



# DC: The WalkUP *Wake-Up Call*

The Nation's Capital As a  
National Model for Walkable Urban Places



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Thanks to:



# I. Introduction

## Welcome to the Future.

There is a game-changing shift underway in real estate. New research reveals how walkable urban places and projects will drive tomorrow's real estate industry and the economy and what actions are needed to take advantage of these market trends.

What was perceived as a niche market is becoming *the* market. This research takes a deep look at Washington, D.C., a national pioneer in walkable urban places, to identify where development has and will take place—and the economic and social impact it will have.



## Introduction

**This research challenges** real estate developers, investors, regulators, managers, academics and citizens to rethink the way we manage the 35 percent of our nation's wealth that is invested in real estate and infrastructure, the built environment.<sup>1</sup> This is an important recalibration that affects how most of us live, work and are entertained. To ignore this structural change would be akin to ignoring the impact roads and cars had on the built environment more than a half-century ago.

This new development model is walkable urban development. Metropolitan Washington, D.C., stands at the vanguard of this trend in the nation.

For decades, real estate practitioners, observers and scholars have looked through an urban-versus-suburban lens. This can be traced to the U.S. Census, which serves as the platform for much of the research on the built environment. The Census separates its data into

- **Walkable Urban:** This form of development has much higher density, employs multiple modes of transportation that get people and goods to walkable environments and integrates many different real estate products in the same place.

Drivable sub-urban and walkable urban forms of development have market support and appeal and, despite their names, each are found in both cities and suburbs. In the case of metropolitan D.C., drivable sub-urban development is located in the District's Palisades neighborhood and in Virginia's Prince William County subdivisions. Likewise, D.C.'s Dupont Circle takes a walkable urban form, as does Reston Town Center in Fairfax County, Virginia.

Drivable sub-urban has long been the dominant approach to real estate development. Today, that is reversing; the pendulum is swinging back to walkable urban development. Market demand for

industry: place management. This new field develops the strategy and provides the day-to-day management for walkable urban places (referred to in shorthand as WalkUPs), creating a distinctive "could only be here" place in which investors and residents seem willing to invest for the long term.

This new research defines—for the first time—where most existing WalkUPs are in the metropolitan D.C. region. It shows specific locations, the physical size of the places, the product mix, the transportation options and so forth.

This study then ranks performance for these WalkUPs, based on two criteria: economics and social equity. The economic performance metrics help determine where different kinds of investors should put their capital and how these WalkUPs stack up against one another. The social equity performance metrics demonstrate whether a broad cross-section of metropolitan residents can live in or have transit access to WalkUPs.

WalkUps are the outcome of smart growth policies that have been debated for the last two decades. The time for debate is over. The market has spoken. It is now time for the public sector to encourage, the real estate industry to build and place management to be strengthened or be put in place to give the market what it wants.

This first attempt at quantifying the economics and social equity of WalkUPs is based on research methodology, titled *Walk This Way*<sup>3</sup>, that Dr. Mariela Alfonzo and I developed at the Brookings Institution. Over time, I expect the results to be modified and improved. This is not only anticipated, but it is encouraged as the field of urbanism and the real estate industry make strides in better understanding how to build and manage great places.

Sincerely,



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*Walkable urban development calls for radically different approaches to urban design and planning, regulation, financing and construction. Most importantly, it also requires the introduction a new industry: place management.*

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"principal city" and "outlying counties." It is not unlike the classic social science joke about the tipsy guest who drops his keys at the front door as he leaves a party. While searching under a streetlight at the curb, he is asked, "Why aren't you looking where you lost the keys?" He replies, "This is where the light is."

We have watched and analyzed the urban/suburban debate where the light was, even if that meant using the wrong approach with the wrong datasets.

**In recent decades in our market-based world, there have been two broad forms of metropolitan development:<sup>2</sup>**

- **Drivable Sub-urban:** This development has the lowest development density in metropolitan history. It is car/truck driven and features stand-alone real estate products and socially and racially segregated development.

drivable sub-urban development, which has become overbuilt and was the primary market cause of the mortgage meltdown that triggered the Great Recession, is on the wane. Meanwhile, there is such pent-up demand for walkable urban development—as demonstrated by rental and sales price premiums per-square-foot and capitalization rates—that it could take a generation of new construction to satisfy.

This shift is extremely good news for the beleaguered real estate industry and the economy as a whole. It will put a foundation under the economy as well as government tax revenues, much like drivable sub-urban development benefited the economy and selected jurisdictions in the second half of the 20th century.

Walkable urban development calls for dramatically different approaches to urban design and planning, regulation, financing and construction. Most importantly, it also requires the introduction of a new





II. WalkUPs  
*Defined*



# The Rise of the WalkUP

The move toward WalkUPs started nearly two decades ago in U.S. metropolitan areas. Today they promise to be a powerful driver of the economy.

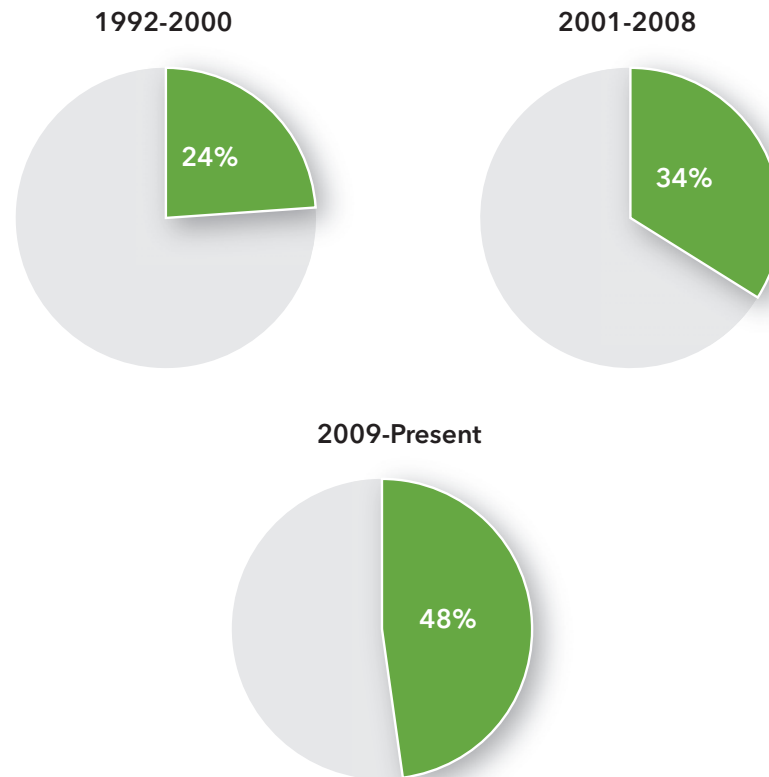
During the second half of the 20th century, the dominant development model has been the familiar drivable sub-urban approach. Most real estate developers and investors, government regulators and financiers have come to understand this model extremely well, turning it into a successful development formula and economic driver.

However, starting in the mid-1990s, the pendulum has been slowly moving back toward building WalkUPs, which was the approach embraced by the Washington, D.C., metro area and virtually every other metropolitan area prior to World War II. In recent years, real estate developers, investors, government regulators and financiers in the metropolitan D.C. area have become quite comfortable developing and managing walkable urban projects—distinguishing the nation’s capital region from most other metro areas that have not yet recognized the importance of WalkUPs in their future development.

In fact, metropolitan Washington, D.C., has emerged as the model for how the nation should develop the built environment, according to a 2007 Brookings Institution study,<sup>4</sup> as will be expanded on in this report.

## Share of Income Property in WalkUPs Over the Last 3 Real Estate Cycles

Income Property = Office, Retail, Apartment and Hotel



# Form Meets Function

“Regionally significant” WalkUPs will be the primary location of economic growth in metropolitan D.C. For most other U.S. metropolitan areas, regionally significant WalkUPs will also play a significant role in the future.

In metropolitan areas, land use is functionally categorized as either regionally significant or local serving. Regionally significant places have concentrations of employment (export or base and regional employment), civic centers, institutions of higher education, major medical centers and regional retail, as well as cultural, entertainment and sports assets. Local-serving places are bedroom communities dominated by residential development that is complemented by local serving commercial and civic uses, such as primary and secondary schools, police and fire stations,

and so on. Generally speaking, regionally significant places are where the metropolitan area earns its living while local-serving places are where people spend their non-work lives.

When form meets function, a simple matrix emerges that show how 100 percent of a metropolitan area’s land is used.

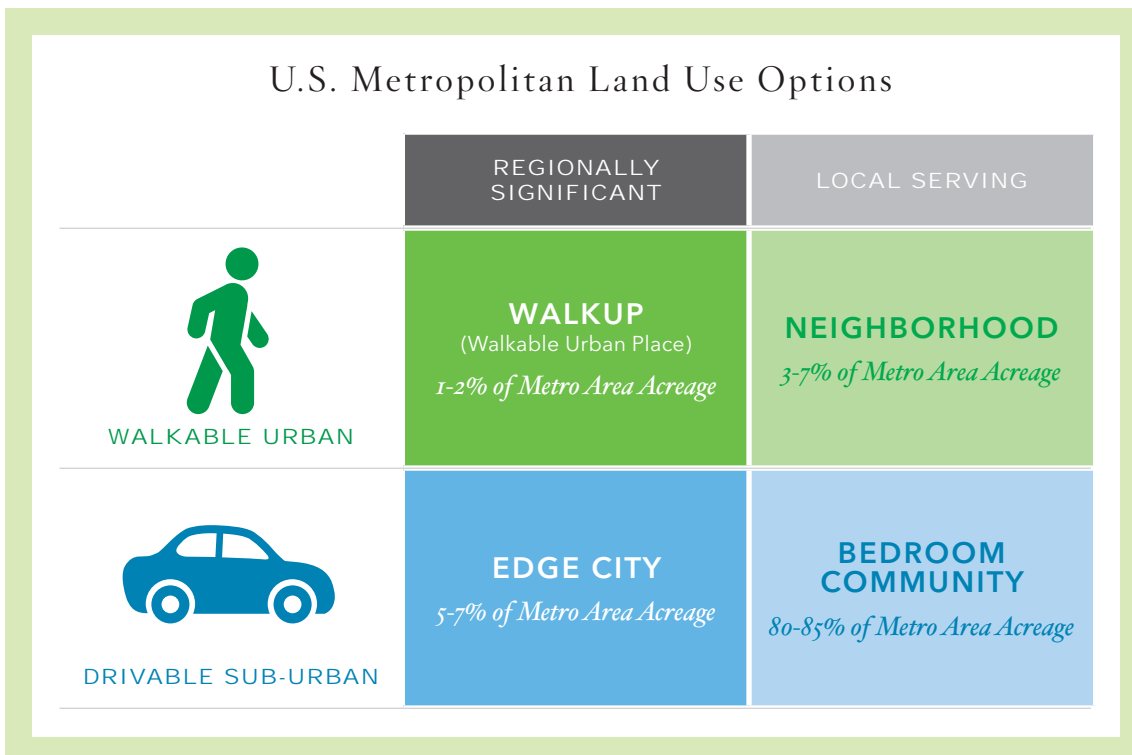
This research focuses on the upper-left quadrant of the matrix: regionally significant WalkUPs (referred to

as simply WalkUPs below). WalkUPs are where metropolitan D.C. will build much of its wealth-creating assets. This research has found that WalkUPs, a niche market 20 years ago, are becoming the market of the future, both in the metro D.C. area and, likely, in the rest of the nation’s metropolitan areas.

Future research will focus on local-serving neighborhoods, represented by the top right cell of the matrix. For the District of Columbia, this means neighborhoods like Petworth, Brookland and Cleveland Park. Outside the District, examples include Shirlington and Falls Church, Virginia. In this research, the statistics for local-serving WalkUPs are combined with drivable sub-urban development since we have not yet separated them.

Research on metropolitan D.C.’s WalkUPs is based upon the 2012 Brookings Institution report, mentioned above, that developed a methodology to define WalkUPs (geographically and by product mix) and to rank them using separate economic and social equity performance metrics. The Brookings research statistically defined regional significance as having a minimum of 1.4 million square feet of office space and/or a minimum of 340,000 square feet of retail space.<sup>5</sup> These metrics were used to rank the WalkUPs that emerged from the research and to create four levels of economic and social equity performance.<sup>6</sup>

Regionally significant and local serving WalkUPs are likely to be the major generators of real estate growth in the future. Although no fiscal impact analysis has yet been undertaken for the D.C.-area WalkUPs, their contribution to total government tax revenues in the region is expected to be many times the proportion of land they consume. In Arlington County, for example, the share of property tax assessments from the county’s seven regionally significant WalkUPs is five times the amount of the land the WalkUPs occupy.<sup>7</sup> Fiscal impact studies throughout the country indicate that WalkUPs tend to produce a significant net surplus (tax revenues minus costs of service), subsidizing the local serving areas of the jurisdiction.<sup>8</sup>



# The 6 Types of WalkUPs

There are six types of regionally significant WalkUPs in any metropolitan area. Metropolitan Washington is the only metro area that possesses an example of each.



A

PHOTOS:  
Christopher Leaman

A. The National Archives Building and Navy Memorial on Pennsylvania Ave. NW

B. A quintessential Golden Triangle street scene

C. Hines Interests' office, residential and retail mixed-use project on the old convention center land; the last surface parking lot downtown to be redeveloped

D. The Chinatown Friendship Gate at Gallery Place at 7th and H Sts.

E. Woolly Mammoth Theatre and new downtown office and residential at 7th and D Sts. NW

F, G, & H. Golden Triangle food trucks at Farruget Square



C



B



D



E

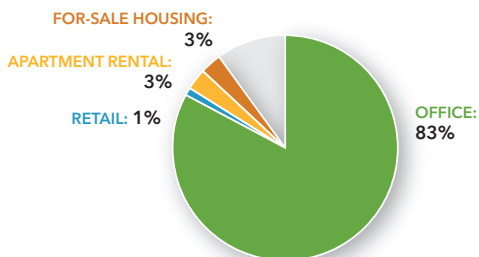
## 1 Downtown

Examples: *Downtown D.C. and Golden Triangle*

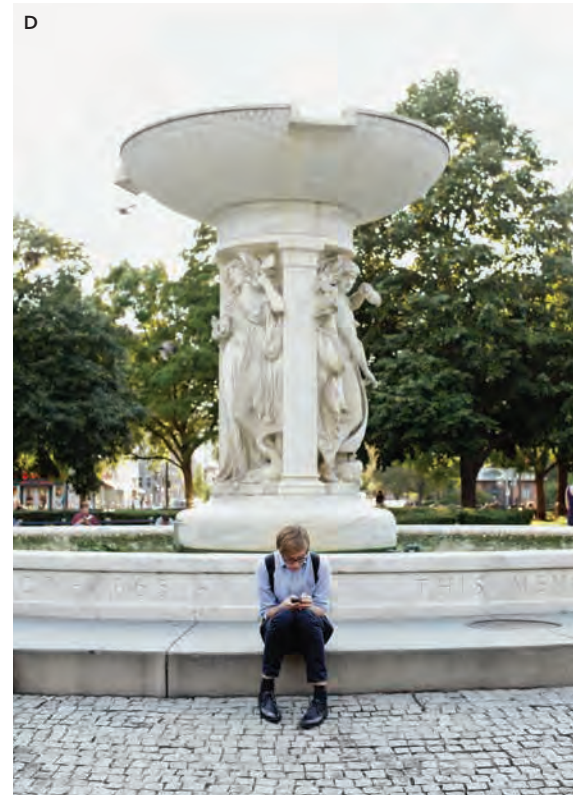
Downtown WalkUPs are the original downtown sections off a metro area's principal city. Downtown WalkUPs are dominated by office space (83 percent of total square footage) and have modest though fast-growing residential (6 percent). Only one percent of the space is occupied by retail, although one-of-a-kind regional assets (convention center, Verizon Center, museums, etc.) account for 10 percent of all space.

Product Mix: **Downtown**

Average % of Total Square Footage







## 2 Downtown Adjacent

**Examples:** *Capitol Hill, Capitol Riverfront, Dupont Circle, Foggy Bottom/West End, Logan Circle, NoMA and SW Federal Area*

Immediately adjacent to downtown, these WalkUPs usually have a lower density than downtown and possess unique character.

Downtown Adjacent WalkUPs have a substantial amount of office space (58 percent), but they also have significant residential (24 percent) and four times the relative retail of downtown (4 percent). The result is generally a lively, 24-hour environment.



**PHOTOS:**  
Christopher Leaman

**A. & B.** Waterfront sculpture and fountains at Yards Park in Capitol Riverfront

**C. & D.** Dupont Circle park and fountain

**E.** The Studio Theatre at 14th & P Sts. NW in Logan Circle

**F. & G.** Victorian row houses in Logan Circle

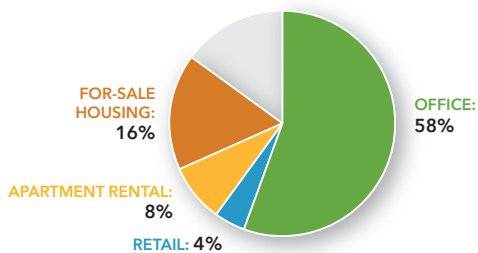
**H.** Free Wednesday night yoga in the park at Dupont Circle

**I.** Sweetgreen is among many new restaurants at the Foggy Bottom Metro Station at George Washington University

**J.** Whole Foods at 14th & P Sts. NW

### Product Mix: **Downtown-Adjacent**

*Average % of Total Square Footage*







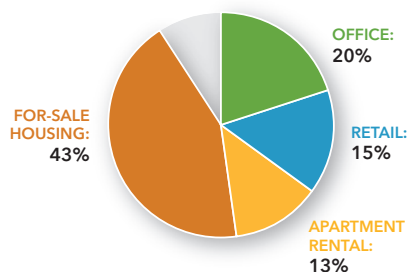
### 3 Urban Commercial

**Examples:** *Adams Morgan, Columbia Heights, Georgetown, H Street/Atlas District, Tenleytown, U Street/Shaw, Van Ness and Woodley Park*

Historically local-serving neighborhood commercial, these places declined after World War II but, in recent years, found a new economic role.

Urban Commercial WalkUPs in metro D.C. are dominated by residential property (56 percent) and are marked by more retail (15 percent) and less office space (20 percent) than downtown or downtown adjacent. The retail in urban commercial WalkUPs is generally characterized as urban entertainment, such as restaurants and nightclubs, as well boutique shops and furniture and home décor stores.

Product Mix: **Urban Commercial**  
Average % of Total Square Footage



**PHOTOS:**  
Christopher Leaman

- A.** The Northern Exchange condominium under construction at 14th and R Sts. NW by developer PN Hoffman
- B.** Recently opened Georgetown Waterfront Park
- C.** The intersection of U St., 16th St. and New Hampshire Ave. NW
- D.** Alley graffiti along U St. NW
- E.** Georgetown Waterfront Park
- F.** The Pug bar on H St. NE
- G.** Pedestrian crossing in the U Street Corridor at 16th St. and New Hampshire Ave. NW
- H. & I.** Georgetown retail on M St. NW





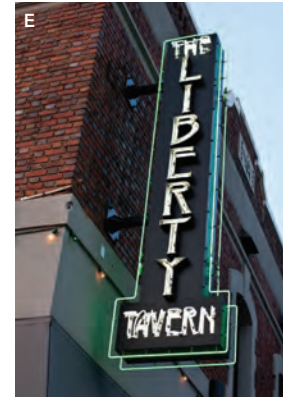
A



C



D



E

## 4 Suburban Town Center

**Examples:** Bethesda, Clarendon, Frederick, Historic Fairfax City, Old Town Alexandria, Rockville, Rosslyn and Silver Spring

Typical Suburban Town Centers are 18th or 19th-century towns that were swept up in the sprawl of the metropolitan area after World War II. Following decades of decline, they have found a new economic role.

Suburban Town Centers have relatively less office space than in downtowns or downtown adjacent areas (although offices still occupy 46 percent of all space), more residential (30 percent) and significantly more retail (16 percent).



B



G



F

**PHOTOS:**  
Christopher Leaman

**A.** Park space in the mixed residential/commercial development at N. Edgewood St. and Clarendon Blvd.

**B. & C.** Downtown Silver Spring

**D.** Iced coffee from Northside Social Coffee and Wine

**E.** Liberty Tavern on the corner of Wilson Blvd. and N. Irving St.

**F.** Sidewalk dining in Clarendon

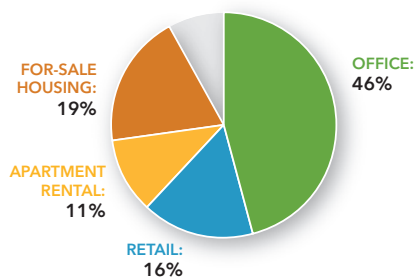
**G.** Single family neighborhood within walking distance of Clarendon

**H.** Rental apartments under construction in Clarendon

**I.** Pedestrian on Downtown Silver Spring's mosaic tile staircase

### Product Mix: Suburban Town Center

Average % of Total Square Footage



H





## 5 Strip Commercial Redevelopment

**Examples:** *Amundale CDC, Bailey's Crossroads, Ballston, Carlyle, Courthouse, Friendship Heights, New Carrollton, Pentagon City, Prince George's Plaza, Seven Corners CDC, Tysons Corner, Virginia Square, Wheaton and White Flint*

These WalkUPs were mid-to-late 20th century strip commercial that became obsolete and then evolved into higher density development.

Somewhat similar to suburban town centers, Strip Commercial Redevelopment WalkUPs have relatively less office space than in downtowns or downtown adjacent areas (46 percent of all space), more residential (31 percent) and significantly more retail (16 percent). Many of these WalkUPs include regional malls that have been or will be urbanized. This type of WalkUP will be the major focus of walkable urban development over the next generation.

PHOTOS:

Christopher Leaman

**A.** Street musician in Welburn Square in Ballston, Arlington

**B.** Commuters on their way home in Ballston

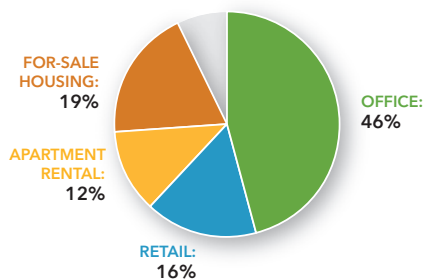
**C.** Commercial office space and Virginia Tech Research Center on N. Glebe Road in Ballston

**D., E., F. & G.** Green space and farmers' market in Welburn Square

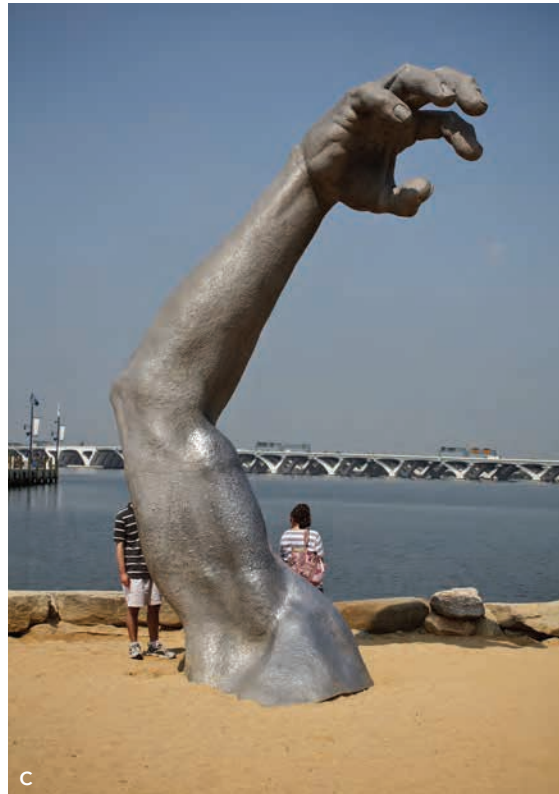
**H.** Walkway in Ballston at Stuart and 9th St. N



Product Mix: **Strip Commercial Redevelopment**  
Average % of Total Square Footage





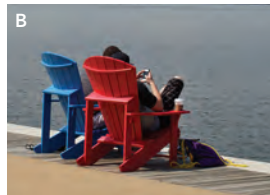


## 6 Greenfield

**Examples:** *Crystal City, Kentlands, National Harbor and Reston Town Center*

Often criticized as being sterile, Greenfield WalkUPs are situated where major investment has quickly turned formerly undeveloped land into a walkable urban place.

Greenfield WalkUPs have among the most balanced product mix. Office (45 percent) is in balance with rental and for-sale residential (33 percent), while retail (6 percent) tends to be urban entertainment and boutiques. The large upfront capital costs required for Greenfield WalkUPs and high market risk mean few will probably be attempted in the next generation.



**PHOTOS:**  
Christopher Leaman

**A. & B.** The Marina at National Harbor

**C.** *The Awakening*, an aluminum sculpture by J. Seward Johnson, Jr., was relocated to National Harbor from Hains Point

**D.** Boutique retail along American Way

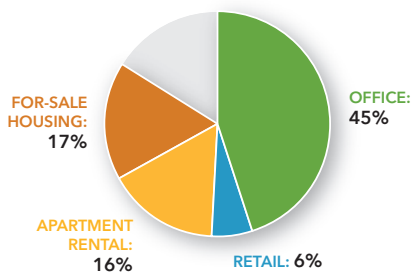
**E., F. & G.** Restaurant and retail development at the American Way and Waterfront St.

**H.** The intersection of Mariner Passage and Waterfront St.

**I.** Gravel bike paths along the water's edge

**J.** Rosa Mexicano on Waterfront St.

Product Mix: **Greenfield**  
Average % of Total Square Footage











III. WalkUPs in  
*Metro D.C.*

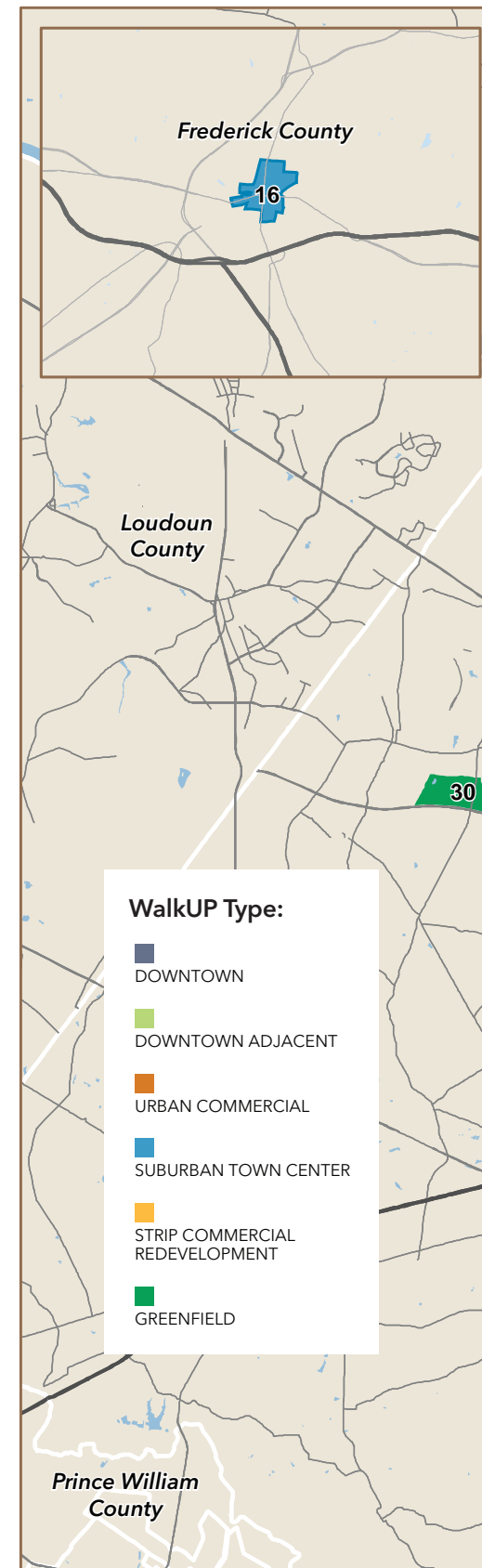


# The 43 WalkUPs

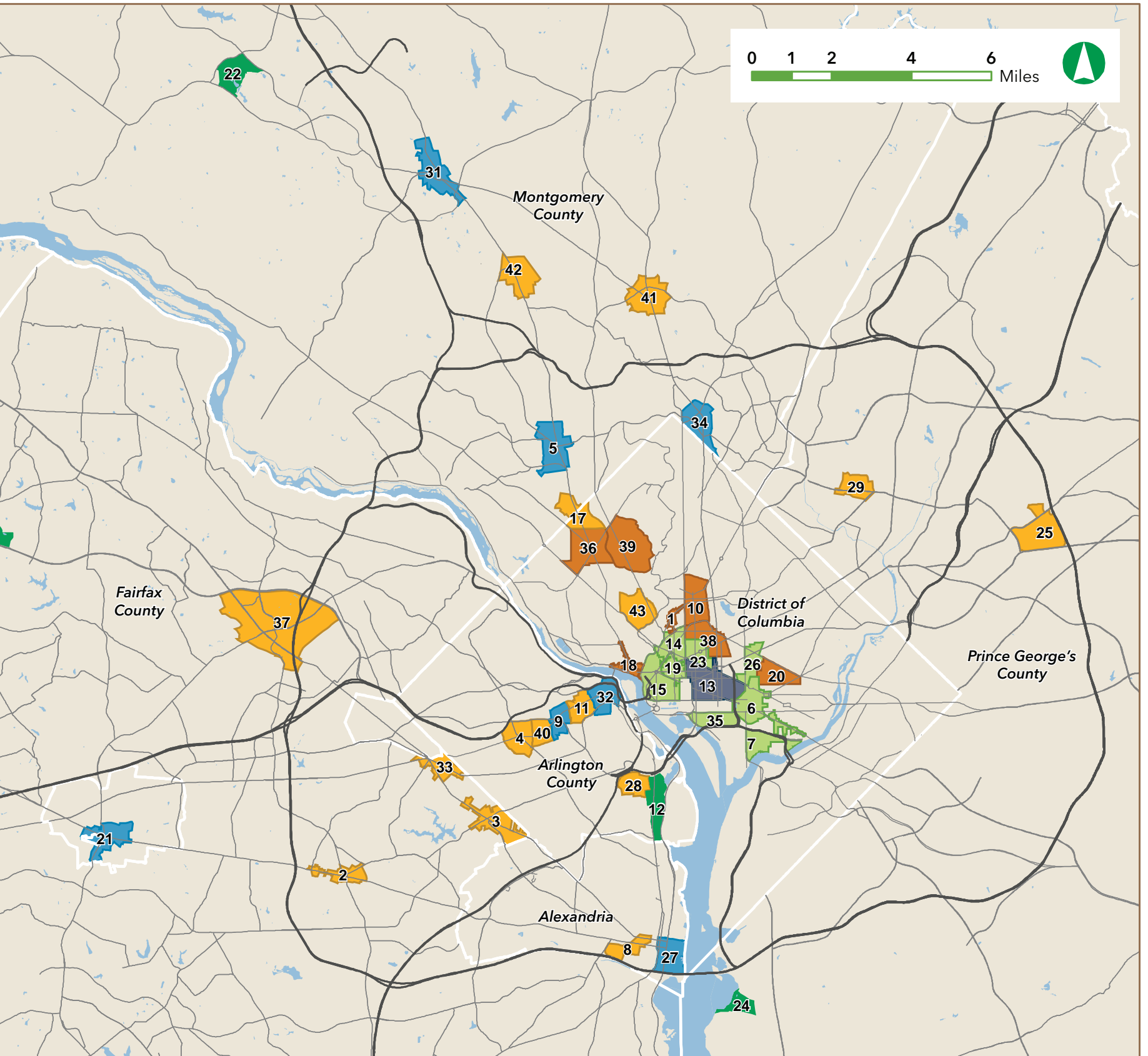
Though concentrated inside the Beltway, Metropolitan D.C.'s regionally significant walkable urban places span seven counties.

ID #	WalkUP Name	Acres
1	Adams Morgan	61.82
2	Annandale	242.70
3	Bailey's Crossroads	471.11
4	Ballston	342.85
5	Bethesda	518.41
6	Capitol Hill	510.89
7	Capitol Riverfront	304.73
8	Carlyle	223.81
9	Clarendon	207.83
10	Columbia Heights	413.17
11	Courthouse	246.63
12	Crystal City	365.34
13	Downtown DC	635.49
14	Dupont Circle	284.51
15	Foggy Bottom/West End	498.61
16	Frederick	377.14
17	Friendship Heights	359.64
18	Georgetown	132.60
19	Golden Triangle	179.54
20	H Street/Atlas District	292.02
21	Historic Fairfax City	439.40
22	Kentlands	385.76

ID #	WalkUP Name	Acres
23	Logan Circle	228.57
24	National Harbor	190.95
25	New Carrollton	597.69
26	NoMA	240.35
27	Old Town Alexandria	377.98
28	Pentagon City	240.46
29	Prince George's Plaza	277.43
30	Reston	246.32
31	Rockville	518.60
32	Rosslyn	316.45
33	Seven Corners CBC	278.75
34	Silver Spring	403.16
35	SW Federal Center	266.21
36	Tenleytown	571.47
37	Tysons Corner	2176.34
38	U Street/Shaw	361.42
39	Van Ness	753.81
40	Virginia Square	190.56
41	Wheaton	489.78
42	White Flint	444.37
43	Woodley Park	382.71









# Geographic Findings

Geography-focused distinctions—from their size to their location—define Metropolitan D.C.’s WalkUPs.

- **There were 43 regionally significant WalkUPs in metro D.C. in 2012.** The amount of land in the metropolitan area used by these WalkUPs is .91 of 1.0 percent, and their size ranges from 62 to 2,176 acres with an average of 408 acres. Walking distance is what limits a WalkUP’s size.
- **The density of these WalkUPs averages 0.62 gross floor area ratio (FAR),<sup>9</sup> ranging from 0.13 to 4.26.** The gross FAR for the region, excluding these 43 walkable urban places, is only 0.04. In other words, the regionally significant WalkUPs are 15 times denser than the rest of the region.
- **The WalkUPs cluster in the northwest portion of the metropolitan area,** which has been metro D.C.’s “favored quarter” since at least World War II.<sup>10</sup>
- **Some 34 percent of metropolitan jobs are located in WalkUPs.** Overall, WalkUPs have an employment density of 50.5 jobs/acre, compared with non-WalkUPs’ employment density of only 0.9 jobs/acre. About 65 percent of the region’s jobs in public administration and 44 percent of its jobs in knowledge industries are in WalkUPs. Local-serving jobs (grocery clerks, teachers, police officers, firefighters and sanitation workers, etc.), which account for 35 percent of all jobs, are least likely to locate in WalkUPs.<sup>11</sup> Therefore, the share of export (or base) and regional jobs that are found in metro D.C. WalkUPs is probably closer to 50 percent.
- **Since 2000, new WalkUPs have emerged in the District’s northeast and southeast areas, especially along the Metro’s Green Line.** This brings more employment and opportunities closer to low-income households. Few other metropolitan areas are seeing regionally significant private sector investment outside their respective favored quarters.
- **Only 42 percent of the WalkUPs are in the District of Columbia. A surprising 58 percent are in the suburbs. The District of Columbia has 49 percent of the total square footage of all walkable urban real estate product versus 51 percent in the suburbs.** The growth of new regionally significant WalkUPs in the suburbs over the past 20 years is the major reason why metropolitan D.C. has the most walkable urban places in the country. The trend toward WalkUPs is as much about transforming the suburbs as it is about redeveloping the central city.
- **Thirty-three of the 43 regionally significant WalkUPs, or 77 percent, have rail transit or are currently installing rail transit.** Two additional WalkUPs (Reston Town Center and Bailey’s Crossroads) have rail transit planned within the next decade, raising the total to 81 percent. Eight WalkUPs have no rail service and none planned. Statistically, there is no proven causal connection between rail transit and the development of walkable urban places. However, the high percentage of WalkUPs with rail suggests that it is an important factor. As the WalkUPs without rail demonstrate, however, it is possible to develop walkable urbanism without rail.
- **There is about one regionally significant WalkUP for every 130,000 residents in metro D.C., the equivalent of seven to eight WalkUPs for every million residents (5.7 million residents in the metro area divided by 43 places).** Assuming metropolitan D.C. is the model for how the country is developing the built environment, this would suggest that there are hundreds of regionally significant WalkUPs that should be developed in U.S. metro areas over the next generation. However, is too early to say with confidence that this

formula will hold as the WalkUPs trend matures. In the 1960s, when regional malls were first being developed, there was similar uncertainty about the population needed to support each mall.



# Product Findings

The strength of WalkUPs for many forms of income-producing real estate has become apparent. Office, hotel, rental residential and sports/convention development have each adapted to this form. However, retail and for-sale housing still face challenges.

- **There are 4.1 billion square feet of real estate in metropolitan D.C.** However, this figure notably omits “owner-user” space (i.e. government, corporate and institutional-owned space). That is because there is not a reliable data source for this type of real estate, though this might be addressed in the future.<sup>12</sup>
- **The amount of space in regionally significant WalkUPs is 11.6 percent of the total.**
- **Income-producing property, which includes office, apartment, retail, institutional and all other non-for-sale real estate, totals 1.34 billion square feet and accounts for 33 percent of metro D.C.’s income real estate.** Again, this excludes owner-occupied space, which would certainly increase this percentage. WalkUPs account for 29 percent of all the income property in the region. The rest falls into the other cells of the matrix on page 7, namely regionally significant and local-serving drivable sub-urban and local-serving walkable urban.
- **Income-producing real estate in WalkUPs varies between 2.4 percent and 60 percent of all space in the region.** Again, the local serving WalkUPs, like Petworth in the District or Shirlington in Virginia, are not included in these numbers, so total WalkUP market share is higher. In order of lowest to highest, the percentage of income-producing WalkUPs by product square footage are:
  - > Flex Industrial ..... 2.3 percent
  - > Industrial ..... 3.7 percent
  - > Health Care ..... 7.6 percent
  - > Institutional ..... 17.2 percent
  - > Rental Residential ..... 13.8 percent
  - > Retail ..... 21.5 percent

- > Hotel ..... 51.3 percent
- > Office ..... 54.8 percent
- > Sports/Convention ..... 60.0 percent

- **For-sale residential (single family, townhouses and condominiums) account for 67 percent of all real estate in the region.** Only 3 percent of this inventory is in WalkUPs. The rest is split between drivable sub-urban and local-serving WalkUPs, although it would seem that the majority would be in drivable sub-urban locations.
- **Average vacancy-adjusted annual office rent in WalkUPs is \$36.78 per square foot, compared to \$20.98 for drivable sub-urban office rents, a 75 percent rental premium.** Comparable data for 20 or 30 years ago is not available, but most real estate professionals would recall that drivable sub-urban rental rates had a significant premium over the few WalkUPs in existence in the 1980s. Those positions have switched, giving a significant market advantage to WalkUPs and indicating pent-up demand.
- **Valuations of office space are significantly higher in WalkUPs.** Annual office rental income in the region totals \$13.6 billion; 68 percent of these rents are generated by regionally significant WalkUPs. Valuations are directly related to rental income and capitalization rates. Since “cap rates” tend to be substantially lower in WalkUPs,<sup>13</sup> which translates into higher valuations, combining the rent premiums and the lower cap rates results in an even higher percentage of metro area office valuations in WalkUPs.
- **Among for-sale housing, per-square-foot values for regionally significant WalkUPs are 71 percent**

**higher than the average of all other places in the D.C. metro area.** WalkUps’ average price is \$398 per square foot versus the drivable sub-urban average price of \$222 per square foot. Once again, if local-serving walkable urban for-sale housing were combined with these regionally significant WalkUP housing results, the premium would probably be even larger. The 2012 Brookings research, which had a larger sample of drivable sub-urban for-sale housing, indicates that there is more than a 100 percent premium for WalkUPs over drivable sub-urban for-sale housing on a price per-square-foot basis.





OFFICE SPACE  
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# IV. WalkUP *Trends*



# The Last Three Real Estate Cycles

There are big questions facing developers, investors and public officials: What direction is the real estate market headed? Is it more drivable sub-urban or more walkable urban?

Data covering the past three metro D.C. real estate cycles (1992 to 2000, 2001 to 2008, and 2009 to the present) make it possible to see where different real estate products have been built. Only data for office, retail, apartments and hotels for these three cycles is available.

As mentioned, data is available only for regionally significant WalkUPs, the balance being both drivable sub-urban locations and local-serving WalkUPs. This data, therefore, understates the amount of walkable urban product developed during each cycle since local-serving WalkUPs are lumped in with drivable sub-urban.

## REAL ESTATE CYCLES QUANTIFIED

- **The share of the four income property categories (office, retail, apartment and hotel) located in WalkUPs increased steadily over the past three real estate cycles.** These four product types together accounted for 24 percent in the 1990s cycle, and rose to 34 percent in the 2000s cycle and 48 percent in the current cycle that started in 2009.
- **Office space was the driver of the trend toward building more regionally significant walkable urban product.** Some 38 percent of the office space delivered in the 1990s cycle was built in WalkUPs. This increased to 49 percent in the 2000s and to 59 percent in the current cycle that started in 2009.
- **Rental apartment developers have begun to aggressively pursue walkable urban locations.** In the 1990s, only 12 percent of the region's new rental apartment space was built in WalkUPs. In the early 2000s, this rose to 19 percent and has

**skyrocketed to 42 percent today.** In addition, the volume of rental apartments in local-serving WalkUPs has probably increased the walkable urban rental apartment market share considerably in recent years, as local-serving WalkUPs in Petworth and Mount Vernon show.

- **Development of retail space lags. Only 8 percent of the retail space developed in the region in the 1990s was located in WalkUPs. For the early 2000s, it rose to 16 percent but has fallen to 13 percent for the cycle starting in 2009.** The likely reason is that many, though not all, retail tenants have not yet figured out how to build walkable urban retail formats, particularly when it comes to big box stores. Many smaller specialty stores (Urban Outfitters, Brooks Brothers, etc.) and many grocery stores (Safeway, Harris Teeter, Whole Foods, etc.) have walkable urban formats. The big box retailers like Wal-Mart are just attempting walkable urban locations. Big box walkable urban pioneers, such as Target and Home Depot, only have five or so years experience with this format. Adding local serving WalkUPs to these product totals will probably significantly increase the percentage of retail that is walkable urban in the current cycle; many rental apartments over grocery stores are under construction in local-serving WalkUPs.
- **Tysons Corner and White Flint, two of the new WalkUPs in metro D.C., are important models for the region and country.** Both represent large strip commercial redevelopment WalkUP types and both were the poster children of "edge city" drivable sub-urban development in the late 20th century. They are significant for another reason: Many of the neighborhood associations surround-

ing these places became supporters of increased density because of the promised walkable urban future. NIMBYs (Not in My Backyard) became YIMBYs (Yes In My Backyard). Tysons Corner is about to open four new Metrorail stations. Because of its size, Tysons Corner will likely be split into three, or even four, WalkUPs. Currently it covers 2,176 acres when the metropolitan average for a WalkUP is 408 acres.

- **Walkable urban development used to be a niche market. Today and in the future, it will be considered the market.** This will become increasingly obvious once local-serving walkable urban development is folded into the analysis.



# Metro DC: A Model for the Country

The nation's capital region, intertwined with the federal government and buffered from some recessionary effects, seems an unlikely national model for real estate development. But its signature characteristics include the elements needed to thrive in the current and future knowledge economy.

Metropolitan Washington, D.C., is an improbable model for the future of the built environment. As the nation's capital, it benefits from a one-of-a-kind economic and employment base, namely the federal government, which has a recession-resistant foundation.

The counter-argument for those who maintain that the presence of the federal government disqualifies the nation's capital from consideration as a model for the future of the built environment is that all metropolitan areas have a unique base economy. In Detroit, that industry is autos. In Seattle, it is aircraft and software. In Columbus, it is state government and insurance. Having a unique economic base cannot disqualify a metropolitan area from being the national model.

In addition, metropolitan D.C. resembles other recent boomtowns. Like Dallas, Orlando and Atlanta, it is a southern metro that has been "invaded by Yankees" who fuel its population and boost its employment. Like Austin, Boston, San Francisco/San Jose and Raleigh, it has a notable technology sector. Metro D.C. also sprawled in a drivable sub-urban fashion in the late 20th century, just like all boomtowns, yielding arguably the worst traffic congestion in the country.

Still, metropolitan D.C. sits near or at the top of surveys on walkability. According to a 2007 Brookings survey, the greater D.C. area has more WalkUPs per capita than any large metro area. Notably, metro D.C.'s population holds more college degrees per capita than anywhere else in the nation. An educated populace—the number of people over age 25 with college degrees—is an indicator of the strength of the local knowledge economy. And knowledge workers want walkable urban options.

Richard Florida, director of the Martin Prosperity Center at the University of Toronto School of Management and originator of the concept of the "creative class," has most clearly demonstrated this connection. As Florida says in *The Rise of the Creative Class Revisted*,<sup>14</sup> "the Creative Class is ... the key force that is shaping our geography, spearheading the movement back from outlying areas to urban centers and close-in walkable suburbs." He quotes Carly Fiorina, then-CEO of Hewlett-Packard Co., as saying, "Keep your tax incentives and highway interchanges; we will go to where highly skilled people are."

Florida and this research demonstrate that most highly skilled, highly educated creative class workers want to work and live in walkable urban places. The creative class is driving the current and future knowledge economy and, in turn, driving the demand for walkable urban places.

this population grew from 20 percent in 1990 to 28 percent in 2010.

Putting aside the DC metro area, the next five most walkable large U.S. metropolitan areas have college-educated populations in 2010 that were equivalent to metro D.C.'s in 1990. A plausible assumption can be made regarding education levels: that the next five most walkable metro areas are 20 years ahead of both the nation and the lowest five metro areas.

Further, assume that metro D.C. is roughly 40 years ahead of the nation as a whole. It is possible that the country will follow the trajectory of the most walkable metro areas and metro D.C. over the next few decades. As education levels continue to increase and the country evolves further into the knowledge economy, the walkable urban trend will continue.

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*Metro D.C.'s population holds more college degrees per capita than anywhere else in the nation. An educated populace is an indicator of the strength of the local knowledge economy. And knowledge workers want walkable urban options.*

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In short, Metropolitan Washington, D.C., can be used as a model for the future of the built environment because it is also the farthest along in adjusting to the demands of the knowledge economy and highly educated workers. The graph on the following page shows the growth in college-educated residents in the five least walkable large U.S. metros as well as the the nation as a whole; as illustrated in the chart,

Also consider that in 1990, metro D.C. had few meaningful walkable urban areas. Its downtown—like many city centers across the nation—was abandoned and considered dangerous. No suburban-located walkable urban places had yet emerged, except for Old Town Alexandria and Rosslyn. When Joel Garreau wrote *Edge City* in 1989, the seminal book about the rise of drivable sub-urbanism, his prime example

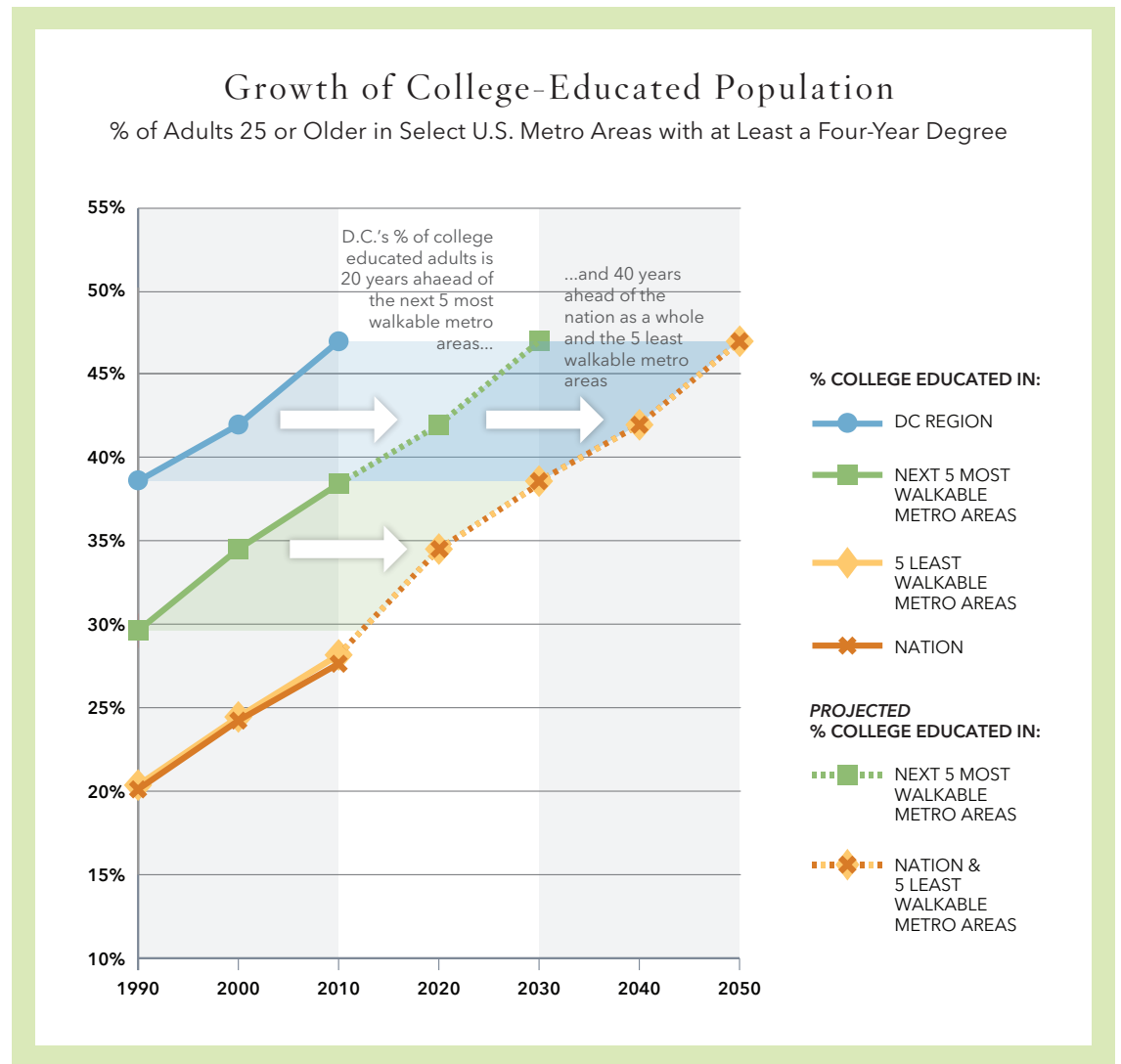


was Tysons Corner in suburban Virginia. It was the world's largest drivable sub-urban concentration of commercial enterprises. Tysons is now on the path of becoming walkable urban.

A rise in highly educated knowledge workers has powered the explosion in demand for and development of walkable urban places in metro D.C. and elsewhere. These highly educated creative class workers, especially the young Millennials (born between 1982 and 2004), want the option of living and working in walkable urban places. Since metro D.C. has relatively more of these workers than any other metropolitan area, it is not surprising that it leads the WalkUPs phenomenon. As these Millennials age, many seem to be moving to or near suburban WalkUPs, such as Arlington. When it comes to developing suburban WalkUPs, metro D.C. has a substantial lead over all other U.S. areas.

Development of WalkUPs is obviously not confined to metropolitan D.C., as the 2007 Brookings survey revealed. *The Wall Street Journal* has recently reported on numerous examples of corporate headquarters moving back into downtown Chicago and even downtown Detroit, as well as the rise of high-tech concentrations such as "Silicon Alley" in New York City and the growth of high-tech firms south of Market Street in San Francisco.

The trajectory for large metropolitan areas—and the country as a whole—is toward a better-educated population, the expansion of the knowledge economy and a growing demand for more walkable urban places. Metro D.C. just happened to get there first.



A low-angle photograph of a modern, multi-story building with a dark grey, textured facade. The building features several windows with bright yellow frames and balconies with white metal railings. The perspective is looking up, creating a sense of height and architectural detail.

**v. WalkUP**  
*Rankings*





COPPER



SILVER



GOLD



PLATINUM

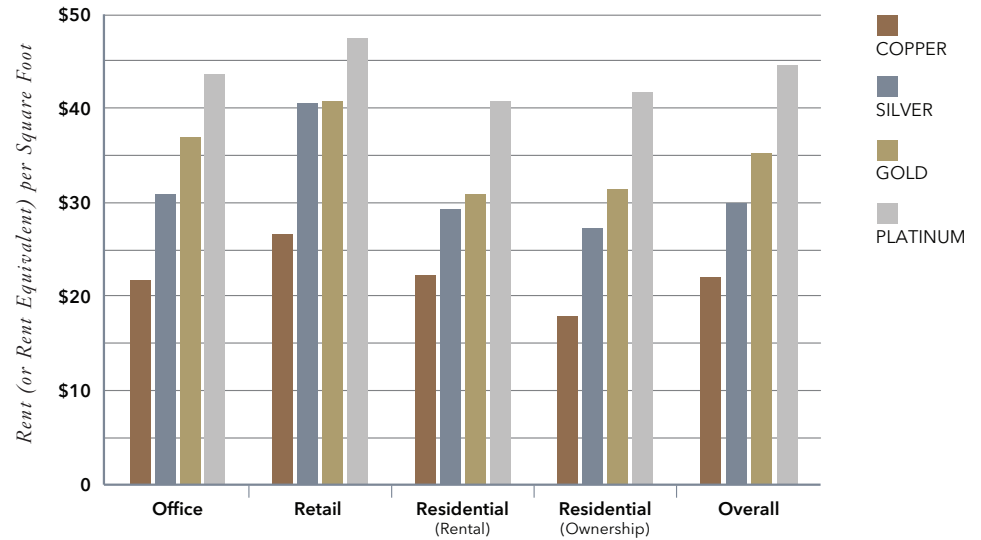
# Economic Rankings

WalkUPs in Metro D.C. fall into four levels when measured by economic performance. Each WalkUP level has different growth and investment potential than the others.

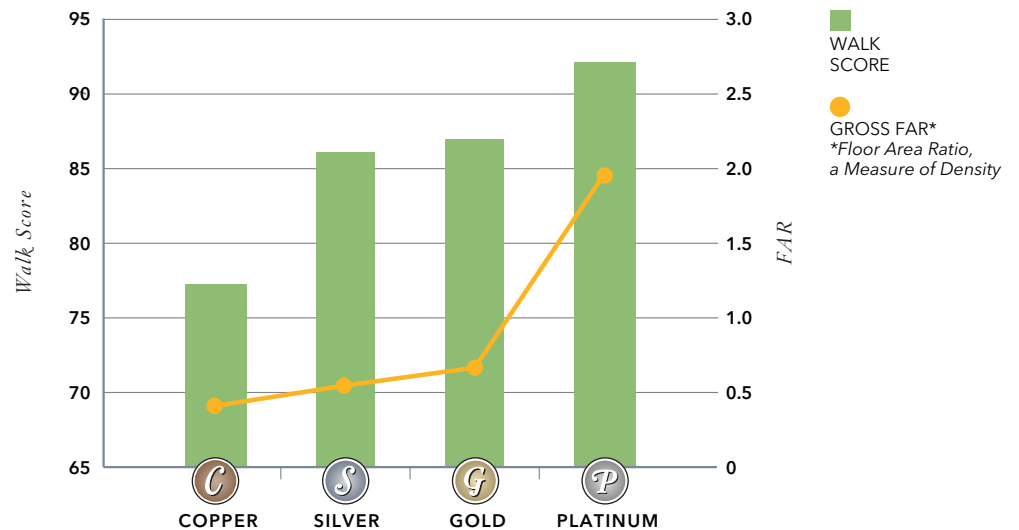
These charts summarize the relative rent, Walk Score and FAR performance of the 42 WalkUPs (SW Federal Area was omitted due to data irregularities) by level. Each ranking is based upon the rents achieved for office, retail, rental apartment and for-sale housing (converted to the equivalent of annual rent).

The average rent per square foot for the WalkUP was determined and weighted based upon the percentage of square feet per product type. The assumption is that the amount the market is willing and able to pay in rent is a proxy for the economic performance of the WalkUP. Rent is a proxy to be sure, but the best proxy we have at the moment.

Rents by Product Type



Walk Score & FAR by Category





# COPPER

- Annandale
- Bailey's Crossroads
- Crystal City
- Frederick
- H Street NE/  
Atlas District
- Historic Fairfax City
- Kentlands
- New Carrollton
- Prince George's Plaza
- Rockville
- Seven Corners CBC
- Silver Spring
- Tysons Corner
- Van Ness
- Wheaton
- White Flint

## CHARACTERISTICS

The lowest level of economic performance, Copper WalkUPs have generally demonstrated the *intention* to be walkable urban. These places have decided to invest in transportation infrastructure, revised their zoning and sometimes introduced place management. However, they have not yet seen dramatic new walkable urban development and are not close to achieving critical mass. Some private investment in walkable urban projects may have begun but the Copper WalkUP may still be drivable sub-urban in nature or the redevelopment may be fledgling.

The Copper level WalkUPs have the lowest rents, are the least dense and are the least walkable. Compared to the rest of the drivable sub-urban region, there is only a 4 percent price premium for office space in these WalkUPs over drivable sub-urban office space. However, for-sale housing prices are 13 percent higher, residential rental rates are 23 percent higher and retail rates are about 26 percent higher.

## OBSERVATIONS

Copper WalkUPs Tysons Corner and White Flint are national models of strip commercial redevelopment. Both are at the Copper level since they have recently made or committed to make significant transit improvements, and both have dramatically increased and made legal walkable urban zoning. Tysons Corners, as the largest drivable sub-urban location in the country (with more than 42 million square feet), is about to open four Metro stations. Tysons covers 2,176 acres, nearly twice the acreage of the five Rosslyn-Ballston corridor WalkUPs (1,305 acres). There is no doubt that Tysons will evolve into at least three separate WalkUPs, each with its own character, density, product mix and performance, and place management.

Some WalkUPs have achieved the Copper ranking without much conscious effort. Examples are Seven Corners, Bailey's Crossroads and Annandale, all in Fairfax County, Virginia, and Van Ness in the District of Columbia. While comprehensive plans have been proposed to transform these places into more vibrant WalkUPs, the character is still perceived as drivable sub-urban with little private/nonprofit sector-led effort to accelerate and manage these places. One notable exception may be Bailey's Crossroads,

which will probably be served by the Columbia Pike streetcar—a game-changing investment.

An important Copper example is Silver Spring, especially when viewed with its social equity ranking (Platinum, the highest). Silver Spring walks the tightrope in attempting to achieve higher economic returns without gentrifying and detracting from its unique and diverse character.

There are many potential WalkUPs waiting to move onto the WalkUP list. One that stands out is Potomac Yards in Alexandria. The proposed private sector-financed Metro station will mark the beginning of its transformation while the required greater density of zoning is now in place. This will spark the redevelopment of the existing big box center, anchored by Target and a multiplex cinema, into high density, mixed-use development, converting the current "interim" land uses into a WalkUP. Another potential WalkUP is the Minnesota Avenue Metro station area, which will emerge as the greater center city builds out over the next 10 to 20 years.

Prince George's County has three WalkUPs listed as Copper (New Carrollton, Prince George's Plaza and National Harbor). There are others that could earn a place on the Copper list in the future, such as West Hyattsville, College Park, Naylor Road and Branch Avenue, the result of new development and place management. The key to the evolution of the new WalkUPs to the northeast and southeast is the expansion of the "favored quarter." No metropolitan area in the country has witnessed substantial market-based employment growth outside the favored quarter. However, land and infrastructure constraints in metro D.C.'s favored quarter have led to this tentative expansion, which currently includes WalkUPs such as NoMA, Capitol Waterfront, New Carrollton, Wheaton and Silver Spring. Metro D.C. growth outside the favored quarter is the first market-based bridging of the notorious west-east divide and is to be welcomed since it brings services and jobs where they are needed most. Still, it is important to recognize how unusual and tentative this trend is. To continue, it must be nurtured by infrastructure and zoning changes rather than by levying onerous costs or fees on future development.

## Average Key Metrics

**Walk Score:** 77.30  
**Acreage:** 531.1 Acres  
**Gross FAR:** 0.41  
 (Floor Area Ratio)

### Annual Rent per Sq. Ft. (\$ = \$10)

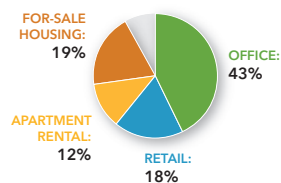
<b>OFFICE:</b>	\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$21.82
<b>RETAIL:</b>	\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$25.17
<b>APARTMENT:</b>	\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$22.02

### Housing per Sq. Ft. (\$ = \$10)

<b>FOR SALE HOUSING:</b>	\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$252.16
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## Square Footage

TOTAL: 9.3 million sq. ft.







## SILVER

- Adams Morgan
- Ballston
- Bethesda
- Carlyle
- Clarendon
- Columbia Heights
- Courthouse
- National Harbor
- Old Town Alexandria
- Pentagon City
- Reston Town Center
- Rosslyn
- U Street/Shaw
- Woodley Park

### CHARACTERISTICS

Places in the Silver tier have the private development and, usually, the place management required to become a regionally significant WalkUP, but critical mass has not yet been achieved—although it is obvious it eventually will.

Silver WalkUPs have the greatest value-creation potential for investors and developers. While they may still have an image as being somewhat economically risky, as evidenced by their high capitalization rates and relatively lower valuations, this will likely be improved with more development and place management. The result will be lower capitalization rates and, therefore, higher valuations as they move into the Gold tier.

Silver WalkUPs have 44 percent higher rents and are 53 percent more dense than Copper WalkUPs. They achieve a nine point higher Walk Score on average.

### OBSERVATIONS

Each Silver WalkUP took a different path to reach this level of economic performance. National Harbor and Reston Town Center are Greenfield WalkUPs, which can suffer from feeling sterile. However, all have made remarkable strides in creating walkable urban vibrancy for specific target markets attracted to new development. Carlyle and Pentagon City have been strip commercial redevelopment WalkUPs, taking advantage of either federal government or regional mall anchors at their Metro stations.

Old Town Alexandria has leveraged its historic character, innate urban character, tourism and arts.

### Average Key Metrics

**Walk Score:** 86.18  
**Acreage:** 319.0 Acres  
**Gross FAR:** 0.63  
 (Floor Area Ratio)

#### Annual Rent per Sq. Ft. {\$ = \$10}

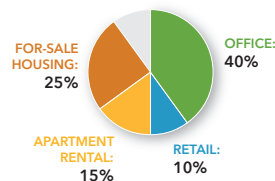
<b>OFFICE:</b>	\$\$\$\$\$\$\$\$\$\$\$	\$33.01
<b>RETAIL:</b>	\$\$\$\$\$\$\$\$\$\$\$	\$37.25
<b>APARTMENT:</b>	\$\$\$\$\$\$\$\$\$\$\$	\$28.93

#### Housing per Sq. Ft. {\$ = \$10}

<b>FOR SALE HOUSING:</b>	\$\$\$\$\$\$\$\$\$\$\$	\$413.77
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#### Square Footage

**TOTAL:** 8.6 million sq. ft.



Its major drawback is a lack of rail transit. Columbia Heights is a national model of urban commercial WalkUP redevelopment, focusing on regional retail while maintaining a diverse, mixed-income community.

Many of Arlington's WalkUPs are in the Silver tier. Arlington has more WalkUPs per capita than any jurisdiction in the country and is *the* suburban model of walkable urban development.

Bethesda barely missed a Gold ranking. The redevelopment of the area adjacent to the south of the Metro station has been a national model, as has its place management. The Woodmont Triangle is where the future of opportunity exists.

The lack of private/nonprofit place management is a concern for future economic progress in Old Town, Carlyle, Pentagon City and Columbia Heights.

Adams Morgan has successfully implemented an urban entertainment strategy, but it has possibly leveled off in performance, unable to broaden this strategy.





## GOLD

Capitol Hill  
 Capitol Riverfront  
 Dupont Circle  
 Friendship Heights  
 Logan Circle  
 NoMA  
 Tenleytown  
 Virginia Square

### CHARACTERISTICS

Gold WalkUPs have achieved critical mass; there is a “there-there.” Investors recognize this by lowering capitalization rates (increasing valuations). Land prices are at a premium, reflecting the higher rents and selling prices per-square-foot that have been achieved. Developers are attracted to Gold WalkUPs since the market risk is low and there are relatively assured “exit strategies” for selling stabilized projects to institutional investors.

Average rents for Gold WalkUPs are 19 percent higher than those of Silver WalkUPs, although their Walk Score and density are similar. Gold WalkUPs’ for-sale housing prices are twice the drivable sub-urban average in the metro area, though only 10 percent higher than Silver for-sale housing prices.

Two factors stand out in the economic performance of these WalkUPs. One is that most have aggressive place management, mainly nonprofit BIDs, although there are public sector exceptions. The other factor is described in the Brookings *Walk This Way* research:

*“Walkable places benefit from being near other walkable places. On average, walkable neighborhoods in metropolitan Washington that cluster and form walkable districts exhibit higher rents and home values than stand-alone walkable places.”*

The greater center city of the District (the downtown, downtown adjacent and some of the urban commercial WalkUPs) have achieved Gold and even Platinum rankings as a result of clustering. The economic performance of both NoMA and Capitol Riverfront is particularly remarkable since they have only been in existence for one real estate cycle.

### Average Key Metrics

**Walk Score:** 87.62

**Acreage:** 356.4 Acres

**Gross FAR:** 0.62  
 (Floor Area Ratio)

#### Annual Rent per Sq. Ft. {\$ = \$10}

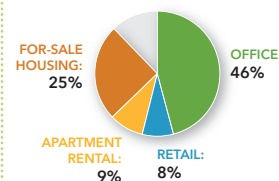
<b>OFFICE:</b>	\$\$\$\$\$\$\$\$\$ \$39.29
<b>RETAIL:</b>	\$\$\$\$\$\$\$\$\$ \$42.82
<b>APARTMENT:</b>	\$\$\$\$\$\$\$\$\$ \$35.74

#### Housing per Sq. Ft. {\$ = \$10}

<b>FOR SALE HOUSING:</b>	\$\$\$\$\$\$\$\$\$ \$455.69
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### Square Footage

TOTAL: 8.1 million sq. ft.



### OBSERVATIONS

There are a number of WalkUPs that do not have active place management but still have achieved Gold ranking. This is more a matter of having been “dealt a good hand” by the market. Dupont Circle was the first WalkUP to emerge after the walkable urban decline of the late 20th century. It was built in the former luxury mansion district, Embassy Row, and benefited from early reinvestment by the gay community—now recognized as an urban pioneering demographic.

Still, competition from well-managed competitive WalkUPs could derail the economic success of these unmanaged WalkUPs. Dupont, in particular, could be vulnerable to its “fat, dumb and happy” approach to place management. For example, there are no plans to have streetcars—the region’s major rail transit investment in the early 21st century—to connect Dupont to the rest of the WalkUPs in the District. That will be seen in retrospect as a major mistake.





## PLATINUM

Downtown D.C.  
Foggy Bottom/West End  
Georgetown  
Golden Triangle

### CHARACTERISTICS

This exalted ranking has been achieved by only four of the 43 WalkUPs. All are in the District, which is remarkable considering that 30 years ago these places were viewed as secondary investment opportunities or worse. The Platinum ranking is the clearest indication that the walkable urban trend has revitalized the center city, particularly over the past 15 years, and reversed the relative economic performance of drivable sub-urban versus walkable urban places.

Platinum WalkUPs predominantly are where large institutional owners, such as insurance companies, pension funds, sovereign wealth funds and REITs, have chosen to invest, resulting in the lowest capitalization rates and highest valuations and land prices.

The Platinum WalkUPs have the highest rents, 19 percent above Gold. Office rents, retail rents, and housing prices (both rental and for-sale) are more than double those in drivable sub-urban areas. The average density is more than triple that of Gold WalkUPs and has substantially greater walkability over all competition.

### Average Key Metrics

**Walk Score:** 95.96  
**Acreage:** 361.51 Acres  
**Gross FAR:** 2.19  
(Floor Area Ratio)

#### Annual Rent per Sq. Ft. {\$ = \$10}

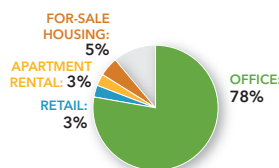
<b>OFFICE:</b>	\$\$\$\$\$	\$43.67
<b>RETAIL:</b>	\$\$\$\$\$	\$45.29
<b>APARTMENT:</b>	\$\$\$\$\$	\$40.68

#### Housing per Sq. Ft. {\$ = \$10}

<b>FOR SALE HOUSING:</b>	\$\$\$\$\$	\$590.15
	\$\$\$\$\$	
	\$\$\$\$\$	
	\$\$\$\$\$	
	\$\$\$\$\$	
	\$\$\$\$\$	

### Square Footage

TOTAL: 31.3 million sq. ft.



### OBSERVATIONS

The four Platinum WalkUPs all benefit from being adjacent to other WalkUPs and, with the exception of Foggy Bottom/West End, from aggressive place management. They also have a preponderance of office space (78 percent of all space), which runs counter to the popular wisdom that a balanced portfolio of different product types is needed for optimal economic performance.

Downtown and Golden Triangle combined form the actual downtown of the District of Columbia. The city core has regained its position as the region's premier business district, with rising office market share since 2004 (after more than 50 years of relative decline) and the region's highest rental rates and lowest vacancies. Foggy Bottom/West End has large wealthy institutions (The George Washington University, the World Bank, etc.) and is geographically situated between downtown and the other Platinum WalkUP, Georgetown. It is evolving into D.C.'s Upper East Side. Much can still be accomplished, including re-establishment of downtown as a major retail concentration, continued growth in convention activity and, perhaps surprisingly, relocation of federal office space away from downtown.

Vacated federal space should be replaced by more walkable and vital private sector office, hotel, residential and retail. Downtown needed the federal presence to survive the downward spiral of the late 20th century, but portions should now decamp to new WalkUPs, including Copper and Silver. Relocation of the U.S. Dept. of Transportation and the U.S. Patent and Trademark Office to Capitol Riverfront and Carlyle, respectively, over the past decade demonstrates how effective this anchoring strategy can be.



COPPER



SILVER



GOLD



PLATINUM

# Social Equity Rankings

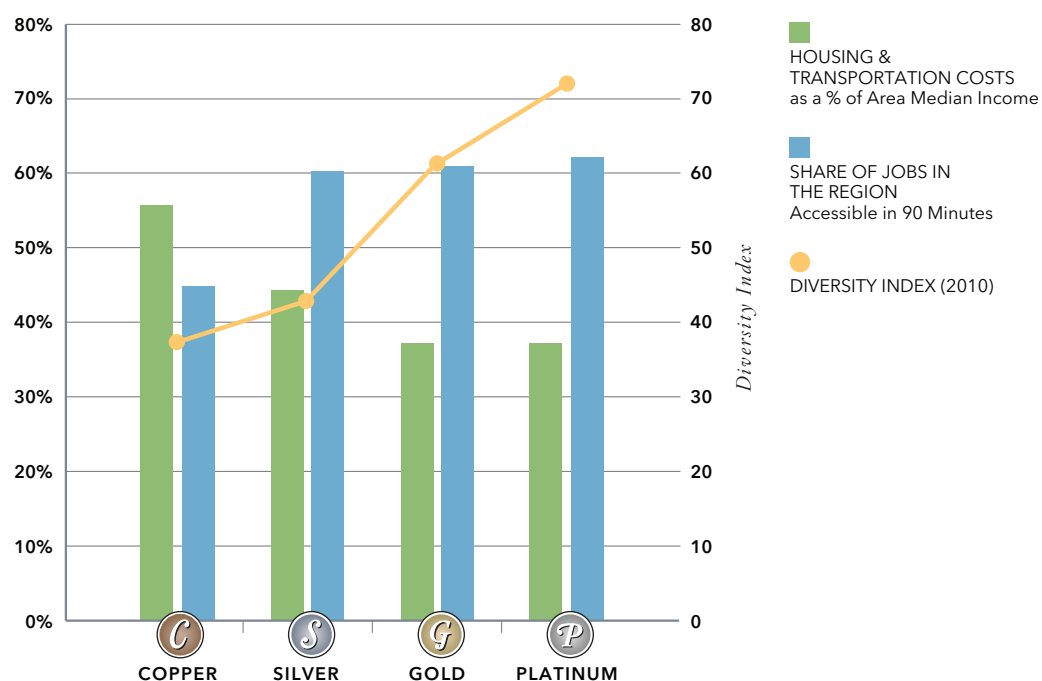
WalkUPs fall into the same four levels as the economic rankings, although driven by entirely different variables.

There has been no previous attempt at developing social equity performance rankings for WalkUPs. This ranking is, by its very nature, controversial. It is hoped that the release of these rankings will provoke lively discussion, further research and eventual consensus on how to measure social equity in walkable urban places.

The methodology is controversial because there is disagreement over what is a positive societal good and what is a negative one. The word that best captures this in urbanism is “gentrification.” A new word, it first appeared in *Webster’s Collegiate Dictionary* in 1964, defined as “the process of renewal and rebuilding accompanying the influx of middle class or affluent people into deteriorating areas that often displaces earlier, usually poorer, residents.”

Gentrification is both a loved and hated word, depending on one’s perception as to whether it brings about positive or negative social impacts. Still, gentrification can be an unequivocal force for good if it is harnessed to pay for social programs and public investment.

### Social Equity Measures by Category



In examining social equity, we looked at variables that are consistently available nationally. Those variables include these five:

- **Household housing and transportation costs** as a percentage of the metropolitan area median income. These are used to measure actual affordability since housing and transportation are intimately linked, especially if the household has to “drive until you qualify.” Relative weighting equal to 30 percent of total score.
- **Unemployment rate**, since a WalkUP’s ability to provide jobs for people living within it is a basic component of social equity. Relative weighting equal to 20 percent of total score.
- **Diversity Index**, developed by ESRI, “represents the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups.” Relative weighting equal to 15 percent of total score.
- **Percentage change between whites and blacks**, a proxy for **gentrification** with displacement of the African American population being a negative indicator, in the WalkUP between the 2000 Census and the 2010 Census. Relative weighting equal to 15 percent of total score.
- **Share of jobs accessible by transit within 90 minutes** from the WalkUP. Relative weighting equal to 20 percent of total score.





## COPPER

Carlyle  
 Frederick  
 Georgetown  
 H Street NE/  
 Atlas District  
 Historic Fairfax City  
 Kentlands  
 Old Town Alexandria  
 Tenleytown

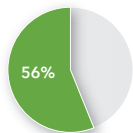
### CHARACTERISTICS

The lowest level of social equity, these eight WalkUPs have on average:

- **The highest household housing and transportation costs of any WalkUPs** (56 percent of average metro household income). As an average, this is significantly higher than the benchmark for neighborhood affordability established by the Center for Neighborhood Technology (45 percent); in the least affordable WalkUP, Georgetown, average housing and transportation is 84 percent of area median income, nearly double the national average.
- **Higher than average unemployment** (with three notable exceptions).
- **The Lowest Diversity Index**, meaning an individual is only 39 percent likely to come into contact with a person of a different ethnic background at random, compared to 53 percent for all WalkUPs. Copper WalkUPs have about the same Diversity Index as the average metropolitan area in the country (40 percent).
- **An extreme shift in racial composition** in many WalkUPs, such as H Street NE and, to a lesser extent, Frederick, with white residents representing a larger share of the population and black residents a smaller share.
- **Uniformly poorer regional transit accessibility** (six of the eight do not have rail transit availability) and the worst accessibility among WalkUPs to regional jobs.

### Average Key Metrics

**Housing & Transportation Costs:**  
 (As a % of median income for metropolitan D.C.)



**Unemployment: 8.25%**

**Diversity Index: 39.42**

**Racial Change: 7.61%**  
 (Change in % of whites vs. blacks from 2000 to 2010)

**Job Accessibility: 44.92%**  
 (Share of jobs accessible by transit within 90 minutes)

### OBSERVATIONS

Two WalkUPs that share much in common, Georgetown and Old Town Alexandria, are listed at the Copper level. They are the oldest, most historic, riverfront places (water orientation in real estate is exceedingly valuable) and have no rail transit. These common factors are partially responsible for the poor rankings. For example, it is expensive to buy land for affordable housing in these WalkUPs and their waterfront locations result in unstable geology, one of the reasons Metro tunnels were not built.

The lack of rail transit accessibility affects other Copper WalkUPs. Being on the metropolitan fringe complicates accessibility in Kentlands, Frederick and Historic Fairfax City.

H Street/Atlas District, the newly redeveloping WalkUP in northeast D.C. that seems to be replacing U Street/Shaw as the young urban entertainment area, achieved a surprise low ranking. The primary reason was the change from a predominantly black neighborhood to an integrated neighborhood. This highlights the difficulty in developing a social equity ranking system: An argument can be made on both sides of this issue about the societal benefit, or harm, of such a change.



## SILVER

Capitol Hill  
Clarendon  
Downtown D.C.  
Friendship Heights  
New Carrollton  
Reston Town Center  
Tysons Corner  
U Street/Shaw  
Van Ness  
Woodley Park

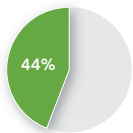
### CHARACTERISTICS

The second lowest level of social equity, these 10 WalkUPs have on average:

- **The second highest household housing and transportation costs** (44 percent of average metro household income) though substantially lower than Copper and, on average, just within the national average (45 percent). Downtown D.C. has the lowest percentage (30 percent) in the region, even lower than many households spend on housing by itself.
- **Relatively low unemployment** (7.7 percent).
- **A somewhat higher Diversity Index** (43 percent), though this was mainly due to two WalkUPs that are not diverse (Capitol Hill and Woodley Park). This ranking is only slightly better than U.S. metro areas overall (40 percent).
- **Relatively unchanged racial composition between 2000 and 2010**, with the notable exceptions of downtown D.C. and U Street/Shaw, where the demographics shifted dramatically, with white residents representing a much larger share of the population mix and black residents a much smaller share. In contrast, over this period, Tysons Corner's population shifted significantly in the opposite direction, with white residents becoming a much smaller share and black residents a somewhat larger share.
- **Substantially better regional transit accessibility to jobs** than Copper WalkUPs, and accessibility comparable to Gold and Platinum level WalkUPs. This is primarily due to the fact that most have Metrorail stations.

### Average Key Metrics

**Housing & Transportation Costs:**  
(As a % of median income for metropolitan D.C.)



**Unemployment: 7.74%**

**Diversity Index: 42.93**

**Racial Change: 7.82%**  
(Change in % of whites vs. blacks from 2000 to 2010)

**Job Accessibility: 60.35%**  
(Share of jobs accessible by transit within 90 minutes)



## GOLD

Adams Morgan  
Bailey's Crossroads  
Ballston  
Bethesda  
Columbia Heights  
Crystal City  
Dupont Circle  
Foggy Bottom/West End  
Logan Circle  
Prince George's Plaza  
Rockville  
Seven Corners  
Virginia Square  
White Flint

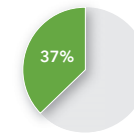
### CHARACTERISTICS

The second highest level of social equity, these 14 WalkUPs have on average:

- **Among the lowest housing and transportation household costs** in the region (37 percent), substantially below those of Copper or Silver WalkUPs or the national average (45 percent). The presence of Metrorail in nearly all of these places is a significant factor in the lower average transportation costs.
- **About the same unemployment rate as Silver WalkUPs.**
- **A substantially increased Diversity Index** (62 percent) compared with Silver and Copper WalkUPs and the national metropolitan average (40 percent), although there are some low outliers, notably Dupont Circle and Foggy Bottom/West End.
- **Relatively unchanged racial composition between 2000 and 2010**, with, again, a few notable exceptions. In Logan Circle and Columbia Heights, white residents came to represent a much larger share of the population mix and black residents a much smaller share. There were similar, but less dramatic patterns in Adams Morgan and Prince George's Plaza, where significant declines in the Latino populations were also observed. In contrast, the white population of White Flint became much less dominant over this period as the Asian population increased dramatically.
- **Substantially better regional transit accessibility to jobs** than Copper WalkUPs and comparable to Silver and Platinum-level WalkUPs. This is primarily due to most places having Metrorail stations.

### Average Key Metrics

**Housing & Transportation Costs:**  
(As a % of median income for metropolitan D.C.)



**Unemployment: 8.31%**

**Diversity Index: 61.52**

**Racial Change: 7.05%**  
(Change in % of whites vs. blacks from 2000 to 2010)

**Job Accessibility: 60.95%**  
(Share of jobs accessible by transit within 90 minutes)





## PLATINUM

Courthouse  
Rosslyn  
Silver Spring  
Wheaton

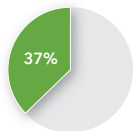
### CHARACTERISTICS

The highest level of social equity, these four WalkUPs have on average:

- **The same low level of housing and transportation costs as Gold WalkUPs** (37 percent), substantially below the Copper and Silver WalkUPs as well as the national average.
- **The lowest average unemployment rate** (6 percent).
- **The highest Diversity Index** (72 percent) with particularly high ratings for Wheaton (the highest) and Silver Spring.
- **Insignificant changes in their racial compositions between 2000 and 2010**, with the exception of Silver Spring, in which the white population grew relative to the black population, which declined.
- **Substantially better regional transit accessibility to jobs than the Copper WalkUPs** and comparable to Silver and Platinum level WalkUPs. This is primarily due to most places having Metrorail stations.

### Average Key Metrics

**Housing & Transportation Costs:**  
(As a % of median income for metropolitan D.C.)



**Unemployment: 5.97%**

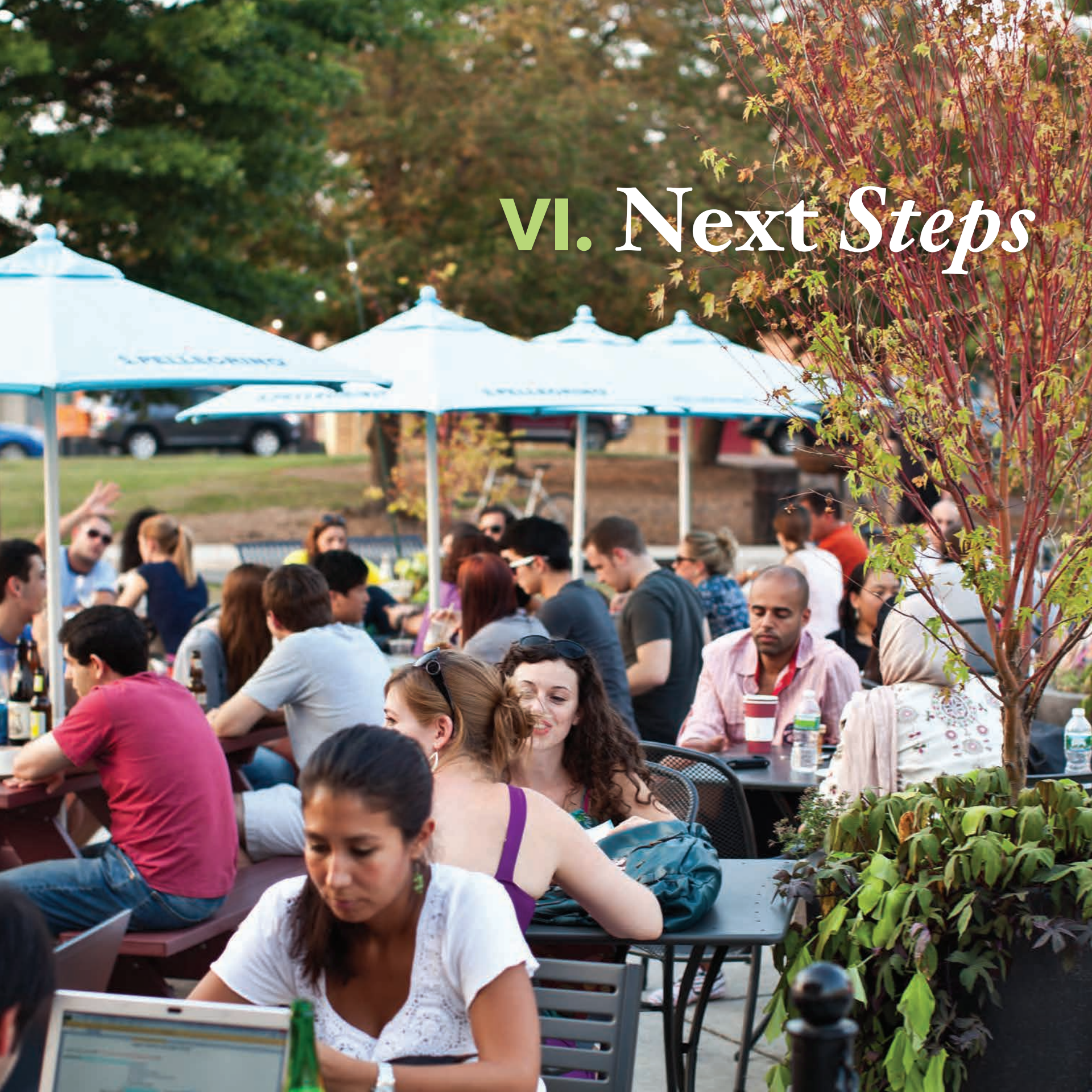
**Diversity Index: 72.09**

**Racial Change: 6.47%**  
(Change in % of whites vs. blacks from 2000 to 2010)

**Job Accessibility: 62.18%**  
(Share of jobs accessible by transit within 90 minutes)



# VI. Next Steps





# Conclusions & Recommendations

The metropolitan landscape has never been systemically categorized by walkable urban versus drivable sub-urban. There is much to learn. Even this first glimpse reveals startling differences in economic and social equity performance.

## ECONOMIC CONCLUSIONS

### Increases in Average Key Metrics

As the average Metro D.C. WalkUP's economic level moves from Copper to Silver, Silver to Gold, and Gold to Platinum, there are substantial increases in performance:

**Walk Score:**  
+6.22 points

**Office Rent:**  
+\$7.28/square foot annually

**Retail Rent:**  
+\$6.71/square foot annually

**Rental Apartment Rent:**  
+\$6.22/square foot annually

**For-Sale Housing Price:**  
+\$113.00/square foot

*Statistical analysis shows that there are three factors that explain 90 percent of the increased economic performance in the 43 metro DC WalkUPs.*

1

### WALKABILITY

**By itself, Walk Score explains 67% of the increase in economic performance.**

*As measured by Walk Score, a finding confirmed by the Brookings Walk This Way research.*

2

### JOB DENSITY

**Adding jobs per acre to walkability explains 84% of the increase in economic performance.**

3

### WORKFORCE EDUCATION

**Adding the number of workers with a college degree to walkability and job density explains 90% of the increase in economic performance.**

*As measured by percentage of college-educated persons over 25 in the workforce living in a WalkUP.*

**WalkUP place managers and investors/developers would improve their economic returns by increasing walkability, job density and the education levels of the work force.**

*Note that simple subtraction of these three factors is not a correct way of understanding their individual impact since there is substantial overlapping co-variability.*

Investors and developers looking for new opportunities should understand these place characteristics before investing, matching their risk tolerance and the implicit market risk implied in these rankings, such as:

- Investing in a Copper WalkUP means that a long-term time frame is required to maximize returns, though entry prices are relatively modest. Place strategy and management for a Copper WalkUP is particularly important to ensure economic performance.
- Silver WalkUPs are prime for growth in the existing real estate cycle and there is an opportunity for this WalkUP to emerge with a Gold ranking, increasing returns substantially.
- Investing in Gold or Platinum WalkUPs is much less risky but the high price of entry reflects this. The upside of Platinum investments might be relatively less but will be more stable and, thus, attractive to institutional investors (insurance companies, pension funds, REITs, etc.).

The public policy response to these market trends should be to encourage the economic growth and resulting fiscal benefits to each jurisdiction's revenue base. The first step needed to make this happen is to monitor the increasing economic performance of WalkUPs so as to understand the fiscal impact on government revenues. The second step is to make sure the zoning is in place and the proper infrastructure is planned and financed in order to make the place more walkable, to increase its job density and to attract an educated workforce.

Copper and Silver WalkUPs may require special attention from the jurisdiction via investment in "quality of life" improvements (as opposed to subsidies for corporate relocation or developer incentives). However, long-term public sector investments in specific projects, as opposed to upfront subsidies, are more appropriate. A public investment approach helps a project get financing as productively as a subsidy, but it also carries a hoped-for return of capital, plus profit from the investment, that the government can then re-invest.

Gold and Platinum WalkUPs need little in the way of special public financing programs. For example, there is no reason to provide incentives for Platinum

places like Georgetown. In fact, there is the possibility of engaging in “value capture” where sharing the private sector upside returns from public improvements, say a street car line, could help fund those public investments or social programs like affordable housing. Basically this is a private sector Tax-Increment Financing (TIF) program.

## SOCIAL EQUITY CONCLUSIONS

Since there is no agreed upon measure of social equity, it has been somewhat like discussing the weather. Everybody talks about it, but there is little that can be done about it. Eventually, agreement on a social equity performance metric will allow for more effective management. If you cannot measure, you cannot manage.

One obvious conclusion is that increased economic performance leads to lower social equity outcomes. Georgetown epitomizes this with a Platinum economic ranking and a Copper social equity ranking. Golden Triangle has taken care of this issue by gerrymandering so as to have almost no one living within its boundaries, making it difficult to measure social equity.

On the other hand, WalkUPs with high social equity have lower economic performance. Two Platinum social equity WalkUPs, Silver Spring and Wheaton, had Copper economic rankings. The other two Platinum social equity places, Rosslyn and Courthouse, had Silver economic rankings.

There are lessons from those WalkUPs that do well on both measures. Dupont Circle, Logan Circle, and

Virginia Square were double Gold while Foggy Bottom/West End scored Platinum/Gold. All are older WalkUPs with many smaller buildings, ranging from modest to the very highest rents or sales prices—although this could just be part of the evolution from partially affordable to completely gentrified.

What is needed is a conscious strategy for each WalkUP to create and maintain affordable and workforce housing, as well as to increase accessibility. Having social equity measures will provide place managers and their jurisdictions with goals to which they can aspire. Implementation of the social equity goals should be the responsibility of the place management organization and part of its charter granted by the local jurisdiction.

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The ultimate solution to affordable housing is to build more walkable urban product. There are two reasons why walkable urban housing costs more than the drivable sub-urban product. The first is the quality of construction. It must be higher quality for walkable urban product (better foundations, serious architecture, buildings right up to the sidewalk, etc.). Most people compensate for this additional cost by occupying a smaller amount of space.

However, the second reason is land values. In Dupont Circle, the land cost as a percentage of the house is at least 50 percent. That compares with most drivable sub-urban housing, where it is 20 percent. The shortage of walkable urban residential land, especially for townhouses and small lot single-family housing, is driving up land prices. This makes no sense in the United States since we have no shortage of land. What we do not have is enough walkable urban land.

Public policy that creates more in-fill residential land (brownfield, rezoned, assembling small parcels, knocking down obsolete uses, etc.) is the most crucial way to address social equity concerns. NIMBY opposition to high-density development

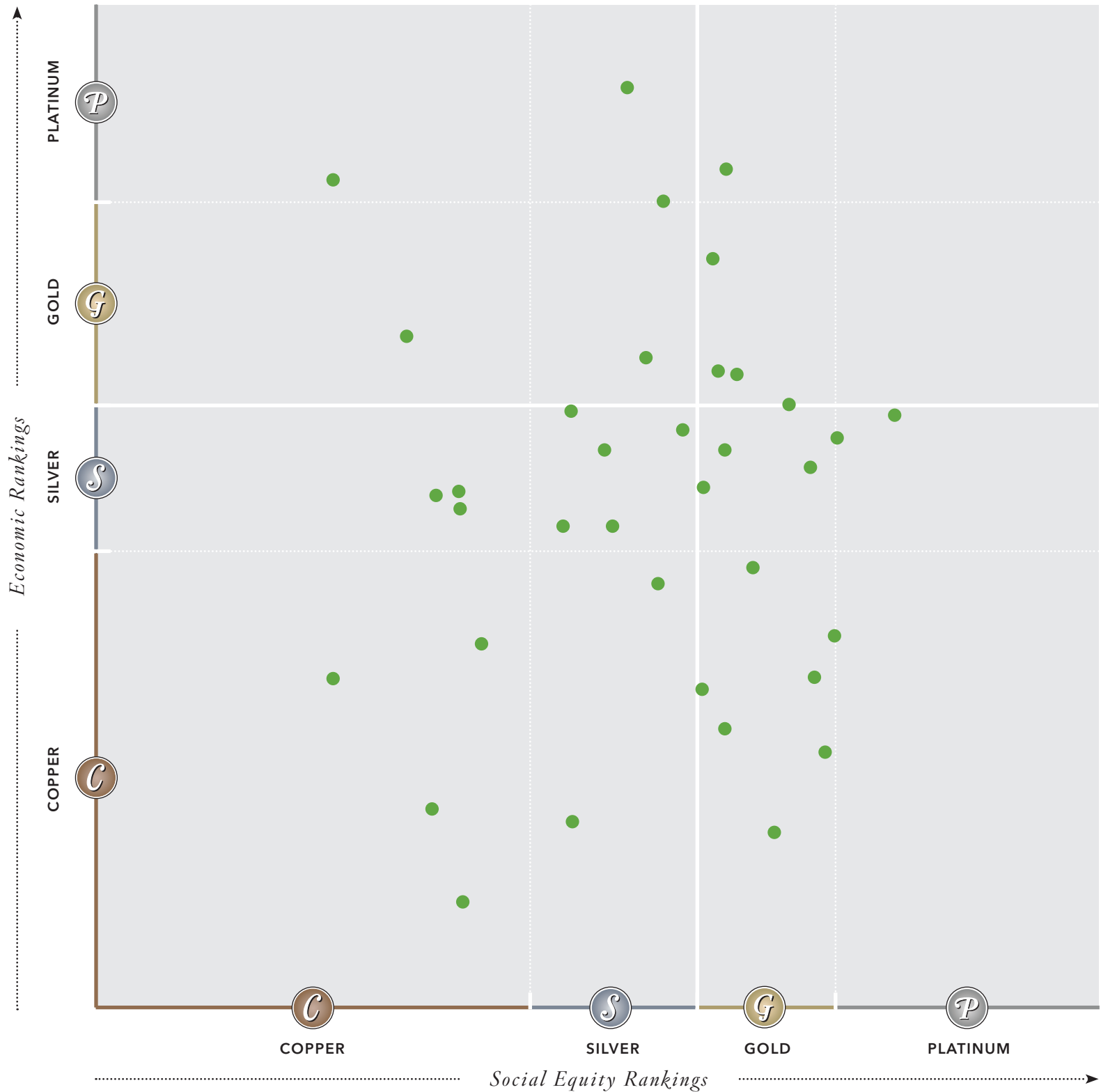
is equally responsible for the land shortage. An education campaign must be undertaken to turn the opposition into YIMBYs, such as happened in Tysons Corner and White Flint.

Given a growing understanding of how economically successful WalkUPs can be, we must figure out how to take advantage of this rising tide of economic activity to pay for social equity performance.



## Social Equity vs. Economic Rankings

Scatterplot Showing the Distribution of the Metro D.C. WalkUPs on Both Economic and Social Equity Rankings



# Further Study

No research report would be complete without the obligatory “more research needs to be done.” This is particularly the case with WalkUPs research.

There are a number of areas that require expanded research:

- This research focused on regionally significant WalkUPs. Local-serving WalkUPs, walkable urban bedroom communities, need to be quantified and better understood.
- This research is a snapshot in time (early 2012) but longitudinal research will help understand what actions are needed to improve economic and social equity performance over time.
- Comparisons to other metropolitan areas will provide insights into how this market trend is unfolding as well as a larger universe of the six different types of WalkUps from which to learn how to improve performance.
- Optimal product mix in a WalkUP is a much-debated topic in urban circles. How much retail or housing is best for economic or social equity performance? The urbanism field contains many opinions about the optimal product mix but few measurable principles.
- There is need to quantify the illusive concept of critical mass, colloquially referred to (using Gertrude Stein’s masterful phrase) as having a “there-there.” We can feel when a place is at critical mass but this feeling has not been quantified.
- The expansion of the “favored quarter” to the northeast and southeast in metro D.C. is a major social and economic change that needs to be better understood. What can be done to encourage this positive market trend?
- The economic measures should include development of a GDP measure for a WalkUP. GDP

measures have come down as far as metropolitan areas. It is time to push this “gold standard” of economic performance measurement to the WalkUP level.

- Social equity measures need to be refined. There are clear and agreed-upon definitions of affordable and workforce housing, but there is no agreed-upon measure of social equity.

economic growth, quality of life and social equity. Regionally significant and local-serving WalkUPs, although likely to be located on less than 10 percent of the land in any region, could house most of the population growth and spur economic development for the next generation. WalkUPs will provide a foundation for the regional and national economy.

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*More knowledge about this trend will propel how Americans invest in the largest asset class in the economy, an investment that directly influences economic growth, quality of life and social equity.*

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- There needs to be a determination of fiscal returns resulting from government investment in infrastructure and operating programs. The measurement of additional government revenues resulting from these investments should be calculated continuously, just as the private sector does.
- Since the economic returns of public sector investments tend to accrue to the private sector, we need to understand more about the potential of “value capture.” These private sector, TIF-like, arrangements can help pay for infrastructure and social programs.

The maturity of walkable urban development in metropolitan Washington makes it a model for the nation. More knowledge about this trend will propel how Americans invest in the largest asset class in the economy, an investment that directly influences

Yet the creation of economically successful WalkUPs with high social equity is a huge challenge, possible the largest domestic challenge U.S. society currently faces. This research shows that economic success tends to lead to lower social equity performance. Many citizens would like to see high economic and social equity performance. This is the dual goal that urbanism must embrace.





## VI. Appendices

# Methodology

The methodology employed by this research is grounded in the Brookings Institution paper, *Walk This Way*, published in May of 2012, by Christopher B. Leinberger and Mariela Alfonzo. The data sources for the research had to be national, readily available sources. The data used came from:

- Co-Star (office, retail, institutional, sports/convention, health care, industrial, flex and rental apartment)
- REIS (rental apartment)
- Smith Travel Research (hotel)
- Zillow (for-sale housing)
- Center for Neighborhood Technology (housing and transportation costs)
- ESRI (Census demographics and Diversity Index)
- U.S. Census (percentage change by race)
- Brookings Institution (share of jobs accessible by transit within 90 minutes)
- Walk Score (walkability ranking of WalkUP on a 0-100 scale)

The economic performance ranking used the four major real estate product types deemed the most consistent from a data collection perspective: office, retail, rental apartment and for-sale housing. Rankings were based upon average gross rents or rent-equivalent and represented a substantial majority of square footage in all of the 43 WalkUPs.

For-sale housing price was adjusted to a rental equivalent using the assumed blended cost of capital of 5.6 percent and a 30-year mortgage for 100

percent of the Zillow value. Averages were adjusted to account for the total square footage of space by product type in each WalkUP. This resulted in an average rental rate per-square-foot for the WalkUP, blending the four real estate products weighted by relative square footage of space.

In one of the 43 WalkUPs—the SW Federal Area—questions were raised about the veracity of the data. The federal government owns the bulk of the space (with the rest being privately owned), and the data did not appear credible. The decision was made to acknowledge it as a WalkUP but to not rank it.

The social equity performance ranking employed the following data sets:

- Housing and transportation expenses by households (CNT), using a 30 percent weighting.
- Unemployment rate (US Census), using a 20 percent weighting and low unemployment as a positive indicator.
- Diversity Index (ESRI), using a 15 percent weighting.
- Change in the percentage black and the percentage white residents from 2000 to 2010 (U.S. Census), using a 15 percent weighting as a proxy for gentrification and displacement of black population as a negative indicator.
- Share of jobs in region accessible by transit within 90 minutes (Brookings), using a 20 percent weighting.

The selection and weighting of the social equity variables are the most controversial aspects of this research. To our knowledge, and based upon the

social equity expert panel consulted during the Brookings methodology research, there is no standard, widely accepted method for measuring social equity performance. To make matters more complicated, the same variables could be interpreted negatively or positively, depending upon the lens through which they are viewed. For example, if a 100 percent black neighborhood becomes integrated with whites, is a high percentage change from black to white a positive or negative occurrence? If that change results in the place becoming completely white, most observers would say it is negative. At what point is racial integration achieved?

Concerns about data veracity led to seven of the 43 WalkUPs not being ranked for social equity. These were: Annandale, Capitol Riverfront, Golden Triangle, NoMA, National Harbor, Pentagon City and SW Federal Area. There were different reasons for excluding each, including an insignificant residential population or rapid changes that are not reflected in currently available statistics. It is hoped that the next version of the rankings will solve these data issues.

Both of these ranking systems will have to be adjusted over time as more and better data is collected and more experience and criticism is integrated into the rankings. Much like the *U.S. News & World Report* university rankings, there will be ongoing improvements to the WalkUP rankings over time.



# Endnotes

1. The built environment represents the largest asset class in the economy. Its economic power has been repeatedly demonstrated both by real estate booms that helped propel the nation's economy and by real estate busts that caused two of the past three recessions. The built environment comprises two broad types of real estate products, income property and for-sale housing, as well as the infrastructure that supports real estate. That infrastructure encompasses transportation, water and sewer, public safety, electricity and broadband, among other categories.
2. These two terms employ the logic that "transportation drives development," a principle that has been at work through 6,000 years of city/metropolitan building. The construction of these descriptive terms starts with the transportation system (drivable and walkable) and continues with the form that results (sub-urban and urban).
3. "Walk This Way: The Economic Promise of Walkable Places in Metropolitan Washington," May 2012. <http://www.brookings.edu/research/papers/2012/05/25-walkable-places-leinberger>
4. "Footloose and Fancy Free: A Field Survey of Walkable Urban Places in the Top 30 U.S. Metropolitan Areas," December 2007. <http://www.brookings.edu/research/papers/2007/12/1128-walkableurbanism-leinberger>
5. The data sources for real estate products included Co-Star (office, retail, sports/convention, health care, institutional, industrial and flex), REIS (rental apartment), Zillow (for-sale housing) and hotel (Smith Travel).
6. A fifth level—the lowest—of walkability and performance, made up of the regionally significant drivable sub-urban locations, such as the Dulles Corridor or the I-270 corridor, was not included in this ranking since it was not the focus of this research. In the "Walk This Way" methodological research, this fifth level had to be included to help define where WalkUPs began from walkability and size perspectives.
7. The seven Arlington WalkUPs occupy about 10 percent of the county's land and produce more than 50 percent of the county property tax assessment.
8. For example, the downtown and Golden Triangle in the District of Columbia generate a net fiscal surplus (revenues minus cost of services) of approximately \$750 million annually, which is about the size of the total District's public school budget.
9. FAR is a common measure of density. It involves a simple ratio of improved building square footage divided into the amount of land that it sits on in square feet. If 10,000 square feet of building (not counting parking) sits on 100,000 square feet of land, it has an FAR of 0.10. If 100,000 square feet of land sits on 100,000 square feet of land, it has an FAR of 1.0, and so on. Gross FAR, used here, is slightly different as it includes not only parcels of developable land, but also infrastructure such as streets and parks in the denominator. Therefore, the gross FAR of a place will be inherently lower than an FAR that only includes building parcels.
10. The favored quarter of any metropolitan area is a 90-degree arc starting in downtown marked by a concentration of upper-middle housing that is primarily white. Local minority housing is concentrated on the other side of the metro region. (Race has always been a major factor in how U.S. metro areas developed.) The favored quarter is also where most job growth has gone and the site of most infrastructure development. This trend started with the advent of the drivable sub-urban approach after World War II. In metro D.C., the favored quarter is in the northwest and includes Montgomery, Arlington, Fairfax and Loudon Counties, as well as Northwest District of Columbia.
11. The "Washington DC Regional Economy Current Conditions and Outlook" presentation to the Richmond Region of the Federal Reserve, by Dr. Lisa A. Sturtevant, assistant research professor at the School of Public Policy at George Mason University and deputy director of the Center for Regional Analysis at George Mason University, August 1, 2012.
12. The long-time lack of a national data source for owner-occupied real estate is a major gap in the research. The real estate data sources used in this research have only come into existence over the past 15 years, some just in the last five years. Efforts continue to add owner-user space to the database.
13. "Walk This Way," page 10: Using Co-Star data indicates WalkUPs product have substantially lower capitalization rates, and therefore higher values, than non-walkable urban places.
14. Richard Florida, *The Rise of the Creative Class Revisited* (New York: Basic Books, 2012).

# Acknowledgments

This research began while I was professor and director of the University of Michigan's graduate real estate certificate program. Then-Dean Doug Kelbaugh of the Taubman College of Architecture & Urban Planning and Jonathan Levine, the chair of the Urban Planning Program, hosted a gathering in 2006 on walkable urban place definition and measurement, which included Professor Gary Pivo of the University of Arizona. The Forest City Foundation, the philanthropic arm of Forest City Enterprises, the largest walkable urban developer in the country, funded this initial work.

The Metropolitan Policy Program at the Brookings Institution, where I serve as non-resident senior fellow, published my 2007 field survey of the top 30 metro areas in the country and their regionally significant walkable urban places. Brookings was also the host of the *Walk This Way* methodological research that formed the basis of this report. I would like to acknowledge my co-investigator in that research, Mariela Alfonzo, as well as the many scholars at Brookings who assisted in that work: Rob Puentes, Martha Ross, Alice Rivlin, Nicole Svajlenka and Adie Tomer.

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Alec Stewart and Mason Austin provided invaluable research assistance and statistical and GIS analysis. David Wood of Harvard University's John F. Kennedy School of Government provided crucial counsel on social equity issues. Rob Valero of GW and Lisa Rother, Executive Director of ULI-Washington, provided coordination for the conference where this research was announced. Dean Doug Guthrie of The George Washington University School of Business provided this research and the conference with the support of the university.

I want to give special thanks to Mary Dempsey and Christine Patton of GW; they edited and provided the creative services for the report. Christine's inspiration resulted in the name WalkUPs, which is infinitely better than the previous shorthand of "WUPs."



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