown Scottsdale	86	2,399,609	1,795,110	Suburban Town Center	Suburban
Avg./Total	*85*	*16,679,950*	*2,945,093*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

PITTSBURGH

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
CBD	100	32,088,087	2,703,331	Downtown	Central City
The Strip	82	1,703,440	686,422	Downtown Adjacent	Central City
North Shore	88	1,715,004	166,246	Downtown Adjacent	Central City
Bloomfield	91	1,274,270	1,052,389	Urban Commercial	Central City
East Liberty	89	851,927	1,252,074	Urban Commercial	Central City
North Oakland	88	2,504,019	243,850	Urban Commercial	Central City
Shadyside	91	1,140,664	967,122	Urban Commercial	Central City
Southside Flats	95	2,828,238	1,883,842	Urban Commercial	Central City
Squirrel Hill	88	225,347	429,000	Urban Commercial	Central City
Central Oakland	86	1,359,012	414,271	Urban University	Central City
Downtown Uniontown	86	358,600	642,225	Suburban Town Center	Suburban
Avg./Total	*89*	*46,048,608*	*10,440,772*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

PORTLAND

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Portland	98	17,558,164	1,975,036	Downtown	Central City
South Downtown/Portland State Univ	100	3,450,419	297,739	Downtown Adjacent	Central City
Pearl District/Chinatown	98	4,788,491	2,927,357	Downtown Adjacent	Central City
Northwest	95	2,036,459	1,938,529	Urban Commercial	Central City
Lloyd District	89	3,011,208	2,261,055	Urban Commercial	Central City
Belmont/Hawthorne	95	87,133	765,398	Urban Commercial	Central City
South Waterfront	68	794,843	41,000	Greenfield/Brownfield	Central City
Hollywood	98	552,606	573,977	Suburban Town Center	Suburban
Downtown Hillsboro	98	162,927	440,947	Suburban Town Center	Suburban
Downtown Vancouver	92	1,828,284	746,178	Suburban Town Center	Suburban
Avg./Total	*93*	*34,270,534*	*11,967,216*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

SACRAMENTO

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	92	17,370,561	2,205,981	Downtown	Central City
Midtown	94	2,708,326	950,206	Downtown Adjacent	Central City
Southside Park/Richmond Grove	85	1,079,282	454,006	Downtown Adjacent	Central City
Old North Sacramento	88	30,286	380,000	Urban Commercial	Central City
Downtown Davis	89	279,575	566,676	Suburban Town Center	Suburban
Downtown Woodland	80	305,294	484,507	Suburban Town Center	Suburban
Avg./Total	*88*	*21,773,324*	*5,041,376*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

SAN ANTONIO

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown San Antonio	98	5,884,797	3,881,769	Downtown	Central City
San Antonio- Downtown North	82	1,720,618	664,797	Downtown Adjacent	Central City
Avg./Total	*90*	*7,605,415*	*4,546,566*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

SAN DIEGO

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Core	98	4,779,029	477,000	Downtown	Central City
Horton Plaza/Gas Lamp District/East Village	98	3,396,473	3,164,305	Downtown Adjacent	Central City
Columbia	89	3,148,539	143,000	Downtown Adjacent	Central City
Marina/Seaport	89	213,030	588,000	Downtown Adjacent	Central City
Little Italy/Harborview	95	880,067	475,000	Downtown Adjacent	Central City
North Park	92	109,908	602,681	Urban Commercial	Central City
Hillcrest	88	966,618	1,332,000	Urban Commercial	Central City
Ocean Beach	92	58,842	432,378	Urban Commercial	Central City
Pacific Beach	82	31,116	374,272	Urban Commercial	Central City
Coronado	98	126,576	401,550	Suburban Town Center	Suburban
Downtown La Jolla	100	1,374,308	912,921	Suburban Town Center	Suburban
Downtown Oceanside	82	75,510	380,657	Suburban Town Center	Suburban
Downtown Escondido	94	95,784	426,192	Suburban Town Center	Suburban
Avg./Total	*92*	*15,255,800*	*9,709,956*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

ST. LOUIS

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown	94	19,028,494	1,250,733	Downtown	Central City
Downtown West	98	6,089,629	2,250,998	Downtown Adjacent	Central City
Benton Park West/Gravois Park	80	74,072	564,711	Urban Commercial	Central City
Tower Grove	80	104,947	430,934	Urban Commercial	Central City
Central West End	92	2,860,451	580,000	Urban University	Central City
University City/Delmar Loop	83	229,730	525,000	Urban University	Suburban
Downtown Clayton	83	7,341,016	379,189	Suburban Town Center	Suburban
Downtown Kirkwood	89	317,647	496,519	Suburban Town Center	Suburban
Downtown St. Charles	80	269,514	410,184	Suburban Town Center	Suburban
Avg./Total	*87*	*36,315,500*	*6,888,268*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

SAN FRANCISCO BAY

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
SF- Central/Inner Richmond	98	4,565,893	3,741,872	Downtown Adjacent	Central City
SF- Financial District	100	52,132,244	942,000	Downtown	Central City
SF- Union Square/Tenderloin	100	10,269,720	5,651,623	Downtown Adjacent	Central City
SF- South of Market	97	23,336,158	4,530,000	Downtown Adjacent	Central City
SF- Nob Hill/Chinatown	100	2,594,412	3,616,207	Downtown Adjacent	Central City
SF- Mission District	95	2,917,547	6,063,000	Urban Commercial	Central City
SF- Western Addition	100	2,791,317	2,732,000	Urban Commercial	Central City
SF- Potrero Hill	91	3,100,368	1,073,000	Urban Commercial	Central City
SF- The Marina	100	601,885	2,092,100	Urban Commercial	Central City
SF- Central/Inner Richmond	95	442,658	2,522,782	Urban Commercial	Central City
SF- Pacific Heights	97	920,609	651,000	Urban Commercial	Central City
SF- The Castro	100	418,637	2,147,000	Urban Commercial	Central City
SF- Excelsior	80	184,701	1,316,281	Urban Commercial	Central City
SF- Laurel Heights	92	318,024	942,053	Urban Commercial	Central City
SF- Central Sunset	86	186,317	957,848	Urban Commercial	Central City
SF- Inner Sunset	89	132,851	893,746	Urban Commercial	Central City
SF- Bernal Heights	89	105,905	762,000	Urban Commercial	Central City
SF- The Haight	94	341,882	1,142,647	Urban Commercial	Central City
SF- West Portal	89	96,645	580,876	Urban Commercial	Central City
SF- Noe Valley	92	27,037	783,000	Urban Commercial	Central City
SF- Outer Richmond	94	6,700	421,000	Urban Commercial	Central City
Downtown Oakland	88	9,367,475	2,016,795	Secondary Downtown	Central City-Secondary
Uptown Oakland	97	8,284,570	2,241,651	Secondary Downtown Adjacent	Central City-Secondary
Oakland- Jack London Square	86	1,509,032	654,530	Secondary Downtown Adjacent	Central City-Secondary
Oakland- Adams Point/Grand Lake	97	511,603	690,805	Secondary Urban Commercial	Central City-Secondary
Oakland- Fruitvale	97	105,353	1,048,242	Secondary Urban Commercial	Central City-Secondary
Oakland- Temescal	91	220,720	553,703	Secondary Urban Commercial	Central City-Secondary
Oakland/Berkeley- Rockridge/Elmwood	92	133,462	588,977	Secondary Urban Commercial	Central City-Secondary
Oakland- Piedmont Ave.	94	120,735	453,221	Secondary Urban Commercial	Central City-Secondary
Downtown San Jose	98	8,878,436	1,398,487	Secondary Downtown	Central City-Secondary
San Jose- Santana Row	85	460,064	666,663	Suburban Redevelopment	Suburban
West Berkeley	83	1,020,743	1,122,222	Suburban Town Center	Suburban
Downtown Berkeley	100	2,235,602	2,102,400	Suburban Town Center	Suburban
Emeryville	82	2,659,887	623,367	Suburban Town Center	Suburban
Downtown Palo Alto	97	2,274,888	952,220	Suburban Town Center	Suburban
Downtown Santa Rosa	92	1,031,918	1,404,266	Suburban Town Center	Suburban
Downtown San Mateo	98	1,047,448	1,280,275	Suburban Town Center	Suburban
Downtown Concord	85	1,648,925	519,630	Suburban Town Center	Suburban
Downtown Walnut Creek	91	523,202	1,265,911	Suburban Town Center	Suburban
Downtown Redwood City	97	1,295,939	486,597	Suburban Town Center	Suburban
Downtown San Rafael	98	532,267	1,170,979	Suburban Town Center	Suburban
Downtown Mountain View	85	1,084,858	419,665	Suburban Town Center	Suburban
Downtown Hayward	97	297,657	1,063,020	Suburban Town Center	Suburban
Downtown Alameda	100	235,474	875,843	Suburban Town Center	Suburban
Albany- Solano Avenue	94	175,130	829,618	Suburban Town Center	Suburban
Downtown Burlingame	98	215,737	624,501	Suburban Town Center	Suburban
Downtown Vallejo	97	244,411	559,619	Suburban Town Center	Suburban
Downtown Menlo Park	91	737,848	500,237	Suburban Town Center	Suburban
Downtown Livermore	92	91,589	666,292	Suburban Town Center	Suburban
Downtown Petaluma	97	61,202	658,169	Suburban Town Center	Suburban
Downtown San Leandro	91	299,668	380,242	Suburban Town Center	Suburban
Los Gatos	91	149,979	493,189	Suburban Town Center	Suburban
Downtown San Carlos	94	212,043	401,545	Suburban Town Center	Suburban
Downtown Healdsburg	91	129,789	440,620	Suburban Town Center	Suburban
Downtown Millbrae	82	67,663	444,402	Suburban Town Center	Suburban
Downtown San Bruno	89	26,921	475,413	Suburban Town Center	Suburban
Sausalito	80	173,653	344,000	Suburban Town Center	Suburban
Avg./Total	*93*	*153,557,401*	*73,979,351*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

SEATTLE

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown Seattle	97	27,382,597	4,072,744	Downtown	Central City
Belltown	98	6,005,837	1,366,144	Downtown Adjacent	Central City
Capitol Hill	94	680,264	1,444,527	Downtown Adjacent	Central City
Cascade	94	5,525,990	449,483	Downtown Adjacent	Central City
First Hill	98	3,918,119	446,047	Downtown Adjacent	Central City
International District/Pioneer Sq.	98	4,747,082	1,312,702	Downtown Adjacent	Central City
South Lake Union	92	4,730,928	356,750	Downtown Adjacent	Central City
Ballard	98	545,260	1,432,618	Urban Commercial	Central City
Fremont	83	1,068,086	603,702	Urban Commercial	Central City
Lower Queen Anne/West Lake	97	1,120,916	464,248	Urban Commercial	Central City
Queen Anne	91	163,576	422,638	Urban Commercial	Central City
Roosevelt	94	97,707	519,780	Urban Commercial	Central City
Uptown	94	2,670,629	431,619	Urban Commercial	Central City
Wallingford	100	296,874	393,680	Urban Commercial	Central City
West Seattle/Junction	91	214,274	356,013	Urban Commercial	Central City
University District	100	1,502,208	1,514,295	Urban University	Central City
Tacoma- Downtown	95	4,772,373	766,815	Secondary Downtown	Central City-secondary
Tacoma- Stadium District	85	509,957	492,610	Secondary Downtown Adj.	Central City-secondary
Downtown Bellevue	97	9,329,290	3,662,668	Suburban Town Center	Suburban
Downtown Everett	94	1,170,735	1,044,985	Suburban Town Center	Suburban
Downtown Kirkland	92	126,058	348,063	Suburban Town Center	Suburban
Downtown Redmond	94	963,884	894,000	Suburban Town Center	Suburban
Downtown Renton	85	134,262	405,919	Suburban Town Center	Suburban
Avg./Total	*94*	*77,676,906*	*23,202,050*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

TAMPA

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown St. Petersburg	92	4,126,999	1,268,566	Downtown	Central City-secondary
Downtown Tampa	86	7,300,181	636,715	Downtown	Central City
Channel District	83	272,399	494,000	Downtown Adjacent	Central City
Ybor City	71	563,585	954,999	Urban Commercial	Central City
Hyde Park (Tampa)	83	41,376	484,214	Urban Commercial	Central City
Downtown Clearwater	94	985,758	367,662	Suburban Town Center	Suburban
Avg./Total	*85*	*13,290,298*	*4,206,156*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

WASHINGTON DC

WalkUP Name	Walk Score at 100% Intersection	Office Square Footage	Retail Square Footage	WalkUP Type	Suburban or Central City
Downtown DC	100	51,278,543	1,027,000	Downtown	Central City
Golden Triangle	94	32,700,012	316,000	Downtown	Central City
Adams Morgan	94	259,880	703,000	Urban Commercial	Central City
Capitol Hill	88	3,160,909	1,090,221	Downtown Adjacent	Central City
Capitol Riverfront	80	4,979,723	245,000	Downtown Adjacent	Central City
DuPont	98	5,928,227	842,000	Downtown Adjacent	Central City
Foggy Bottom	98	11,983,068	321,000	Downtown Adjacent	Central City
Georgetown	100	3,548,394	2,270,000	Urban Commercial	Central City
SW Federal Center	71	10,916,734	0	Downtown Adjacent	Central City
Columbia Heights	92	352,654	840,851	Urban Commercial	Central City
H Street	86	468,047	844,000	Urban Commercial	Central City
Logan Circle	95	798,080	831,000	Urban Commercial	Central City
NoMA	82	9,170,538	253,000	Downtown Adjacent	Central City
Tenleytown	91	975,976	182,000	Urban Commercial	Central City
U Street	91	1,383,521	1,172,904	Urban Commercial	Central City
Van Nesss	88	1,562,309	125,000	Urban Commercial	Central City
Woodley Park	82	145,603	132,000	Urban Commercial	Central City
Kentlands	78	117,408	899,000	Greenfield/Brownfield	Suburban
National Harbor	52	233,092	72,000	Greenfield/Brownfield	Suburban
Reston	77	4,609,703	698,000	Greenfield/Brownfield	Suburban
Ballston	89	7,430,249	1,457,100	Suburban Redevelopment	Suburban
Carlyle	94	7,426,607	770,000	Suburban Redevelopment	Suburban
Clarendon	92	1,694,601	511,000	Suburban Town Center	Suburban
Courthouse	89	4,181,649	193,370	Suburban Redevelopment	Suburban
Crystal City	74	12,309,483	344,000	Greenfield/Brownfield	Suburban
New Carrolton	71	1,417,161	743,000	Suburban Redevelopment	Suburban
Pentagon City	77	1,243,897	1,532,000	Suburban Redevelopment	Suburban
PG Plaza	78	1,594,711	1,324,000	Suburban Redevelopment	Suburban
Rosslyn	92	9,455,747	81,626	Suburban Town Center	Suburban
Virginia Square	94	1,835,642	294,000	Suburban Redevelopment	Suburban
White Flint	89	2,836,923	72,000	Suburban Redevelopment	Suburban
Tysons West	71	3,593,038	853,000	Suburban Redevelopment	Suburban
Tysons Central	69	17,778,301	4,460,205	Suburban Redevelopment	Suburban
Tysons East	60	4,036,888	204,629	Suburban Redevelopment	Suburban
Wheaton	74	480,909	2,333,068	Suburban Redevelopment	Suburban
Annandale	75	1,472,144	1,121,310	Suburban Redevelopment	Suburban
Baileys Crossroads	69	3,554,525	2,503,000	Suburban Redevelopment	Suburban
Bethesda	94	8,211,810	2,308,000	Suburban Town Center	Suburban
Frederick	98	1,549,829	1,210,778	Suburban Town Center	Suburban
Friendship Heights	83	3,458,564	1,526,459	Suburban Town Center	Suburban
Historic Fairfax City	88	2,192,174	328,000	Suburban Town Center	Suburban
Old Town Alexandria	100	2,191,456	1,261,977	Suburban Town Center	Suburban
Rockville	89	2,639,847	1,202,100	Suburban Town Center	Suburban
Seven Corners	75	871,467	1,324,122	Suburban Redevelopment	Suburban
Silver Spring	98	6,630,756	1,816,000	Suburban Town Center	Suburban
Avg./Total	*85*	*254,660,799*	*42,638,720*		

SOURCES: GW Center for Real Estate and Urban Analysis, WalkScore, CoStar for Office and Retail SF (for areas defined by GW CREUA)

Current Average Office Rents per Square Foot
(WalkUPs and Drivable by Metro Area)

Metro Area	WalkUP Office Space	Drivable Office Space	WalkUP Avg. Rent	Drivable Avg. Rent	WalkUP Premium
Atlanta	95,587,500	188,227,013	$22.47	$17.34	30%
Baltimore	37,565,634	97,302,772	$20.03	$21.32	-6%
Boston	138,223,067	168,501,933	$39.15	$13.87	182%
Chicago	190,999,488	253,423,038	$27.43	$19.06	44%
Cincinnati	26,158,759	70,170,472	$16.72	$14.44	16%
Cleveland	38,997,493	61,189,306	$18.10	$16.47	10%
Columbus	27,571,045	73,783,604	$16.69	$15.40	8%
Dallas	62,093,007	278,501,910	$23.16	$20.18	15%
Denver	46,778,008	126,244,218	$29.17	$20.31	44%
Detroit	37,919,032	162,101,290	$18.00	$17.33	3.8%
Houston	86,581,656	202,073,006	$33.32	$23.61	41%
Kansas City	30,684,707	83,027,246	$16.83	$17.01	-1%
Las Vegas	4,753,377	56,796,317	$23.72	$18.96	25%
Los Angeles	158,539,625	491,931,029	$34.02	$23.91	42%
Miami	35,407,591	187,184,994	$33.85	$24.60	38%
Minneapolis	55,768,620	121,408,875	$17.73	$16.11	10%
New York	659,040,959	524,047,716	$50.17	$16.38	206%
Orlando	9,146,932	74,173,422	$22.56	$18.07	25%
Philadelphia	73,909,558	184,001,252	$25.00	$21.05	19%
Phoenix	16,679,950	142,803,346	$25.29	$19.89	27%
Pittsburgh	46,048,608	80,402,524	$20.48	$17.98	14%
Portland	34,270,534	62,660,773	$22.67	$18.74	21%
Sacramento	21,773,324	79,652,878	$26.04	$18.60	40%
San Antonio	7,605,415	62,321,228	$19.16	$18.91	1%
San Diego	15,255,800	98,660,732	$27.37	$26.50	3%
San Francisco Bay Area	153,557,401	266,553,579	$39.33	$26.69	47%
Seattle	77,676,906	111,381,239	$30.36	$24.33	25%
St. Louis	36,315,500	96,159,231	$17.27	$17.74	-3%
Tampa	13,290,298	106,806,841	$21.02	$18.15	16%
Washington, DC	254,660,799	213,667,729	$41.75	$26.83	56%
	2,492,860,593	4,725,159,513			
Weighted Avg.			$35.33	$20.31	74%
Weighted Avg. Excluding NY			$29.99	$20.80	44%

Q4 2007 Average Office Rents per Square Foot
(WalkUP and Drivable by Metro Area)

Metro Area	WalkUP Office Space	Drivable Office Space	WalkUP Avg. Rent	Drivable Avg. Rent	WalkUP Premium
Atlanta	93,287,015	179,495,106	$22.86	$19.68	16%
Baltimore	36,997,000	88,014,000	$21.10	$22.50	-6%
Boston	128,125,604	168,598,000	$34.14	$19.46	75%
Chicago	189,824,000	248,195,000	$28.71	$21.64	33%
Cincinatti	25,605,000	66,469,000	$15.31	$14.94	2%
Cleveland	41,853,000	59,414,000	$16.52	$16.92	-2%
Columbus	27,076,000	71,608,000	$17.10	$15.67	9%
Dallas	60,608,000	263,696,000	$21.26	$19.78	7%
Denver	45,579,000	12,111,000	$24.41	$19.70	24%
Detroit	38,903,000	164,165,470	$20.19	$19.86	2%
Houston	83,220,276	182,719,000	$26.50	$20.16	31%
Kansas City	30,622,000	80,206,000	$15.83	$17.76	-11%
Las Vegas	4,444,000	51,454,000	$25.24	$24.25	4%
Los Angeles	159,559,284	435,034,000	$34.03	$29.13	17%
Miami	33,000,000	179,237,000	$34.02	$27.61	23%
Minneapolis	56,929,000	119,668,000	$14.87	$15.93	-7%
New York	655,993,000	511,178,000	$53.76	$21.12	155%
Orlando	8,983,000	70,418,000	$26.09	$21.13	23%
Philadelphia	74,612,157	180,050,209	$23.95	$22.46	7%
Phoenix	14,496,000	132,473,000	$31.83	$25.30	26%
Pittsburgh	45,711,000	79,450,000	$19.74	$17.42	13%
Portland	33,031,000	60,000,000	$20.16	$19.63	3%
Sacramento	20,817,000	77,033,000	$30.60	$23.88	28%
San Antonio	7,543,000	55,842,000	$18.21	$17.61	3%
San Diego	15,462,000	91,534,000	$32.88	$31.80	3%
San Francisco Bay Area	152,392,000	260,370,000	$30.89	$26.24	18%
Seattle	68,891,000	106,131,000	$31.52	$25.69	23%
St Louis	35,848,000	93,448,000	$16.80	$18.33	-8%
Tampa	13,310,661	101,634,000	$21.75	$20.53	6%
Washington, DC	238,846,000	202,813,000	$38.27	$29.04	32%
	2,441,567,997	4,392,457,785			
Weighted Avg.			$34.89	$22.56	55%
Weighted Avg. Excluding NY			$27.96	$22.75	23%

Metro Area Geographies

Metro Area	Metro Area Definition
Atlanta	ARC Member Jurisdictions
Baltimore	BMC Planning Area
Boston	MAPC Region + 22 other towns in MA served by MBTA
Chicago	CMAP Member Jurisdictions
Cincinatti	OKIRCoG Planning Area
Cleveland	NOACA Planning Area
Columbus	MORPC Planning Area
Dallas	NCTCOG Planning Area
Denver	DRCOG
Detroit	SEMCOG Planning Area
Houston	H-GAC Region
Kansas City	MARC Planning Area
Las Vegas	Clark County
Los Angeles	SCAG Planning Area
Miami	Miami-Dade, Broward, Palm Beach Counties (MSA)
Minneapoolis	Metropolitan Council Region
New York	Regional Plan Association Area
Orlando	Metroplan Orlando Planning Area
Philadelphia	DVRPC Planning Area (Except for Mercer County, NJ)
Phoenix	Maricopa County
Pittsburgh	SPC Planning Area
Portland	Metro Planning Area Plus Clark County, WA
Sacramento	SACOG Planning Area
San Antonio	AACOG Planning Area
San Diego	SANDAG Planning Area (San Diego County)
Seattle	PSRC Planning Area
SF Bay	ABAG Planning Area
St. Louis	EW Gateway COG
Tampa	TBRPC Planning Area
Washington	COG Member Jurisdictions