Real Estate Law Fundamentals for The Development Process 1st edition Smirniotopoulos Solutions Manual

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The WalkUP *Wake-Up* Call: Boston





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School of Business





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EXECUTIVE SUMMARY

Metropolitan Boston is leading the country toward a walkable urban future.

That future is materializing on less than six percent of the metropolitan area's land — the same six percent that houses 37 percent of the region's real estate square footage, 40 percent of its population, and 42 percent of employment.

In the Boston metropolitan area, walkable urbanism adds value. On average, all of the product types studied, including office, retail, hotel, rental apartments, and for-sale housing, have higher values per square foot in walkable urban places than in low-density drivable locations. These price premiums of 20 to 134 percent per square foot are strong indicators of pent-up demand for walkable urbanism.

Walkable urban places are now gaining market share over drivable locations for the first time in at least half a century in hotel, office and rental apartment development. This is good news for people moving to those locations, since households in walkable urban places spent less on housing and transportation (43 percent of total household budget) than households in drivable locations (48 percent), primarily due to lower transportation costs. In addition, property tax revenues generated in walkable urban places are substantially higher than in drivable locations on a per acre basis.

Previous research has demonstrated the correlation between walkable urban places and both the education of the metropolitan work force and the GDP per capita. The current research confirms this finding: for example, since 2000, 70 percent of the population growth of young, educated workers has occurred in the walkable urban places of the Boston region.

Despite the strong momentum toward a more walkable urban future for the region, there are challenges and causes for concern. In many walkable urban places, proximity to transit is a major requirement for households and employers. However, increasing congestion in the core transit system and system fragility in the face of extreme events (such as was experienced during the blizzards of 2015) diminish the value of the system and present substantial risks that may deter investors. As a result, public sector investments in MBTA capacity and resiliency are prerequisites for the billions of dollars of private sector capital seeking to flow into walkable urban places over the coming decades.

Public transit, especially rail transit, activates walkable urbanism's potential for adding real estate value, and as this report demonstrates, that potential is ample. Therefore, policymakers must weigh the costs of funding transit against its power to increase tax revenues. With the right value capture tools in place, the increased value that transit supports could be used to fund at least a portion of the system's maintenance and future expansion.

We should also be concerned that, given the flow of capital into walkable urban places and the price premiums, the affordability of these places may be diminished. The resulting increased displacement of low-income residents to less accessible suburban locations would likely have substantial negative impacts on social equity, the environment and opportunity. As a result, it is critical to establish policies that will preserve existing affordable housing in walkable urban places and leverage private sector investments to enhance opportunities for disadvantaged families to live in high opportunity/high accessibility places. However, the ultimate solution to high housing and commercial costs is more walkable urban inventory, which will occupy less than 10 percent of the metro area's landmass. This new inventory will eventually drive down land costs, the primary reason for the price premiums.

INTRODUCTION

For decades, real estate practitioners, observers and scholars studying land use have looked through an urban-versus-suburban lens. 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. Our latest research, focused here on Metropolitan Boston, challenges those connected with the built environment (real estate and infrastructure), including developers, investors, regulators, infrastructure providers, social equity advocates, public sector managers, academics and citizens, to rethink the way we manage the 35 percent of our nation's wealth that is invested in the built environment.[1] This is an important recalibration that affects how we live and work and where we are educated, worship and entertained. To ignore this structural change would be akin to ignoring the impact of the drivable suburbs on the built environment more than a half-century ago.

This new research defines—in an entirely new way—the form and function of all land use in Metropolitan Boston's 3,119 square miles. This study then ranks performance for all land in the region based on two criteria: economics and social equity. The economic performance metric measures both the real estate valuations, as a proxy for GDP (a GDP measure does not exist below the metropolitan level) and the tax assessment that drives most local government tax revenues. The social equity performance metric measures access to economic opportunity and affordability in terms of both housing and transportation costs.

Today, there are two broad forms of metropolitan development:[2]

- **Drivable Sub-urban:** This development form has the lowest development density in metropolitan history. It features stand-alone real estate products, tends to be socially and racially segregated, and relies upon cars and trucks as the only viable form of transportation.
- **Walkable Urban:** This form of development has much higher density, has multiple real estate products (housing, office, retail, etc.) close to one another, employs multiple modes of transportation that get people and goods to the place and once there, is walkable.

Each form is found in both cities and suburbs. In the case of Metropolitan Boston, drivable sub-urban development can be found within Boston, in neighborhoods such as West Roxbury and Hyde Park, the many subdivisions throughout the suburbs. Likewise, Boston's Back Bay takes a walkable urban form, as does the newly opened Assembly Row, a $1.3 billion transit-oriented mixed-use development in a once gritty, former industrial part of the city of Somerville. Both drivable sub-urban and walkable urban forms of development have market support and appeal.

Drivable sub-urban has been the dominant approach to real estate development for over 60 years. Today, that is reversing; the pendulum is swinging back to walkable urban development. Market demand for drivable sub-urban development, which became overbuilt and was a major cause of the mortgage meltdown that triggered the Great Recession, appears to be on the wane in the Boston metropolitan area. Meanwhile, there is such pent-up demand for walkable urban development—as demonstrated by rental and sales price per square foot premiums—it could take a generation of new construction to satisfy the demand for walkable urban development.

Meeting this demand for new development in walkable urban areas will be a boon to the economy. Much like drivable sub-urban development benefited selected jurisdictions in the second half of the 20th century, this shift back towards walkable urbanism provides the opportunity that many urban neighborhoods, long suffering from disinvestment, have been waiting for. It will also put a foundation under the Boston regional economy and boost local 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 than drivable sub-urban to urban design and planning, regulation, financing and construction. It also requires the introduction of a new industry: place management. This new field develops the strategy and provides the day-to-day management for walkable urban places, creating a distinctive "could only be here" place in which investors and residents invest for the long term.

The comparisons between different land use forms will help direct private sector investment decisions, public sector infrastructure investments, and public policy and household decisions about where to live, work and play. In addition, place management organizations could use the metrics developed in this report to assess year-over-year performance and progress made in achieving strategic objectives. Finally, the research can assist in setting urban policy of the Commonwealth, especially for economic development, housing and transportation.

KEY FINDINGS

- **The Boston market is showing substantial and growing pent-up demand for walkable urbanism, demonstrated by significant and increasing real estate premiums on average for walkable urban real estate over drivable sub-urban in all product types.**

  Metro Boston is on the leading edge of the national structural shift towards walkable urbanism. The weighted-average valuation for walkable urban real estate is 37 percent higher than drivable sub-urban real estate in the region.

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This premium has been growing since 2004 for for-sale residential and office, and since 2007 for retail.

The 2014 valuation premiums of walkable urban product types compared to drivable sub-urban are:

- **OFFICE** 134%
- **HOTEL*** 120%
- **RENTAL APARTMENTS** 54%
- **RETAIL** 41%
- **FOR-SALE RESIDENTIAL** 20%
- **TOTAL** **37%**

** (only WalkUP premium over Edge City available)*

- **Walkable urbanism has successively increased its market share of new income property development (office, retail, hotel, rental apartments) over the last three real estate cycles. From 1992-2000, 27 percent of the region's new income property development located in walkable urban places. That share increased to 39 percent in the 2001-2008 cycle, and stands at 46 percent for the most recent cycle (2009-present).**

Those overall numbers hide important distinctions in walkable urbanism's share by real estate product type. Office and hotel development appear to be leading the trend toward walkable urbanism while rental apartments have just begun to trend toward it. Retail continues to have a drivable sub-urban orientation.

The key real estate product not included in income property is for sale-residential. The available data indicates that it, like retail, is maintaining a drivable sub-urban orientation. Most for-sale residential square footage, including single-family and condominiums, continues to be developed in drivable suburbs. However, the data also shows that the homebuilding industry is not producing nearly as many for-sale units as it has historically. Single-family residential permits are dramatically down from historic peak levels during past economic expansions. For example, as Metro Boston nears the top of this economic cycle, single-family residential permits per capita are lower than the trough in the late 1980s and early 1990s recession. The 20 percent average price premium for walkable urban for-sale residential may not be enough for the regional homebuilders to change their business model. **The decline in single-family permits and the rise in multifamily construction, mostly rental, may also represent the consequence of demographic shifts. MAPC has projected that nearly two-thirds of housing demand in the coming decades could be for multifamily units.**

- **The harsh winter of 2014-15 showed how vulnerable the future of WalkUPs and Walkable Neighborhoods are, given the years of deferred maintenance and the need for expansion of the MBTA rail and bus transit system**. Nevertheless, this research shows that the majority of economic growth in the region will be in walkable urban places. The lifeblood of this type of economic development is rail and bus transit, as well as bike friendliness and walkability. Not maintaining a "state of good repair" and expanding rail transit, but also bike and walking infrastructure, would put the economic development future of the region at risk.

ECONOMIC CONCLUSIONS

- **There is a wide spectrum of economic performance among the WalkUPs. The most significant and active WalkUPs are in the region's Inner Core adjacent to the MBTA rapid transit system.** They have seen significant investment during the recent cycles and comprise a growing share of office, hotel, and rental housing in the region.
- **From a public finance perspective, WalkUPs generate 12 times more property tax revenue per acre than Edge Cities. Walkable Neighborhoods generate six times more property tax revenue per acre than Drivable Sub-divisions**. The above numbers refer to gross tax revenues, as opposed to net fiscal impact (revenues minus costs).

SOCIAL EQUITY CONCLUSIONS

- **WalkUPs tend to offer high levels of accessibility, low transportation costs, and high opportunity in terms of proximity to employment. However, the cost of housing in WalkUPs is high and standardized test scores tend to be lower compared to the rest of the region**. In contrast, Walkable Neighborhoods generally exchange higher affordability for average accessibility and opportunity. Edge Cities have reasonable opportunity levels, but low accessibility due to generally requiring car ownership, causing a corresponding increase in transportation costs. Drivable Sub-divisions are the least accessible, not particularly affordable due to the high transportation costs, and they do not provide many work opportunities as compared to WalkUPs. Nonetheless, they do offer lower housing costs for lower income families and the highest standardized test scores.
- **Considering both housing and transportation costs, WalkUPs and Walkable Neighborhoods are more affordable than their drivable sub-urban counterparts**. On average, a four-person family earning the median income and living in a WalkUP is projected to spend 42 percent of their income on housing and transportation and 43 percent in Walkable Neighborhoods, versus 45 percent in Edge Cities and 48 percent in Drivable Sub-divisions.
- **There is large variation within the WalkUPs themselves on the various measures of social equity**. Generally, WalkUPs that are on the outer reaches of the commuter rail are affordable to live in but do not provide much work or school opportunity, and have little access to other higher opportunity areas. In contrast, WalkUPs near the Boston core benefit from the MBTA transit system, where residents can access many nearby WalkUPs quickly, but frequently have unaffordable housing costs. There is a clear tradeoff between accessibility/opportunity and housing affordability. **Few WalkUPs provide both relatively affordable housing and good access to opportunities.**



LAND USE DEFINED

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The Rise of Walkable Urbanism

After decades of development in Edge Cities, the pendulum has swung back in favor of walkable urban development. Now the dominant development pattern in Metropolitan Boston—and many other metropolitan areas in the country—walkable urbanism is the driving force in real estate.

During the second half of the 20th century, the dominant development model was the familiar drivable sub-urban approach, whether regionally significant (Edge Cities) or local serving (Sub-divisions). Most real estate developers and investors, government regulators and financiers had come to understand this model extremely well, turning it into a successful development formula and economic and local government fiscal driver.

The best way of understanding this trend toward drivable sub-urbanism is to examine the relative market share of WalkUPs and Edge Cities. For example, although the Edge Cities housed only 23 percent of the region's office inventory in 1992, 43 percent of the region's new office development located in them from 1992-2000, meaning they were gaining market share. WalkUP office space, which made up 49 percent of the region's office inventory in 1992, garnered only 17 percent of the region's new office development over the same period, a loss of market share. This pattern of Edge City market share gain at WalkUPs expense was likely just a continuation of a trend that had begun in the 1950s and that was typical of most office markets across the nation.

However, starting in the 2001-2008 real estate cycle, the pendulum began slowly moving back towards the market demanding walkable urban development. Across the country in selective metros and in Boston, downtowns began to revitalize, inner-ring Suburban Town Centers redeveloped, and Inner Core Walkable Neighborhoods saw substantial reinvestment.

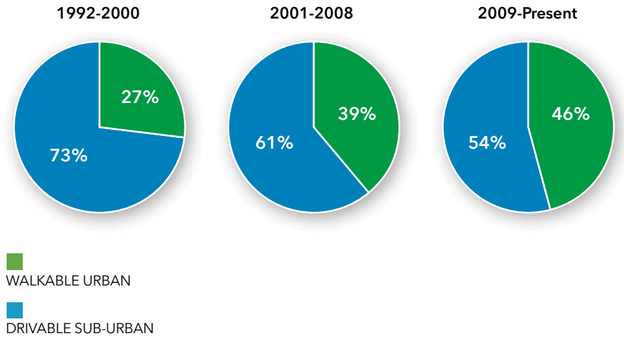
Starting in the 2000s real estate cycle (2001-2008) in Metro Boston, and accelerating in the current real estate cycle (2009-present), there has been a shift towards walkable urbanism in most, though not all, product types. George Washington University's previous research on metropolitan Washington, D.C. and metropolitan Atlanta found a similar shift in market share in regionally significant income property development (for-sale housing was not studied).

From 2009 to the present, 48 percent of metro Washington's income property development occurred in WalkUPs (0.9 percent of the land in the region), as compared to only 24 percent from 1992-2000. Even in metro Atlanta, which for many is the poster child of sprawl, 50 percent of income property development since 2009 has occurred in WalkUPs (one percent of the land in the region), as compared to only 10 percent in the 1990s real estate cycle.

The increasing Boston regional market share for walkable urbanism has also been accompanied by rising rents and valuation premiums over the drivable sub-urban counterparts. These premiums now occur for all product types that we evaluated. Until more walkable urbanism emerges, the premiums will likely persist. This situation benefits walkable urban property owners but raises critical issues of affordability, a topic discussed in the social equity section of this report.

Share of Income Property During the Last Three Real Estate Cycles

Income Property = Office, Retail, Hotel, and Multifamily Apartments



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Form Meets Function

Two potential economic functions and two land use forms yield a four-cell matrix that categorizes 100 percent of metropolitan land.

In metropolitan areas, the economic use of land is categorized as either *regionally significant* or *local serving*. Regionally significant places have concentrations of employment (base, or export, jobs and regional serving 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 shows how 100 percent of a metropolitan area's land is used.

Metropolitan Land Use Options in the United States

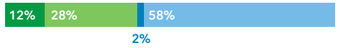
	REGIONALLY SIGNIFICANT	LOCAL SERVING
WALKABLE URBAN	**WALKUP** (Walkable Urban Place) • Office Space ≥ 1.4M sq ft *-OR-* Retail Space ≥ 340,000 sq ft • WalkScore ≥ 70.5 • Avg intersection density ≥ 100 per sq mile	**WALKABLE NEIGHBORHOOD** • WalkScore ≥ 65 • Avg intersection density ≥ 100 per sq mile
DRIVABLE SUB-URBAN	**DRIVABLE EDGE CITY** • Office Space ≥ 1.4M sq ft *-OR-* Retail Space ≥ 340,000 sq ft	**DRIVABLE SUB-DIVISION** • All land not allocated to other categories

Key Metrics by Land Use

REGIONAL LAND
Share of Regional Land by Land Use Type:



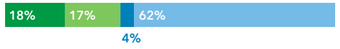
POPULATION
Share Residing in Each Land Use Type:



EMPLOYMENT
Share of Employment in Each Land Use Type:



ASSESSED VALUE
Share of Region's Total Assessed Value & Property Tax Revenue by Each Land Use Type



OFFICE INVENTORY
Share of Region's Office Inventory Housed in Each Land Use Type:



WALKUP
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-DIVISION

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Land Use *Defined*

Methodology

The methodology employed in this report has its basis in research described in the Brookings Institution report, *Walk This Way*,[3] and used in two prior *WalkUP Wake-Up Call* reports by the GW School of Business focused on Washington, D.C.[4] and Atlanta.[5]

The Boston research team reviewed and compiled data from CoStar, Cushman and Wakefield, and parcel data provided by MAPC to make preliminary identifications of major commercial concentrations. These commercial concentrations were initially separated into walkable and drivable by using Walk Score. MAPC provided average Walk Scores by census block, which had been averaged from sample points provided by Walk Score. Those census blocks within the commercial concentrations with average Walk Scores over 70.5, the threshold established in the *Walk This Way* report, were selected for further study as WalkUPs. Those commercial concentrations with Walk Scores below 70.5 were considered for analysis as Edge Cities or Emerging WalkUPs.

For each WalkUP candidate, boundaries were refined based on a review of aerial photographs, established or commonly held neighborhood boundaries or place-management districts and input from local residents and real estate professionals. Ultimately the boundaries were finalized by the experienced judgment of our team, which included professionals from MAPC, Northeastern University's Dukakis Center and the Center for Real Estate and Urban Analysis at George Washington University School of Business. In addition, boundaries were drawn with the recognition that a single walkable place tends not to exceed 600 acres, based upon experience and the limitations people are willing to walk, generally agreed to be between 1500 and 3000 feet.

In each case, the WalkUPs are made up of whole census blocks. We made the decision to use census blocks as the most basic components of each defined geography to facilitate the data aggregation process.

After boundaries were established, average Walk Scores and intersection densities for each WalkUP candidate were calculated, and data on the commercial real estate inventory was aggregated from CoStar. Average Walk Scores for each WalkUP represent the weighted average Walk Score of each census block within the WalkUP, weighted by the land area of each census block. The average intersection density is derived from EPA's Smart Location Database, which provides estimates of the intersection density per square mile by census block group, excluding those intersections that are primarily for exclusive automobile-use, such as Interstate on and off ramps, etc.

To be considered an established WalkUP, each candidate had to meet the following criteria:

- **WALKSCORE:** Average value ≥ 70.5
- **INTERSECTION DENSITY:** Average ≥ 100 per square mile
- **OFFICE & RETAIL SPACE:**
  - **Office:** ≥ 1.4 million square feet
    and/or
  - **Retail:** ≥ 340,000 square feet

Candidates that did not meet the criteria were reclassified as Edge Cities, emerging WalkUPs or local-serving neighborhoods. For emerging WalkUPs, the minimum Walk Score criteria was reduced to 65, the intersection density per acre threshold reduced to 85, and the space requirements reduced to 90 percent of the established number, e.g. 1,260,000 square feet of office or 306,000 square feet of retail.

Edge Cities or regionally significant drivable locations were identified as places that had a minimum of either 1.4 million square feet of office or 340,000 square feet of retail but did not meet walkability criteria for Established or Emerging WalkUPs. Boundaries were drawn based on a review of CoStar data and aerial photographs for commercial concentrations.

Walkable Neighborhoods were identified as those census blocks with average Walk Scores of at least 65 and intersection densities of at least 100 per square mile within a quarter mile of the center of the census block.

ECONOMIC RANKINGS: METHODOLOGY & SOURCES

Building-level rent information was aggregated to the defined geographies to generate the analysis of rent premiums. For the office rent premium and inventory analysis we used a combination of data from Cushman and Wakefield and CoStar. In general, where Cushman and Wakefield data for a particular building was available, it was used. When not, the CoStar data was substituted. All office rents represent the weighted average, full-service asking rent per square foot. Averages were weighted according to square feet, e.g. large buildings influenced the average more than small buildings.

For rent and square footage information of the remaining income property categories, including retail, multifamily apartments, and hotels, we relied on CoStar and STR. In a few cases, no rent data was available for any buildings within a WalkUP geography. In those cases, rents per square foot were estimated based on the correlation between the average assessed value per square foot and average rents in geographies where rent information was available.

For purposes of the economic rankings, for-sale housing prices were converted into annual rents per square foot by estimating the annual mortgage payment, assuming a 30-year fixed mortgage at a four percent interest rate, adding the property tax associated with each jurisdiction, and a homeowners' insurance premium of $.50 per square foot.

Estimates of market value premiums for walkable urban places, as described on page 24, are based on the average rents per square foot for each product type as determined above, and cap rates, which we estimated based on transaction data provided by Cushman and Wakefield. In each case, we assumed that expenses as a percentage of rent revenue were constant across both walkable urban places and drivable locations. The average rent, less the assumed expense ratio, divided by the average cap rate, determined the valuation estimates. The estimates of value premiums were compared to actual differences in per-square-foot transaction prices between walkable urban places and drivable locations to ensure they were reasonable. To be clear, these estimates represent averages based on sample data—individual transaction values may deviate significantly from these estimates.

Assessed value estimates and the estimate of the total square footage in each geography are based on the Massachusetts Land Parcel Database, a state-level database that aggregates and attempts to harmonize property assessment data from all the various towns in Massachusetts. This dataset has some limitations. Different towns do not always have consistent standards for measuring square footage and classifying land use. In addition, the dataset is not entirely current—a few towns have only provided data through 2009, while others are current through 2014. Nonetheless, it is the most comprehensive source available for assessed values and residential square footage.

SOCIAL EQUITY RANKINGS: METHODOLOGY & SOURCES

The following data sources were used to calculate the social equity metrics.

- **Percentage of the region's working-age population accessible by transit:** EPA Smart Location Database
- **Non-Car Commute Share:** American Community Survey 2007-2011
- **Housing and Transportation Costs:** The Department of Housing and Urban Development's Location Affordability Portal. http://www.location-affordability.info/
- **School Proficiency:** Massachusetts data on average reading proficiency by school, for elementary schools and middle schools. Each census block was assigned the average proficiency of the three nearest schools. Scores for all geographies are based on the average of all census blocks in the geography weighted by each block's population. http://www.doe.mass.edu/infoservices/reports/
- **Housing Cost Burdens:** The Department of Housing and Urban Development

Note that we considered using a variety of additional measures in the social equity rankings, such as accessibility to and from each geography by automobile, the percentage of housing that is subsidized, and the local unemployment rate, among others. For the most part, these variables were found to be highly correlated with the variables listed above, such that they did not meaningfully change the results.

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The Five Types of WalkUPs in Boston

There are seven possible types of regionally significant WalkUPs in any metropolitan area. Metro Boston has only five of these WalkUP types.







Based on previous analyses of other metropolitan areas, there are seven types of possible WalkUPs in a metropolitan area: Downtown, Downtown Adjacent, Urban Commercial, Urban University, Regional Urban Centers (referred to as Suburban Town Center in previous studies), Redeveloped Drivable Commercial, and Greenfield/Brownfield. Each of these WalkUP types has a different history, product mix, and transportation infrastructure, though all are trending toward mixed-use, high-density walkable urban places.

In Metro Boston, there are no established Redeveloped Drivable Sub-urban Commercial or Greenfield/Brownfield developments, though the metro area will soon have one. Assembly Square, located at the Sommerville site of a former Ford assembly plant, is now classified as emerging, but will quickly move into the ranks of the established as it is built out.

There is also a sub-class of WalkUPs that is important for future development, known as Innovation Districts. These knowledge-economy, high-tech, maker- and software-focused WalkUPs often co-locate around universities. As defined by Bruce Katz and Jennifer Wagner of the Brookings Institution, these are "geographic areas where leading-edge anchor institutions and companies cluster and connect with startups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail."[6] The best example in the metro area is Kendall Square/MIT, one of the most important models in the country of an Urban University-based Innovation District. Another Innovation District is the Seaport, a Downtown Adjacent WalkUP east of Downtown Boston.









1 Downtown

Examples: *Downtown BID, Financial District*

Downtowns are the original section of a metro area's principal city. In Boston, the Downtown Business Improvement District and the Financial District are combined to form the Downtown in the region as defined by this research.

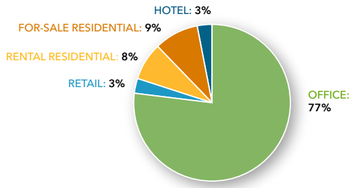
As is typical of Downtowns, office space is the dominant use, though for-sale and rental residential are the fastest growing uses in recent years and are expected to continue to expand.

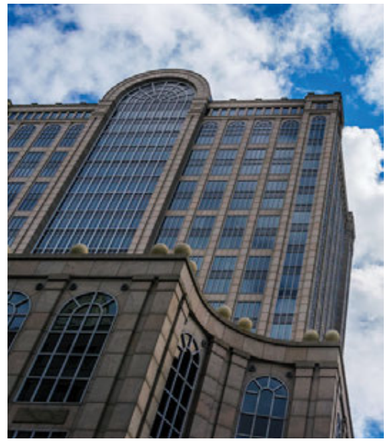




Product Mix: **Downtown**

Average % of Total Square Footage





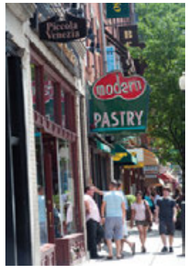






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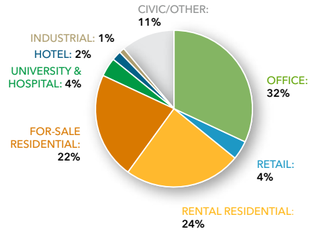
2 Downtown Adjacent

Examples: *Back Bay, Beacon Hill, Chinatown, North End, Seaport, South End, West End*

Immediately adjacent to Downtown Boston, these WalkUPs usually have a lower density than Downtown and possess a unique character from Downtown and from one another. They have a more balanced mix of space than Downtown, with almost equal portions of residential and office/retail space. The result is usually a lively, 24-hour environment.

Product Mix: **Downtown Adjacent**

Average % of Total Square Footage











3 Urban Commercial

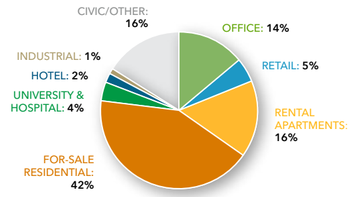
Examples: *Allston, Cambridgeport, Central Cambridge, Charlestown, Coolidge Corner, Dudley Square, East Cambridge, Fields Corner, Kenmore/Fenway, Mission Hill, North Dorchester, North New Bedford/Acusbnet Ave., Porter Square/Davis Square, Roxbury, South Boston*

Historically local-serving neighborhood commercial, Urban Commercial WalkUPs generally declined economically after World War II but, in recent years, they have found a new economic role.

Urban Commercial WalkUPs in Metro Boston are dominated by residential real estate (58 percent) and are marked by more retail and less office space than Downtown or Downtown Adjacent places. The retail in Urban Commercial WalkUPs is generally characterized as urban entertainment, such as restaurants and nightclubs, but also, including boutique shops, and furniture and home décor stores.

Product Mix: **Urban Commercial**

Average % of Total Square Footage













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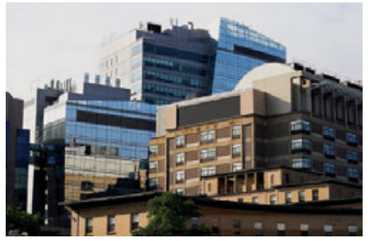
4 Urban University

Examples: *Harvard Square, Longwood Medical Area, Lower Allston, MIT/Kendall Square, Northeastern, Tufts*

In these WalkUPs, universities and other institutional owners, such as medical facilities or government research centers, are the dominant landowners. These landowners gauge the "success" of their development not in terms of rent they may be able to collect, but in their ability to attract talent (professors, students, administrators, etc.).

The presence of these anchor institutions can also present opportunities for Innovation Districts to develop. As mentioned above, MIT/Kendall Square is one of the country's leading examples of an Innovation District. University space (classrooms, laboratories, hospitals, general office, and dorms) is the largest use, followed by off-campus housing, both rental and for-sale. Office space represents 17 percent, showing the commercialization of university research and desire to be near the university campus. Retail is very small (one percent), which is an opportunity; only Harvard Square has created a critical mass of retail in this type of WalkUP.

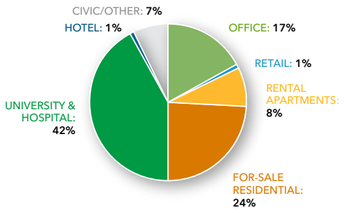






Product Mix: **Urban University**

Average % of Total Square Footage





5 Regional Urban Center

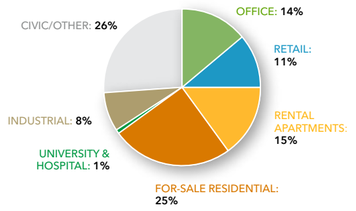
Examples: *Arlington, Attleboro, Brockton, Downtown Beverly, Downtown Fall River, Downtown Gloucester, Downtown New Bedford, Downtown Peabody, Downtown Quincy, Downtown Salem, Downtown Worcester, Fitchburg, Framingham, Haverhill, Lawrence, Lowell, Lynn/Central Square, Malden Center, Marlborough, Newburyport, Norwood, Plymouth, Taunton BID, Wakefield, Waltham, Watertown, Woburn*

Typical Regional Urban Centers (referred to as Suburban Town Centers in previous reports) are 18th- or 19th-century towns that were swept up in the sprawl of the metropolitan area after World War II. Laid out before the automobile, they have a walkable urban grid and historical buildings that preserve the memory of the place from the more vibrant pre-World War II era. Following decades of decline, many have found a new economic role.

Regional Urban Centers have less office space than Downtown or Downtown Adjacent areas and relatively more retail as a percentage of the total space. Of all the WalkUPs, this is the only type to have any appreciable industrial space, though this is likely due to historical legacy more than anything. Increasingly, these are becoming growing concentrations of rental and for-sale residential, as well as the return of employment and retail. These WalkUPs are also concentrations of civic spaces.

Product Mix: **Regional Urban Center**

Average % of Total Square Footage

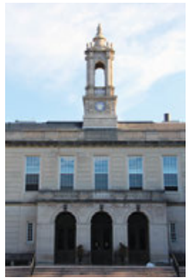


















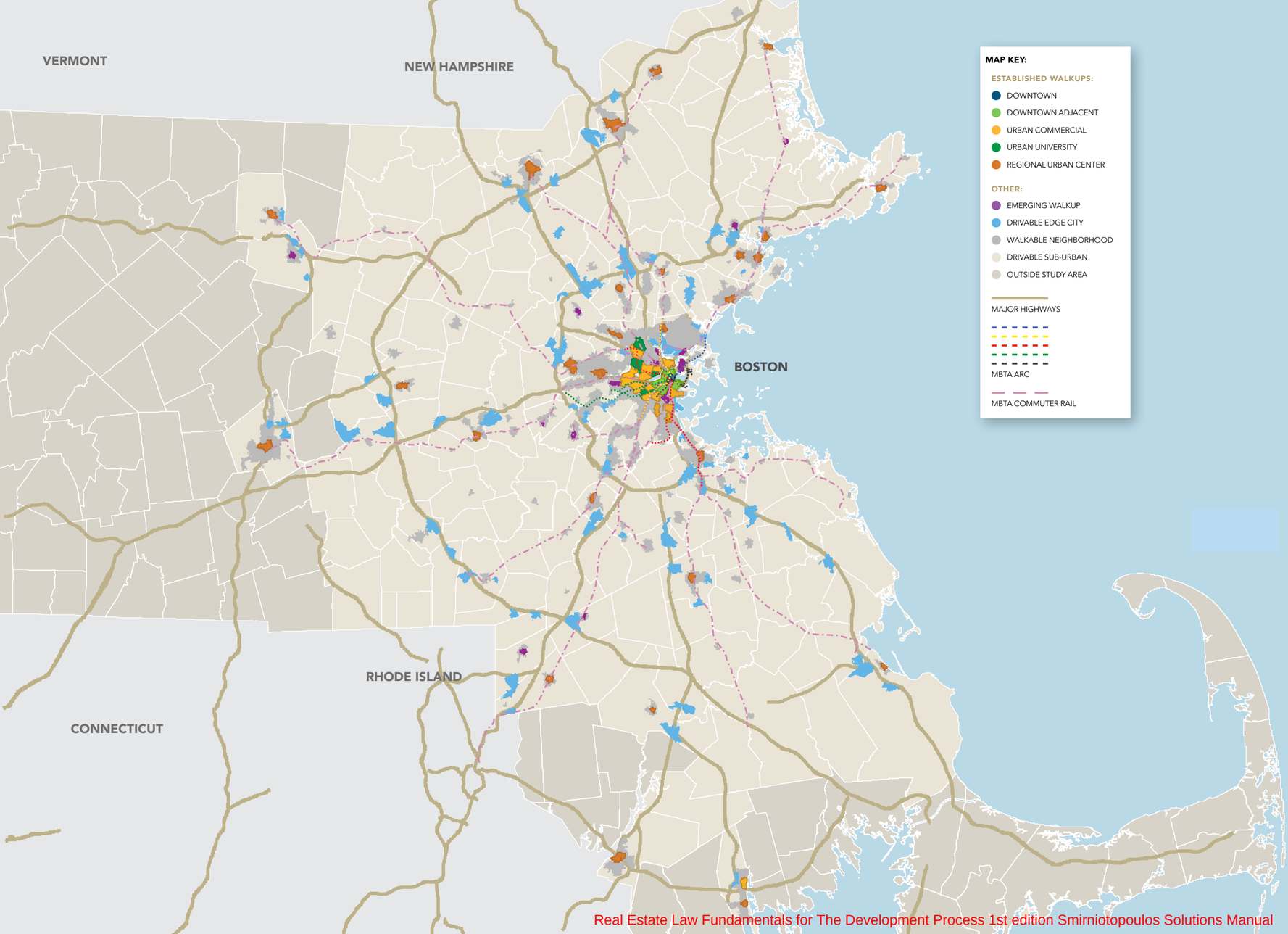




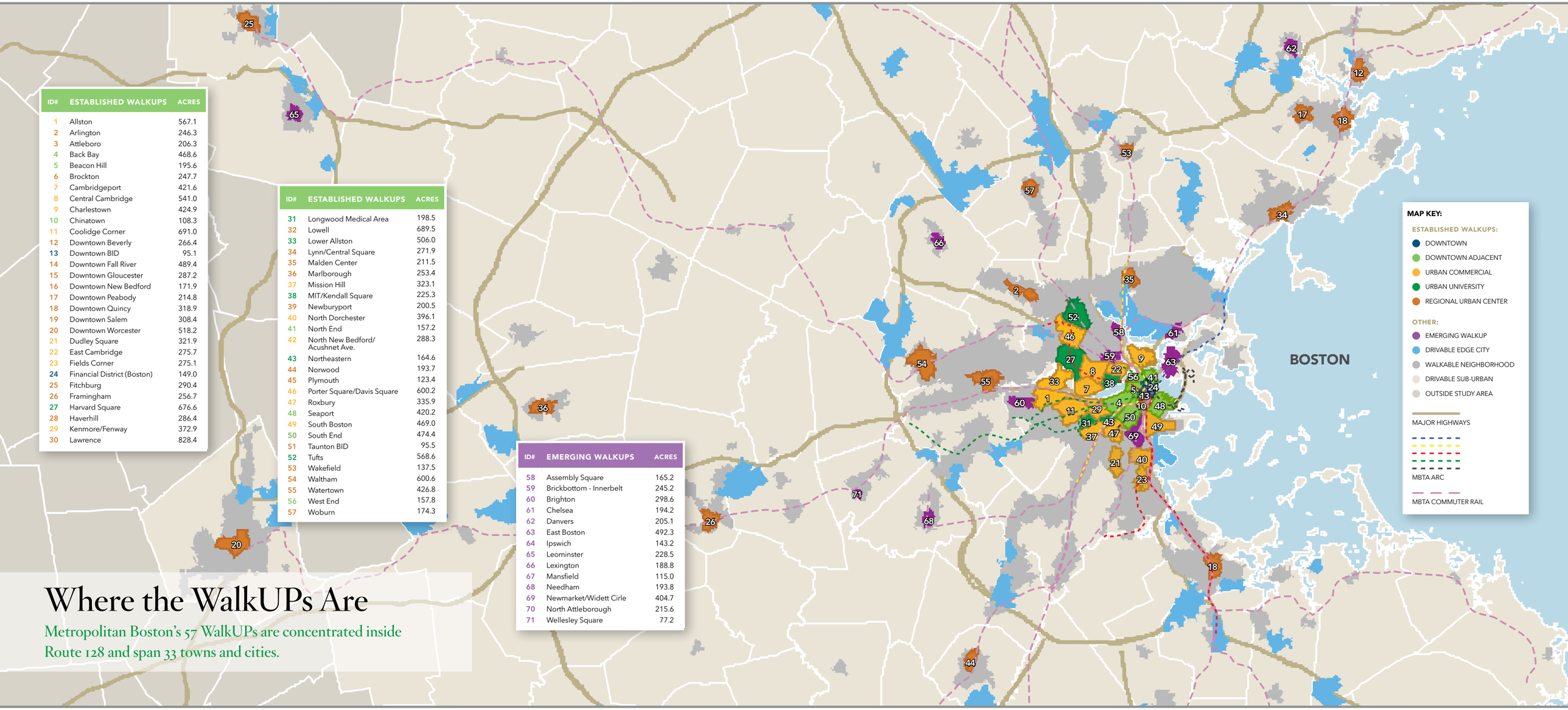
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LAND USE IN METRO BOSTON



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ID#	ESTABLISHED WALKUPS	ACRES
1	Allston	567.1
2	Arlington	246.3
3	Attleboro	206.3
4	Back Bay	468.6
5	Beacon Hill	195.6
6	Brockton	247.7
7	Cambridgeport	421.6
8	Central Cambridge	541.0
9	Charlestown	424.9
10	Chinatown	108.3
11	Coolidge Corner	691.0
12	Downtown Beverly	266.4
13	Downtown BID	95.1
14	Downtown Fall River	489.4
15	Downtown Gloucester	287.2
16	Downtown New Bedford	171.9
17	Downtown Peabody	214.8
18	Downtown Quincy	318.9
19	Downtown Salem	308.4
20	Downtown Worcester	518.2
21	Dudley Square	321.9
22	East Cambridge	275.7
23	Fields Corner	275.1
24	Financial District (Boston)	149.0
25	Fitchburg	290.4
26	Framingham	256.7
27	Harvard Square	676.6
28	Haverhill	286.4
29	Kenmore/Fenway	372.9
30	Lawrence	828.4

ID#	ESTABLISHED WALKUPS	ACRES
31	Longwood Medical Area	198.5
32	Lowell	689.5
33	Lower Allston	506.0
34	Lynn/Central Square	271.9
35	Malden Center	211.5
36	Marlborough	253.4
37	Mission Hill	323.1
38	MIT/Kendall Square	225.3
39	Newburyport	200.5
40	North Dorchester	396.1
41	North End	157.2
42	North New Bedford/ Acushnet Ave.	288.3
43	Northeastern	164.6
44	Norwood	193.7
45	Plymouth	123.4
46	Porter Square/Davis Square	600.2
47	Roxbury	335.9
48	Seaport	420.2
49	South Boston	469.0
50	South End	474.4
51	Taunton BID	95.5
52	Tufts	568.6
53	Wakefield	137.5
54	Waltham	600.6
55	Watertown	426.8
56	West End	157.8
57	Woburn	174.3

ID#	EMERGING WALKUPS	ACRES
58	Assembly Square	165.2
59	Brickbottom - Innerbelt	245.2
60	Brighton	298.6
61	Chelsea	194.2
62	Danvers	205.1
63	East Boston	492.3
64	Ipswich	143.2
65	Leominster	228.5
66	Lexington	188.8
67	Mansfield	115.0
68	Needham	193.8
69	Newmarket/Widett Cirle	404.7
70	North Attleborough	215.6
71	Wellesley Square	77.2

Where the WalkUPs Are

Metropolitan Boston's 57 WalkUPs are concentrated inside Route 128 and span 33 towns and cities.

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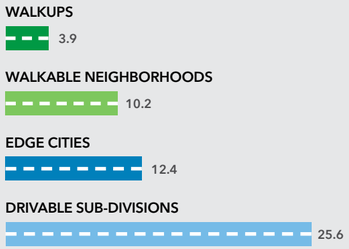
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Geographic Findings

Metropolitan Boston has more WalkUPs than any other metro area in the U.S., due its large number of Regional Urban Center and Urban Commercial WalkUPs.

- **There are 57 Established WalkUPs in Metro Boston in 2015.** This equates to approximately one WalkUP per 88,000 people. Established WalkUPs range in size from 95 to 691 acres (average is 337 acres) and account for one percent of the total land area in Metro Boston.
- **In addition, there are 14 Emerging WalkUPs.** These are places that do not yet contain a critical mass of commercial square footage or walkability to qualify as established WalkUPs. They represent 0.2 percent of the regional land area. Many of these places are sufficiently walkable from a Walk Score ranking, but miss the space quantity thresholds. These include the walkable cores of Lexington, Leominster, and Needham. In addition, we identified several former industrial locations in the Inner Core that nearly meet the walkability and space criteria now and likely will in the future. For example, Assembly Row in Somerville is a new mixed-use development project in a former drivable location, which recently completed its first phase. Assembly Row does not quite have enough space to meet the thresholds for established WalkUPs but its second phase is about to break ground, which will qualify it as established.
- **Established WalkUPs are the densest of all the metropolitan development options, but they still leave substantial opportunity for infill development and redevelopment.** The established WalkUPs have an average gross floor-area-ratio (FAR) of .82 though it ranges widely, from .25 to 6.6. This suggests that substantial opportunities remain for infill development and/or redevelopment in nearly all WalkUPs, even in places perceived to be built out. For comparison, the average FARs of Edge Cities in Metro Boston is 0.14; meaning WalkUPs are nearly six times denser. Walkable Neighborhoods have a 0.33 FAR and are eight times denser than Drivable Sub-divisions, which have a 0.04 FAR.
- **Twenty-six percent of the metropolitan area's jobs are located in WalkUPs and nine percent of are located in Edge Cities.** Given that approximately two-thirds of the entire region's office inventory and 30 percent of the industrial is located in these regionally significant places, it is likely that a majority of the region's base, or export, jobs, are located in them, using only 3.6 percent of the region's land. In other words, the metropolitan area earns the bulk of its living in a small percentage of its land mass. WalkUPs have the highest job density, an average of 33.6 jobs per acre, compared to only five jobs per acre for Edge Cities, four for Walkable Neighborhoods, and 0.9 for Drivable Sub-divisions.
- **Seventy-five percent of established WalkUPs are served by rail transit.** The percentage rises to nearly 100 percent for the WalkUPs ranked highly for economic performance, underscoring the importance of transit service to successful urbanism. Nonetheless, as the one-quarter of Boston WalkUPs lacking transit demonstrate, rail transit is not essential. Assuming a regional desire for more economic growth, WalkUPs not served by transit today make the most logical locations for future transit stations when the system expands to insure built-in ridership and promotion of that growth.
- **Residents and employees of WalkUPs and Walkable Neighborhoods likely get more physical activity.**[7] The established WalkUPs have an average of 186 intersections per square mile, followed by 118 for the Walkable Neighborhoods, dropping to 33 for Edge Cities, and 22 for Drivable Sub-divisions. Previous studies have shown that intersection density is one of the strongest predictors of walking and reduced driving, even more so than population density, distance to transit, and other factors.[8] Intersection density positively correlates with the amount of physical activity, controlling for gender, age, and education.[9]
- **The average length of road per capita, which is a proxy for infrastructure elements such as water and sewer lines, electric power, broadband, and most other infrastructure categories, is three times more for drivable development versus walkable development.** Although established WalkUPs have more road length on a per acre basis than the other metropolitan development options, on a per capita basis (residents and employees), WalkUPs have lower road length, therefore less overall infrastructure costs per capita. On a per capita basis, Metro Boston's Edge Cities require 3.2 times more road length than WalkUPs.[10] Drivable Sub-divisions require 2.6 times the road length of Walkable Neighborhoods.

Average Road Length per Capita
(Linear Feet)



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Product Findings

For the first time ever, the size and share of all real estate products in Metropolitan Boston has been tabulated.

BY LAND USE OPTION

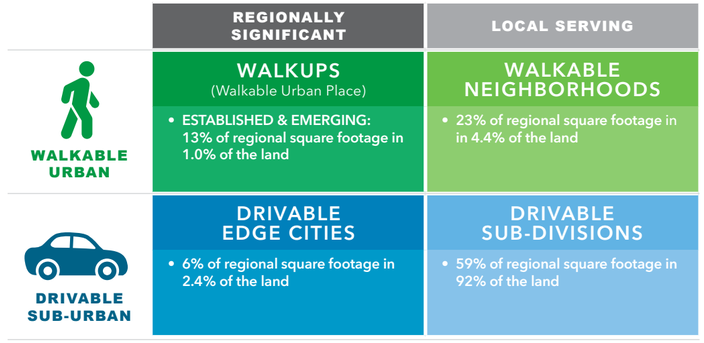
The 3,119 square miles that comprise Metropolitan Boston contain approximately 5.5 billion square feet of built square footage. Approximately 3.5 billion (63.6 percent) of this total square footage is for-sale housing: homes, two- and three- family homes, townhouses, and condominiums. About six to 12 percent of this for-sale housing is actually rented.

The remaining two billion square feet is either income-producing real estate—office, retail, rental apartments, industrial, flex space, hospitality, and health care—or owner-occupied properties, such as government buildings, universities, schools, and churches.

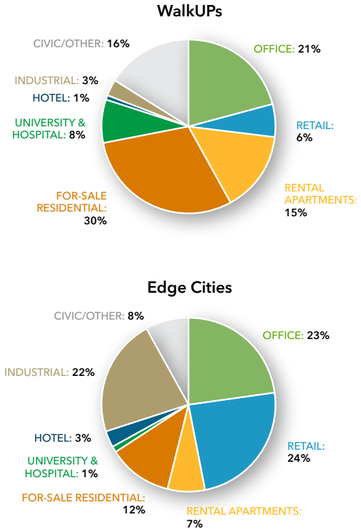
Metro Boston's 5.5 billion square feet of real estate breaks down into the following product types:[11]

Product Type	*Sq Ft*	*% of Total*
FOR-SALE RESIDENTIAL	3,440 MM	63%
RENTAL APARTMENTS	293 MM	5%
OFFICE	326 MM	6%
RETAIL	222 MM	4%
INDUSTRIAL	283 MM	5%
HOTEL	40 MM	1%
CIVIC/INSTITUTIONAL/OTHER[12]	890 MM	16%
TOTAL	**5,494 MM**	**100%**

Share of Residential & Income-Producing Square Footage by Land Use Type



Share of Square Footage of Metropolitan Property Types in WalkUPs vs. Edge Cities



The product mix of WalkUPs and Edge Cities is substantially different. For Edge Cities, the three dominant property types are retail, office, and industrial. Together, they account for 69 percent of the total square footage. For WalkUPs, residential, office, and civic/institutional space are the major property types. Edge Cities tend to be where people go to shop and work. WalkUPs tend to be where people live, work, shop, attend university, and engage in civic activities.

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PRODUCT TYPE
VALUATION PREMIUMS

The data in Metro Boston indicate a substantial shift in new product delivery towards walkable urban development over the past three real estate cycles. WalkUPs, especially those in the Inner Core of the metro area, are also showing strong and growing rent and for-sale price premiums over drivable sub-urban locations, both Edge Cities and Sub-divisions. These premiums exists for all product types studied: office, retail, rental apartments, and for-sale residential. Walkable Neighborhoods seem to enjoy slight premiums for residential space over Sub-divisions, particularly when comparing areas of similar median income. But so far no premium has materialized for office or retail located in Walkable Neighborhoods.

Increasing rent premiums also have social equity implications, since they correspond to declining affordability for low- and moderate-income households who are already living in WalkUPs (or who would like to move there.)

OFFICE

- **WalkUP office rents average $39.55 per square foot, which is 78 percent higher than Edge Cities average of $22.34.** In 2001, the gap between WalkUPs and Edge Cities was already large—at approximately 61 percent—but clearly, it has grown.
- The office market preference for WalkUPs is also demonstrated by prevailing capitalization rates, known as "cap rates" in the real estate industry. Cap rates are a means of valuing an annual stream of income from a real estate asset.[13] It is important to note that due to the mathematical method of the calculation of cap rates, a lower cap rate indicates higher valuation. Based on an analysis of data provided by Cushman and Wakefield, the average office cap rate in WalkUPs was 4.6 percent, versus 6.5 percent for offices in Edge Cities, a 41 percent WalkUP cap rate premium.[14] **By combining both the rent and the cap rate premiums, the value premium for office space in WalkUPs is 150 percent over Edge Cities.** Due to a widening spread in cap rates between WalkUPs and Edge Cities, as well as stronger rent growth in WalkUPs, this valuation premium has grown since 2007, when it was 100 percent.[15]
- **Office rents in Walkable Neighborhoods at $18.59 per square foot are actually three percent lower than in Drivable Sub-divisions.** There is currently no value premium for offices located in Walkable Neighborhoods as compared to Drivable Sub-divisions. Office rents in these local-serving locations tends to be among the lowest in the metro area due to the tenants served.

RETAIL

- **Retail rents in WalkUPs are approximately 23 percent higher than in Edge Cities, up from near parity in 2007.** Based on an analysis of data provided by Cushman and Wakefield, we estimate that average cap rates in WalkUPs are 4.3 percent versus 6.5 percent for Edge Cities and Sub-divisions. **The combination of lower cap rates and higher rents in WalkUPs translates into a total value premium of 85 percent over Edge Cities**.
- **Retail rents in Walkable Neighborhoods average $17.44, very similar to the average for Drivable Sub-divisions.** We did not have sufficient data to estimate cap rates for Walkable Neighborhoods but they are likely to be similar to drivable areas. The result is that retail values in Walkable Neighborhoods and Drivable Sub-divisions are about equal.

RENTAL APARTMENTS

- **Average rental apartment rents per square foot are 52 percent higher in WalkUPs than in Edge Cities.** Based on data provided by Cushman and Wakefield, we estimate that the average cap rate for WalkUP apartments is 4.5 percent versus 5.3 percent for Edge Cities and Sub-divisions. Combining this cap rate premium and the higher rents results in an overall value premium of 78 percent for apartments in WalkUPs relative to Edge Cities.
- **Average monthly apartment rents in Walkable Neighborhoods are estimated to be $1.85 per square foot, slightly higher than the $1.72 for Drivable Sub-divisions.** The data was insufficient to determine any difference in cap rates between Walkable Neighborhoods and Drivable Sub-divisions and we suspect that there is little difference at this time. As a result, multifamily rental apartments in Walkable Neighborhoods have likely only a small value premium of approximately eight percent over those in Drivable Sub-divisions.

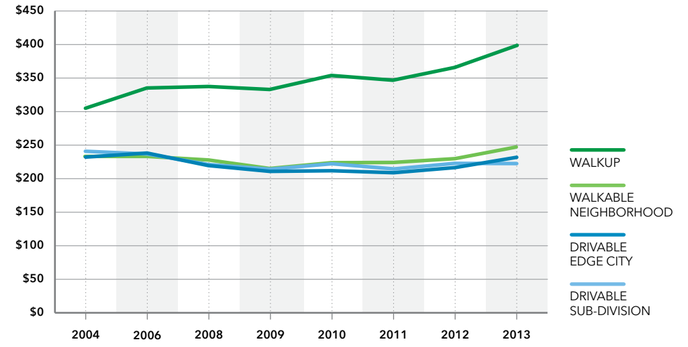
HOTELS

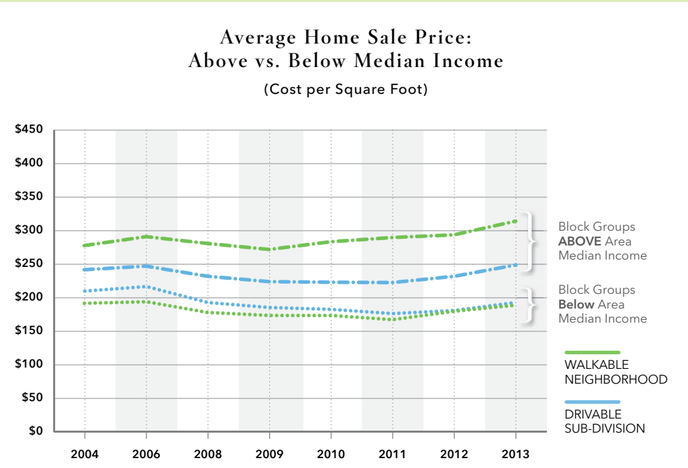
- **For hotels, the average REVPAR (revenue per available room) in WalkUPs is 81 percent higher than in Edge Cities,** with the caveat that this estimate is based on a limited sample of hotels in a few selected WalkUPs and Edge Cities where data was available. Specific cap rate data was unavailable but the spread between Central Business District and Suburban hotels is probably indicative of the difference between WalkUPs and Edge Cities. It ranges from 0.75 percent for "select service" hotels to 2.5 percent for "full-service" hotels.[16] If we assume an average cap rate premium of 1.5 percent for WalkUPs, the total WalkUP value premium is 120 percent.[17]

FOR-SALE RESIDENTIAL

- **The trend in for-sale housing prices has been remarkable.** Home prices in WalkUPs, and to a lesser extent, Walkable Neighborhoods, weathered the recession much better than Edge Cities and Sub-divisions. As of 2013, the latest year data was available, per square foot home prices in Edge Cities and WalkUPs had recovered from the recession to the point where they were about the same as they were in 2004, in nominal dollars. In WalkUPs, however, home prices in 2013 were 31 percent higher than in 2004. **This has resulted in a price per square foot premium of 80 percent for WalkUPs over Edge Cities.**[18]
- **Prices in Walkable Neighborhoods tracked Drivable Sub-divisions very closely until 2010, when a slight premium emerged. As of 2013, per square foot home prices in Walkable Neighborhoods were seven percent higher than in Drivable Sub-divisions.** However, if neighborhoods of similar incomes are compared, the premium becomes more apparent. Looking only at lower income places (block groups where the median income is below the regional median of $79,000), the average price per square foot in Walkable Neighborhoods in 2004 was 10 percent lower than Drivable Sub-divisions. By 2013, that discount had melted to virtually nothing because prices in lower income Walkable Neighborhoods rose faster than in Drivable Sub-divisions, (although prices for both are still off their peak of 2006).

  Comparing neighborhoods with median incomes higher than $79,000 shows a similar trend although the starting point is different. Higher-income Walkable Neighborhoods started with a 15 percent premium over Drivable Sub-divisions in 2004 and this premium grew to 26 percent by 2013.





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WALKUP TRENDS

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WalkUP *Trends*

Market Shifts Over Three Real Estate Cycles

The market shifts of the past 30 years demonstrate a general trend toward walkable urban development, although each product type is different. Some are leading the trend toward more walkable urban development, some are laggards, and some are in between.

The late 20th century saw walkable urban real estate product types lose market share as drivable sub-urban development was in ascent. For example, during this period walkable urban office absorption in nearly every metropolitan area would have had to double just to maintain market share. These declining market shares reflected the nationwide disinvestment in American center cities—the locations of most walkable urban places in the 20th century.

The last 30 years, however, have seen a shift back toward walkable urban development. In Metro Boston, there are three categories of real estate products relevant to this walkable urban trend.

1

LEADERS:
HOTEL & OFFICE

- Both products have increased their market share in the most recent real estate cycles.
- **Hotel** is the product in Metro Boston that has shifted most aggressively to walkable urban development. Of the hotel inventory located in regionally significant places in 1991, 46 percent was in WalkUPs, 54 percent was in Edge Cities. During the 1990s cycle, Edge City hotels expanded their market share (61 percent of the new hotel growth in the cycle) over WalkUPs. In the 2000s cycle the trend lines reversed with WalkUP hotel absorption being three times that of Edge City hotel absorption. During the current cycle that started in 2009, the WalkUP hotel market has grown even faster, at 4.5 times the rate of Edge Cities.
- **Office** is also a leading walkable urban product. In the 1990s cycle, WalkUP office absorption would have had to double just to maintain market share. In both the 2000s and the current cycle, office absorption has been evenly split between WalkUPs and Edge Cities. The high valuation premium for office space in WalkUPs, 150 percent over Edge Cities, demonstrates the pent-up demand for more walkable urban office space.

2

TRANSITIONAL:
RENTAL APARTMENTS

- **Rental Apartments** is the product type that seems to be in transition from drivable to walkable urban. From 1992-2000, 50 percent of new apartment development was located in either WalkUPs or Walkable Neighborhoods. From 2001-2008, walkable areas' share fell to 41 percent but since 2009, it has risen once again to 50 percent. We anticipate that walkable Boston will continue to grow its market share of new apartment development in the next cycle, and establish a clearer trend. It is significant that for the first time in decades, multi-family permits (both for-sale and rental since this data has always been combined) are now greater than for-sale residential in this cycle. This may be a reflection of homeownership rapidly dropping. It fell from 69 percent of total households in 2005 to 64 percent in 2014 and shows no signs of leveling off. Households in well-known walkable urban places, such as Manhattan, Paris and London, have a much higher propensity to rent; generally 60-70 percent are renters. Possibly there is a structural shift toward rental apartments as Metro Boston builds more walkable urban places, a hypothesis that should be studied in the future. MAPC projections through 2040 indicates increased rental apartment demand.[19]

3

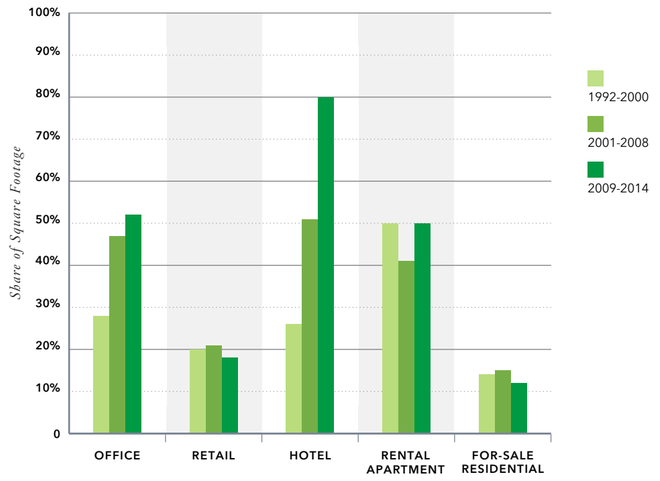
LAGGARDS:
RETAIL & FOR-SALE RESIDENTIAL

- The lagging product types that continue to absorb more drivable sub-urban development include **Retail** and **For-Sale Residential**. Both types of product developers continue to embrace the drivable sub-urban model of the last century that requires the extensive consumption of land for sub-divisions and one-story shopping centers surrounded by acres of surface parking. This lag may be due to the valuation premiums, that while significant (41 percent for retail and 20 percent for for-sale residential, as mentioned above), are not sufficient for some developers to change their business model.
- The issue is that business as usual may no longer be viable in the future, particularly for homebuilders. In 2014, the fifth year of this cycle and possibly at its peak, slightly less than 5,000 single-family for-sale permits were issued in the Boston metro area. Although this represents a recovery from all-time low levels of 2008 and 2009, it is still lower than the permit issuance in any year from 1980-2007. This possible peak year for permits in this cycle is even lower than the recessionary low in 1989. In the most recent cycle, single-family units have accounted for a minority of housing permits, 47 percent, versus 53 percent for multi-family. This may become the first real estate cycle since at least 1980, when this data first became available, where multifamily permits outnumbered single-family. Compare that to 1992-2000, when single-family units accounted for 84 percent of permits. There are many factors affecting the homebuilding industry's weak recovery. However, given the huge and growing price premiums in walkable places and stagnant prices in drivable locations, one hypothesis is that homebuilders are simply not building the right products in the right places that are attractive to a large and growing portion of the market.

The Last Three Real Estate Cycles:

Share of Metro Income Property Square Footage Developed in WalkUPs & Walkable Neighborhoods[20]

Income Property = Office, Retail, Hotel, Rental Apartment, For-Sale Residential



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Walkable Urbanism & Economic Development

Correlations and findings indicate that across the largest 30 U.S. metropolitan areas, walkable urban development, education, and economic vitality are linked...somehow. This correlation appears to be true for Boston.

The hypothesis many economic development professionals and many business people subscribe to is that the U.S. has been layering a "knowledge economy" over the 20th-century industrial base. Backed by considerable research, the education of the work force—best defined as the percentage of the work force over age 25 with a college degree—is key to the economic success of a business, a metropolitan area, and ultimately the country.

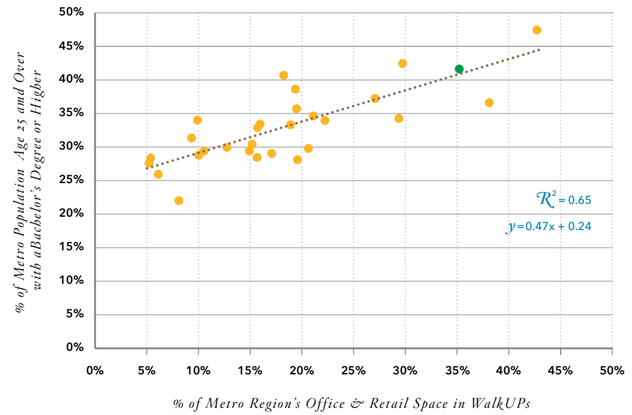
The Milken institute, in its paper entitled *A Matter of Degrees*, found that adding one year to the average year of schooling is associated with an increase in real GDP per capita of 10.5 percent and an increase in real wages per worker of 8.4 percent, even after controlling for many other variables.[21] As Edward Glaeser, a professor of economics at Harvard University stated, "The most successful economic development policy is to attract and retain smart people and then get out of their way."[22]

The connection between the educated work force and walkable urbanism has been best made by 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." As Florida says in *The Rise of the Creative Class Revisited*, "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."[23] The City Observatory, a think tank focused on cities, confirmed this general trend in a recent report, which found that 25-34 year olds with college degrees are migrating disproportionately towards close-in urban neighborhoods.

Our own survey of the largest 30 metropolitan areas, *Foot Traffic Ahead*,[24] found per capita GDP was strongly correlated to walkable urbanism, as measured by the percentage of the region's office and retail space in WalkUPs and educational attainment, as measured by the percentage of people over 25 with college degrees. These correlations are illustrated in the charts on pages 30 and 31. Of the 30 metro areas surveyed, Boston had the third-highest amount of walkable urbanism, the third-highest educational attainment, and ranked seventh in per capita GDP.

Walkable Urbanism, Higher Education & Metropolitan GDP in the Top 30 U.S. Metros

Correlation:
Educational Attainment & Walkability



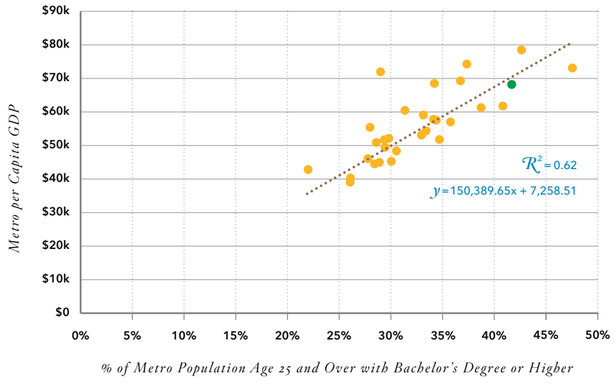
METROPOLITAN BOSTON
U.S. TOP 30 METROS

Since 2000, Boston's walkable urban places, which constitute just 5.4 percent of metro area land, have attracted nearly 70 percent of Metro Boston's growth in young, college-educated people.

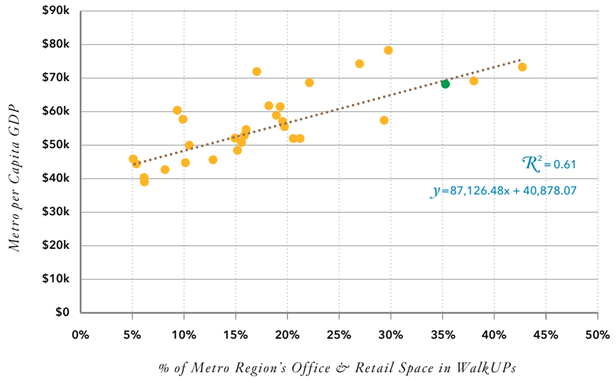
These correlations do not prove causation and in fact, causation may run both ways among these variables. For example, metro areas with high per capita GDPs may attract more educated people, who then demand walkable places, just as walkable places may attract educated people, which then increase GDP per capita. Also, there may well be additional variables driving the relationship. All of this warrants further research.

Nonetheless, the ranks of the young and educated seem particularly drawn to Boston's walkable urban places. Since 2000, the Boston metropolitan area has added approximately 52,000 people under the age of 34 with college degrees. We estimate that 41 percent of this population has chosen to locate in a WalkUP and a further 28 percent in Walkable Neighborhoods (as reported above, only 5.4 percent of the metro area is walkable urban). This means that walkable urban places, where 39 percent of all people live, have attracted nearly 70 percent of the growth in young, educated people in the Boston metro area.[25]

Correlation:
Educational Attainment & GDP Per Capita
(2013 per capita GDP, chained 2009 dollars)



Correlation:
Walkability & GDP Per Capita
(2013 per capita GDP, chained 2009 dollars)



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PLATINUM

The charts at the right show the average rents and assessed values per acre for each Metropolitan Boston's WalkUPs at each Economic Ranking level.

The charts also show the overall averages for Metro Boston's Edge Cities as a point of comparison.

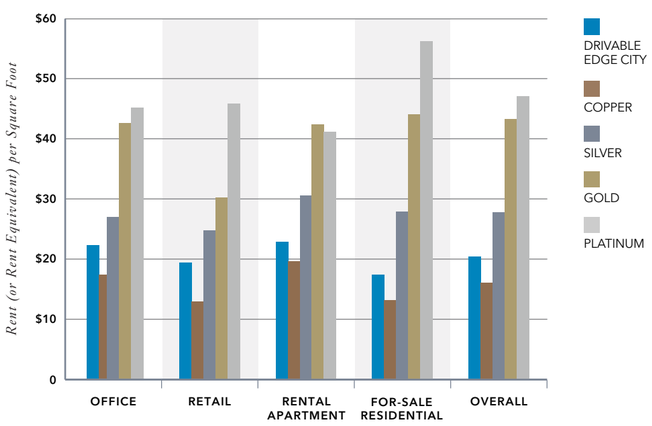
Economic Rankings

WalkUPs in Metropolitan Boston fall into four levels when measured by economic performance. Each WalkUP level has different growth and investment potential.

Economic rankings for WalkUPs are based on the rents per square foot achieved for four product types: office, retail, rental apartments, and for-sale housing (translated into a rent per square foot equivalent), and the total assessed value. Each WalkUP's average rent per square foot was determined and weighted according to the percentage of square feet by product type. The assumption is that the amount the market is willing and able to pay in terms of rent and value is a proxy for that WalkUP's economic performance. It is also a crucial metric for real estate investors and developers trying to understand where the WalkUP stands on the risk-reward curve.

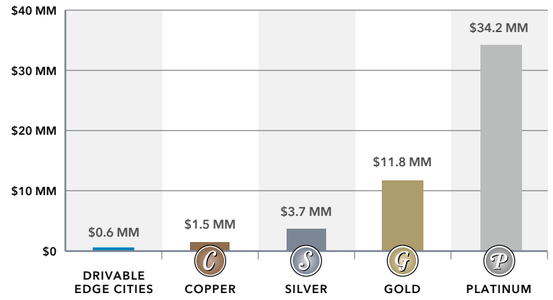
The average weighted rents per square foot range from $10.44 to $52.28 in Boston's WalkUPs and the assessed value per acre ranges from $745,000 to $60 million. A metal rankings system for WalkUPs that ranks each metric equally has been determined, Platinum is the highest, while Gold is the second highest and considered to be a place that has attained "critical mass."[26] Silver is the third highest and Copper is the lowest.

Average Rents by Product Type



Assessed Values per Acre

($ Millions)



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Attleboro
Brockton
Downtown Fall River
Downtown Gloucester
Downtown New Bedford
Downtown Peabody
Downtown Salem
Downtown Worcester
Downtown Beverly
Dudley Square
Fitchburg
Framingham
Haverhill
Lawrence
Lowell
Lynn/Central Square
Marlborough
North New Bedford/ Acushnet Ave.
Norwood
Plymouth
Taunton BID
Wakefield

Average Key Metrics

Walk Score: 83

Intersection Density: 132

Gross FAR: 0.56
(Floor Area Ratio)

Assessed Value per Acre:

$1.49 million

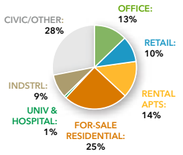
Annual Rent per Sq. Ft. {$ = $5}

OFFICE: $$$ $17.48
RETAIL: $$$ $12.95
RENTAL APARTMENTS: $$ $19.75
OVERALL AVERAGE: $$ $16.17

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

FOR-SALE RESIDENTIAL: $$$$$$$$$$ $149.00

Square Footage Breakdown by Use:



CHARACTERISTICS

The lowest level of economic performance, Copper WalkUPs in Boston primarily consist of Regional Urban Centers that initially developed during the industrial revolution in the 19th century. Many of them are still coping with the steady erosion of manufacturing as a source of employment, which has characterized the U.S. economy for the last several decades. In some cases, there were misguided attempts in the 1970s at urban renewal, which left unsightly scars and damaged the urban fabric. With the exception of Dudley Square, all Copper WalkUPs are located beyond the Inner Core of the Boston metropolitan area (outside Route 128). Their physical distance from Boston's Inner Core, the epicenter of the metro area's current knowledge economy, has also limited spillover walkable urban development thus far.

Compared to Edge Cities, average rents in Copper WalkUPs are lower for all of the evaluated product types. On a weighted average basis, Copper WalkUP rents are about 74 percent of the average for Edge Cities. Despite lower rents, the assessed value per acre of these WalkUPs is still much higher than for Edge Cities, because of their greater density.

OBSERVATIONS

Many of these places have strong potential for future economic growth. As WalkUPs in the Inner Core become increasingly expensive, both for residents and businesses, the relative affordability of these places will only increase. That should eventually bring new development and demand to these places, especially for those with commuter rail service, such as Brockton and Wakefield, and/or those in the "favored quarter," such as Framingham. The favored quarter[27] in Metro Boston generally extends to the west.

In addition, many of the Copper-ranked WalkUPs have inherited a street network devised before the rise of the automobile, meaning they have the appropriate "bones" for future walkable urban development. Given the costs of retroactively building such a network, this is not an insignificant asset. Unfortunately, some of these WalkUPs do not have appropriate zoning for what the market wants, generally not allowing sufficient density for new development and economic growth to emerge.

The Hamilton Canal District in Lowell, Mass, provides evidence of the potential for these places. The plan calls for the redevelopment of a declining industrial district into a mixed-use, transit-oriented development that will include 400,000 square feet of commercial space and the addition of more than 700 new housing units, many affordable. Implementation is already underway.

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WalkUP *Rankings*

SILVER

Allston
Arlington
Charlestown
Downtown Quincy
Fields Corner
Lower Allston
Malden Center
Mission Hill
Newburyport
North Dorchester
Porter Square/
Davis Square
Roxbury
Tufts
Waltham
Watertown
Woburn

Average Key Metrics

Walk Score: 80

Intersection Density: 173

Gross FAR: 0.65
(Floor Area Ratio)

Assessed Value per Acre:

$3.71 million

Annual Rent per Sq. Ft.
{$ = $5}

OFFICE: $27.03

RETAIL: $24.81

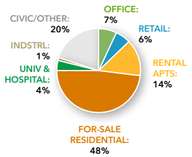
RENTAL APARTMENTS: $30.69

OVERALL AVERAGE: $27.82

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

FOR-SALE RESIDENTIAL: $384.00

Square Footage Breakdown by Use:



CHARACTERISTICS

The WalkUPs ranking in the Silver category are a diverse set and are all located inside Route 128, with the exception of Newburyport. Silver WalkUPs have not yet achieved "critical mass," defined as not requiring government assistance or subsidy for new development. However, they have a trajectory that suggests they will continue to develop into higher-performing walkable urban places.

Silver WalkUPs have rents that are 72 percent higher, on average, than Copper WalkUPs and 36 percent higher than Edge Cities. The greatest difference is in the price of for-sale residential (and therefore its estimated rental value), which is more than double that of Copper WalkUPs. Silver WalkUPs' average Walk Score is slightly lower at 80 than that of Copper WalkUPs (83), but both the average FAR and average intersection density are higher than Copper WalkUPs. The average assessed value per acre of $3.7 million is 150 percent higher than Copper WalkUPs and 6.6 times higher than Edge Cities.

OBSERVATIONS

Silver WalkUPs have the greatest value creation potential for investors and developers. They may still have an image as being economically risky, which is reflected in their high capitalization rates and lower valuations, as compared to the Gold and Platinum WalkUPs. These places are likely to be improved by more development and place management. In time, WalkUPs that are ranked as Silver will yield the greatest relative financial return of any of the ranked WalkUPs.

GOLD

Cambridgeport
Central Cambridge
Chinatown
Coolidge Corner
East Cambridge
Harvard Square
Kenmore/Fenway
Longwood Medical Area
Northeastern
North End
Seaport
South End
West End

Average Key Metrics

Walk Score: 89

Intersection Density: 299

Gross FAR: 1.05
(Floor Area Ratio)

Assessed Value per Acre:

$11.76 million

Annual Rent per Sq. Ft.
{$ = $5}

OFFICE: $42.67

RETAIL: $30.32

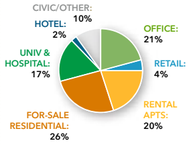
RENTAL APARTMENTS: $42.45

OVERALL AVERAGE: $43.41

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

FOR-SALE RESIDENTIAL: $670.00

Square Footage Breakdown by Use:



CHARACTERISTICS

Gold WalkUPs have achieved critical mass; there is a "there there." Investors recognize this by lower capitalization rates (increases valuations). Land prices are at a premium, reflecting the higher rents and sale per-square-foot prices that have been achieved. Overall rents in Gold WalkUPs are 56 percent higher than in Silver WalkUPs and 112 percent higher than in Edge Cities. Even when compared to the five highest-performing Edge Cities, which have weighted-average rents of approximately $30, Gold WalkUPs maintain a premium of 45 percent.

OBSERVATIONS

Developers are attracted to Gold WalkUPs since the market risk is lower and they are relatively assured of "exit strategies" for selling stabilized projects to institutional investors. However, given the high land prices, there is a smaller upside for investment returns. Institutional investors are more attracted to Gold WalkUPs because there is some upside remaining in asset pricing (moving to Platinum), but low risk.

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PLATINUM

Back Bay
Beacon Hill
Downtown BID
Financial District (Boston)
MIT/Kendall Square

Average Key Metrics

Walk Score: 91

Intersection Density: 344

Gross FAR: 2.20
(Floor Area Ratio)

Assessed Value per Acre:

$34.2 million

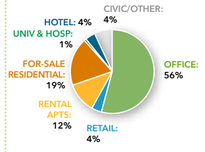
Annual Rent per Sq. Ft. {$ = $5}

OFFICE:	
$$$$$$$$$	$45.24
RETAIL:	
$$$$$$$$$	$45.91
RENTAL APARTMENTS:	
$$$$$$$$	$41.26
OVERALL AVERAGE:	
$$$$$$$$$	$47.21

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

FOR-SALE RESIDENTIAL:	
$$$$$$$$$$	$794.00
$$$$$$$$$$	
$$$$$$$$$$	
$$$$$$$$$$	
$$$$$$$$$$	
$$$$$$$$$$	
$$$$$$$$$$	
$$$$$$$$$$	

Square Footage Breakdown by Use:



CHARACTERISTICS

Only five of the 57 WalkUPs identified in Metropolitan Boston are ranked as Platinum. All are located either in Downtown or nearby. Platinum WalkUPs are predominantly 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 the highest valuations and land prices in the metropolitan area.

Platinum WalkUPs have average overall rents of $47.21 per square foot, nine percent higher than the average for Gold WalkUPs and 130 percent higher than for Edge Cities. When compared to the five highest performing Edge Cities, Platinum WalkUP rents are 57 percent higher. The average assessed value per acre is $34.2 million—23 times higher than Copper WalkUPs and 61 times higher than the average for Edge Cities.

OBSERVATIONS

Institutional investors hold Platinum WalkUP assets over the long term. Due to the limited number of Platinum WalkUPs and assets within them, owners do not tend to sell these assets very often. There also is anecdotal evidence that over the past decade investors have increased their hold time of these assets, much to the chagrin of mortgage and investment bankers who make their living trading properties. If this becomes the norm, it would reverse the late 20th-century trend of institutional investors holding assets for shorter time periods. For example, many insurance companies cut their average asset hold of about 10 years in half during the 1990s. This would prove the theory that walkable urban assets improve as critical mass is achieved and more urban vitality is built in a WalkUP. There is no reason to sell if the best investment in real estate is a vital walkable urban place. Owners achieve an "upward spiral" of value creation just by maintaining their property, propelled by other neighboring investors in the WalkUP.

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SILVER

GOLD

PLATINUM

Social Equity Rankings

WalkUPs fall into the same four levels as the economic rankings, although driven by entirely different variables: Accessibility, Opportunity, and Affordability.

While economic performance is obviously the principal objective of real estate, public policy must take into account a variety of other concerns, and increasingly prominent among those is the issue of social equity. From federal agencies to municipal governments and community-based organizations, there is a growing interest in ensuring that public policies and private investments are oriented so as to improve economic opportunity for the disadvantaged; reduce disparate burdens on low-income, minority, and immigrants; and minimize displacement from areas experiencing reinvestment.

To better understand the social equity dimensions of the WalkUPs that have been defined, the research team developed social equity rankings that characterize the extent to which low-income and minority residents can benefit from housing and economic opportunities in those places—and the extent to which existing residents might be affected by escalating rents and sale prices.

Metrics Used to Determine Social Equity

In examining social equity, we looked at nationally available measures of accessibility, opportunity and affordability. The final six measures (four in accessibility/opportunity and two in affordability) selected include the following:

ACCESSIBILITY (1/3 of Social Equity ranking)

- **Transit Accessibility**
  Proportion of the region's working-age population that can access the WalkUP by transit within 45 minutes, a measure created by the EPA and available in the Smart Location Database. This measure takes into account actual travel times by transit during the PM peak hours, and includes walking, waiting, in-vehicle travel and transfer times. Accessibility by transit is an important measure of access to the WalkUP for residents of the region, especially in WalkUPs close to the Boston/Cambridge/Somerville area, where driving can be prohibitively expensive and inconvenient.
- **ABC Commuting Accessibility**
  Proportion of the WalkUP's residents that commute by non-car modes (i.e. Transit, Biking, Walking),a measure available in the American Community Survey. This measure reports actual commuting behavior; the presence of transit alone does not necessarily reflect its actual use. In general, if people can and do reach their jobs by non-car modes, the WalkUP is considered more accessible than one where transit is available but not well utilized.

OPPORTUNITY (1/3 of Social Equity ranking)

- **Job Density**
  Calculated as a WalkUP's average number of jobs per acre. For this report, the number of jobs is approximated from the InfoUSA 2011 database due to the lack of availability of the commonly used Longitudinal Employer-Household Dynamics (LEHD) survey in Massachusetts. This measure is included as an opportunity for employment in the WalkUP.
- **School Reading Proficiency**
  Percent of test takers in the WalkUP's elementary and elementary/middle schools that score at least proficient in reading, calculated using Massachusetts Comprehensive Assessment System data. This measure is included as an opportunity for quality schools for resident families.

AFFORDABILITY (1/3 of Social Equity ranking)

- **Location Affordability Index**
  Housing and transportation costs as a percentage of area median income, a measure developed by HUD. Since housing and transportation costs are generally linked, especially if the household has to "drive till you qualify," exchanging lower housing costs for higher transportation costs, this measure combines the overall expenses paid by the WalkUP's residents on both of these living expense categories.
- **Housing Cost Burden**
  Proportion of households under 100% Area Median Income that are severely housing cost-burdened (50%+ of income spent on housing), a measure we calculated using data provided by HUD as part of the Comprehensive Housing Affordability Strategy (CHAS) dataset. This measure provides the level of cost burden that comes specifically from housing. It is included both to provide an alternative source of housing costs and to reflect the reality that housing costs alone can frequently be crippling for residents whose income is less than the Area Median Income.

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Our Social Equity rankings are based on two components: Accessibility/Opportunity and Affordability. A WalkUP ranks high on accessibility/opportunity if it is easy to reach for a large share of the region's population and accessible by non-driving modes, and if it provides opportunities for jobs and good schools. A WalkUP ranks high on affordability if it is not severely cost-burdened by housing and transportation costs.

On these measures, WalkUPs tend to be more accessible, and have higher work opportunities than the rest of the region. The cost of that opportunity seems to vary depending on the data source and methodology. While HUD's Location Affordability Index indicates that average housing and transportation costs are both lower in WalkUPs than in Edge Cities and Sub-divisions, the proportion of households earning less than Area Median Income with severe housing cost burdens is clearly higher in WalkUPs than anywhere else. The ranking incorporates both measures and the result is that WalkUPs tend to have significantly more accessibility and opportunity than Edge Cities or Sub-divisions but are less affordable. Walkable Neighborhoods tend to be both more affordable and offer slightly more opportunity than either Edge Cities or Sub-divisions. However, as with economic rankings, the summary is hiding a lot of variation in social equity within each category.

The accessibility and opportunity measures are correlated with each other; generally, WalkUPs that are accessible also have higher opportunity and those that are less accessible have lower levels of opportunity. Therefore, they are combined into one scale of accessibility/opportunity. The affordability measure is also correlated with accessibility and opportunity, but in opposite directions (places with high affordability tend to be inaccessible and vice versa), reflecting a different dimension of social equity. The measures within accessibility, opportunity, and affordability are weighted equally.

The scatterplot on pages 40 and 41 shows the tradeoffs between affordability and accessibility/opportunity; WalkUPs in the Inner Core, like the Downtown and Financial District are accessible but not affordable. In contrast, WalkUPs on the outer edges of the commuter rail system, like Worcester, New Bedford, and Fall River, are affordable but difficult to acces.

The WalkUPs that provide some combination of affordability, accessibility, and good work and school opportunities are ranked as Platinum on the social equity scale. Those that are relatively unaffordable, not easily accessible, or do not provide good opportunities are ranked Copper. The rest are ranked either Silver or Gold, depending on their levels; however, a WalkUP will not rank as Gold or Platinum if it scores Copper in either of the two component measures. For instance, a WalkUP with an extremely high accessibility/opportunity score, like the Financial District, cannot overcome its Copper affordability score, and ends up being scored a Silver. Conversely, if a WalkUP scores a Platinum on either measure, it is ranked at least at Silver.

As rankings go from Copper to Platinum, for example, the transit coverage (percent of region's population accessible to the WalkUP within 45 minutes by transit) goes up from four percent to 18 percent. This reflects the easier access to the WalkUP from the rest of the region due to higher quality and frequency of transit. At the same time, however, the housing cost burden (percent of low income households that spend at least 50 percent of income on housing) does not decrease substantially until Platinum levels. Even then it remains quite high, reflecting the conflict between affordability and access.

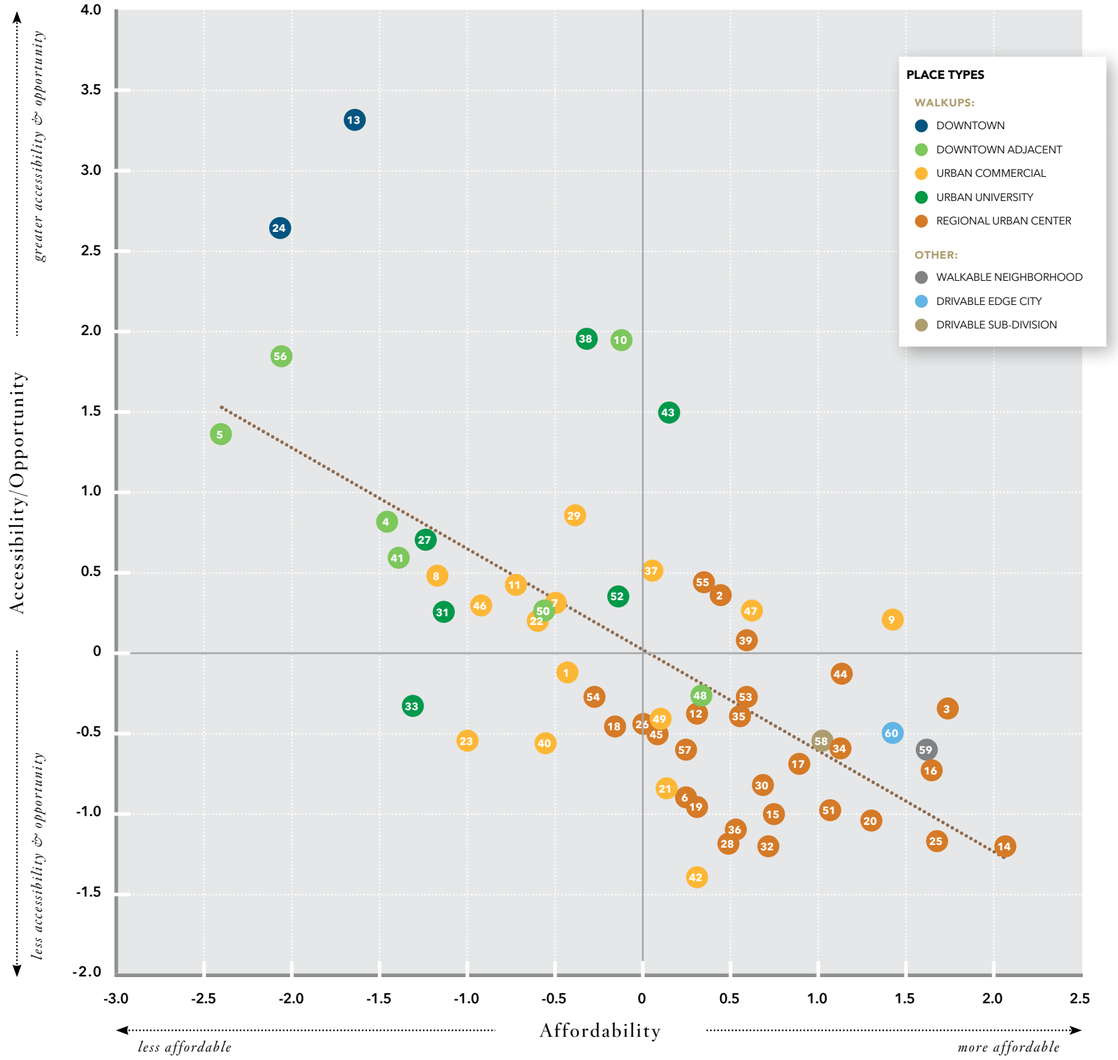
WalkUPs as a group pay a large premium in housing costs at all levels. The combination of affordability and accessibility/opportunity despite the inherent tradeoffs make the Gold and Platinum WalkUPs more socially equitable than the Copper and Silver ones. Unfortunately, many WalkUPs that rank high on the Economic scale fall into the lower ranks of the Social Equity scale and vice versa.

ID#	WALKUPS
1	Allston
2	Arlington
3	Attleboro
4	Back Bay
5	Beacon Hill
6	Brockton
7	Cambridgeport
8	Central Cambridge
9	Charlestown
10	Chinatown
11	Coolidge Corner
12	Downtown Beverly
13	Downtown BID
14	Downtown Fall River
15	Downtown Gloucester
16	Downtown New Bedford
17	Downtown Peabody
18	Downtown Quincy
19	Downtown Salem
20	Downtown Worcester
21	Dudley Square
22	East Cambridge
23	Fields Corner
24	Financial District (Boston)
25	Fitchburg
26	Framingham
27	Harvard Square
28	Haverhill
29	Kenmore/Fenway
30	Lawrence
31	Longwood Medical Area
32	Lowell
33	Lower Allston
34	Lynn/Central Square
35	Malden Center
36	Marlborough
37	Mission Hill
38	MIT/Kendall Square
39	Newburyport
40	North Dorchester
41	North End
42	North New Bedford/Acushnet Ave.
43	Northeastern
44	Norwood
45	Plymouth
46	Porter Square/Davis Square
47	Roxbury
48	Seaport
49	South Boston
50	South End
51	Taunton BID
52	Tufts
53	Wakefield
54	Waltham
55	Watertown
56	West End
57	Woburn
58	Drivable Sub-division
59	Walkable Neighborhood
60	Drivable Edge Cities

Scatterplot Showing Distribution of

Accessibility/Opportunity vs. Affordability

of Metropolitan Boston's Regionally Significant WalkUPs



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COPPER

Brockton
Downtown Gloucester
Downtown Salem
Dudley Square
Haverhill
Lawrence
Lowell
Lower Allston
Marlborough
North New Bedford/ Acushnet Ave.

Average Key Metrics

Housing & Transportation Costs:
(As a % of median income for Metropolitan Boston)



Housing Cost Burden: 48%
(% of low income households that spend at least 50% of income on housing)

Job Density: 13 per acre

School Quality: 43%
(% of students with proficient or higher reading level)

Transit Accessibility: 4%
(Share of population that can access the WalkUP by transit within 45 minutes)

ABC Commuting: 24%
(Non-car mode commutes)

Of the 57 WalkUPs in the Boston area, 10 score a Copper on the social equity scale. Copper-ranked WalkUPs are primarily located outside of the Inner Core of the Boston metropolitan area (with the exception of Dudley Square and Lower Allston). They are mostly served only by commuter rail and/or regional transit service and have relatively few job opportunities. However, almost all are in fact affordable for their residents. Since affordability accounts for one-third of the final score, a Gold ranking in that category is insufficient to overcome the Copper ranking in the measures of accessibility/opportunity. This categorization reflects the reality that affordable living conditions without access to higher opportunity areas is inequitable.

In addition, the average unemployment rate in Copper WalkUPs is 17 percent, an extremely high level for the region, which further supports the low opportunity assessment. Similarly, the low level of affordability (due to the high cost of housing relative to income) is exacerbated by a lack of subsidized housing. On average, just over one percent of the units in these WalkUPs are subsidized.

No WalkUPs have Copper rankings in both accessibility/opportunity and affordability. Most rank as Gold in affordability, so most WalkUPs in this region would be best served by addressing their transit quality and opportunity metrics while striving to maintain affordability.

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SILVER

Allston
Back Bay
Beacon Hill
Downtown Beverly
Downtown BID
Downtown Fall River
Downtown New Bedford
Downtown Peabody
Downtown Quincy
Downtown Worcester
Fields Corner
Financial District (Boston)
Fitchburg
Framingham
Harvard Square
Malden Center
North Dorchester
North End
Plymouth
Seaport
South Boston
Taunton BID
Wakefield
Waltham
West End
Woburn

Average Key Metrics

Housing & Transportation Costs:
(As a % of median income for Metropolitan Boston)



Housing Cost Burden: 48%
(% of low income households that spend at least 50% of income on housing)

Job Density: 65 per acre

School Quality: 51%
(% of students with proficient or higher reading level)

Transit Accessibility: 12%
(Share of population that can access the WalkUP by transit within 45 minutes)

ABC Commuting: 38%
(Non-car mode commutes)

The 26 Silver-ranked WalkUPs are a diverse set, largely due to the rule that a Copper ranking in either affordability or accessibility/opportunity disqualifies a WalkUP from achieving a Gold or Platinum ranking. There are several balanced WalkUPs, like Allston, Fields Corner, and Dorchester, with Silver rankings in both sub-categories. But the majority of these WalkUPs show a large discrepancy between affordability and accessibility/opportunity. This discrepancy, especially in places like Beacon Hill and Downtown BID, which are among the least affordable but the most accessible, show the tradeoff that frequently exists between accessibility and livability. The places with the highest access and opportunity demand a higher cost premium.

Conversely, affordable places like Taunton and Fitchburg are very difficult to get to because they are frequently on the outer reaches of the commuter rail system. They provide an affordable living situation, but little opportunity within the WalkUP and low access to other WalkUPs in the region.

The averages on the metrics for the Silver WalkUPs are hiding important differences between the three types of WalkUPs in this category: (1) balanced WalkUPs, (2) affordable-but-inaccessible WalkUPs, and (3) accessible-but-unaffordable WalkUPs. In order to improve their social equity ranking, these WalkUPs need to address their specific deficiencies.

In addition, the unemployment rate in the Silver WalkUPs averages 10 percent, a strong improvement over Copper. But once again, similar to the job density measure, this average does not reflect the wide range of unemployment rates within this category.

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GOLD

Attleboro
Cambridgeport
Central Cambridge
Coolidge Corner
East Cambridge
Kenmore/Fenway
Longwood Medical Area
Lynn/Central Square
Norwood
Porter Square/Davis Square
South End

The 11 Gold WalkUPs reflect a much-improved state of social equity in that they have at least a Silver rating in both affordability and accessibility/opportunity. These WalkUPs can be broken down into two types: reasonable affordability with high access, like Cambridge, Coolidge Corner, and the South End, and terrific affordability with reasonable access.

Gold-ranked WalkUPs are mostly commuter rail-served communities located fairly close to Boston, such as Lynn. Thus, in this category there is still frequently a tradeoff between affordability and accessibility. But overall, these places are centrally located and/or relatively accessible from the region via multiple modes of transportation. They support households with a wide range of incomes and provide reasonable work and school opportunities.

Average Key Metrics

Housing & Transportation Costs:
(As a % of median income for Metropolitan Boston)



Housing Cost Burden: 49%
(% of low income households that spend at least 50% of income on housing)

Job Density: 34 per acre

School Quality: 53%
(% of students with proficient or higher reading level)

Transit Accessibility: 15%
(Share of population that can access the WalkUP by transit within 45 minutes)

ABC Commuting: 51%
(Non-car mode commutes)

PLATINUM

Arlington
Charlestown
Chinatown
Mission Hill
MIT/Kendall Square
Newburyport
Northeastern
Roxbury
Tufts
Watertown

CHARACTERISTICS

Ten of the 57 WalkUPs identified in Boston are ranked as Platinum on the social equity scale. Almost all are Inner Core communities very close to the financial and job centers of the region. But they also have remained somewhat affordable to their residents through inclusion of subsidized housing or by retaining traditionally affordable units.

Even here, however, there are tradeoffs between affordability and accessibility; there is not one WalkUP that manages to score Platinum on both subscales. Scoring Gold in both categories is enough to place a WalkUP into the overall Platinum category due to this tradeoff, as happens, for example, with Arlington, Watertown, and Roxbury.

Average Key Metrics

Housing & Transportation Costs:
(As a % of median income for Metropolitan Boston)



Housing Cost Burden: 43%
(% of low income households that spend at least 50% of income on housing)

Job Density: 41 per acre

School Quality: 67%
(% of students with proficient or higher reading level)

Transit Accessibility: 18%
(Share of population that can access the WalkUP by transit within 45 minutes)

ABC Commuting: 49%
(Non-car mode commutes)



FUTURE WALKUPS

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Future WalkUPs

WalkUPs: The Next Wave

There are more WalkUPs in Metropolitan Boston waiting in the wings, the vast majority in the suburbs.

In addition to the established WalkUPs, we also identified where WalkUPs may develop in the future. Our analysis found two categories of such places: Emerging and Potential. Emerging WalkUPs are those places that narrowly missed the minimum thresholds for either walkability or the quantity of commercial space that characterize the Established WalkUPs. With the addition of one or two new developments or a slightly denser street grid, these Emerging WalkUPs would move into the ranks of the established.

Unlike in Atlanta, where the Emerging WalkUPs were mainly drivable sub-urban commercial concentrations in the process of urbanizing, in Boston we found older urban town centers or close-in industrial areas that are already walkable to some extent. Almost all of them have high Walk Scores but they do not quite have enough commercial space to meet the threshold. Some had an auto-oriented street layout despite the moderately high Walk Score.

Potential WalkUPs are areas that have certain attributes that lend themselves to the development of a walkable urban place in the future as well as the demonstrated intent to become a walkable urban place, even if they currently lack critical mass. They are not well-defined "places" as such. Therefore, we have only listed the towns in the Boston region that contain them, rather than attempt to give each a name or define the geography. To be considered a potential WalkUP, towns must have at least some land area that meets the following criteria for both physical attributes and intent, meaning taking action to approve appropriate zoning, creating place management organizations, etc.:

- **Physical Attributes:** *At leass one of the following:*
  - Located within a half mile of a **rail transit station**
  - **Gross density residential units** ≥ 8 per acre within a quarter mile
  - **Intersection density** ≥ 100 per square mile
- **Measure of Intent:** *Participate in or designation of some area under one of the following Commonwealth of Massachusetts programs:*
  - Chapter 43D or 43E
  - Gateway City
  - Growth District Initiative grant
  - District Local Technical Assistance Program
  - Approved Chapter 40R district
  - Priority Development Area
  - Mixed use zoning adoption

Assembly Row
Brickbottom - Innerbelt
Brighton
Chelsea
Danvers
East Boston
Ipswich
Leominster
Lexington
Mansfield
Needham
Newmarket/ Widett Circle
North Attleborough
Wellesley Square

EMERGING WALKUPS

The 14 Emerging WalkUPs fall primarily into two camps—suburban town centers and close-in neighborhoods that are transitioning. The suburban town centers include, Danvers, Ipswich, Leominster, Lexington, Mansfield, Needham and Wellesley Square. All of these places could be considered local-serving Walkable Neighborhoods today but they are on the cusp of becoming regionally significant according to our definition. That is because they all have at least 306,000 square feet of retail, which is 90 percent of the 340,000 square foot threshold used for the established WalkUPs.

The close-in neighborhoods include Assembly Row, Chelsea, Newmarket/Widett Circle, Brickbottom/ Innerbelt, and East Boston. Assembly Row is a new mixed-use development project on a brownfield site in Somerville that only recently completed its first phase, which includes 320,000 square feet of retail, 445 apartments, and 100,000 square feet of office. When complete, it will have over 600,000 square feet of retail and 2.8 million square feet of office, more than enough for it to qualify as an established WalkUP. The Brickbottom/Innerbelt area, also in Somerville, will have a new Green Line transit station, possibly as early as 2017, and various plans exist for transit-oriented development around it. Newmarket/ Widett Circle is a primarily light industrial and retail area but a recent rezoning initiative and the opening of a new transit station in 2013 have laid the foundation for more a more walkable future. Finally, Chelsea and East Boston are urban commercial neighborhoods that have not quite met the criteria for the quantity of commercial space, but are very close.

Everett
Melrose
Methuen
Natick
Reading
Revere
Stoughton
Winchester

POTENTIAL WALKUPS

We identified 31 towns in the Boston metro area with at least some land area that met the potential criteria and that was not already designated as a WalkUP or an emerging WalkUP. However, for the majority of these places, the potential land area is located around places already designated as established or emerging WalkUPs. For example, much of Lynn, Somerville, and Dorchester in Boston met the potential criteria, but on land that was near an existing WalkUP. This confirms the notion that many WalkUPs have the potential for more development both within and around their existing boundaries.

Those towns with land that qualified as potential WalkUPs but which do not have an Established or Emerging WalkUP are listed.

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NEXT STEPS

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Next *Steps*

Conclusions & Recommendations

Metropolitan Boston is leading the country toward a walkable urban future. This is the time to develop conscious social equity strategies to address the walkable urban price premiums inherent in this trend. Failure to balance social equity and economic performance will stifle both.

For the last half of the 20th century, drivable sub-urban developments dominated the real estate development industry. The expansion of the highway system, the love affair with automobiles, the dream of having a piece of land to call one's own and being away from the declining center city motivated this shift. This form of development became imbedded in federal and state public policy with massive subsidies to provide the market in the post-war era what it wanted. For over 50 years, developers, homebuilders, and banks perfected a business model that transformed millions of acres across the country into Drivable Sub-divisions, business parks, strip shopping centers and regional malls.

This research has produced findings that indicate drivable sub-urban development may be nearing its end in some product types and that, at least in some metropolitan areas, "peak sprawl" may already have been reached. Metropolitan Boston is one of those metro areas moving beyond sprawl. This report has demonstrated not only strong and rising valuation premiums in WalkUPs and Walkable Neighborhoods for almost all product types, but also that walkable urbanism appears to be reversing its decades-long loss of market share to drivable sub-urban areas, particularly for office, hotel, and rental apartments.

INVESTMENT & DEVELOPMENT STRATEGIES

The shift towards walkable urbanism has major implications for real estate investors and policymakers. If current trends continue, drivable sub-urban real estate values are at risk of continued stagnation while values in WalkUPs and Walkable Neighborhoods will likely continue to increase.

But different economic and social equity performance levels of WalkUPs and Walkable Neighborhoods imply that different investment strategies will be required. For example:

- **Investing in a Copper WalkUP on the economic scale or Walkable Neighborhood** 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 are particularly important to ensure economic performance.

  Starting to preserve affordable housing early in the process will be easier in a Copper-ranked place. And building adequate rail and bus transit, as well as biking and walking infrastructure, will promote economic development and social equity.

- **Silver WalkUPs and Walkable Neighborhoods** probably have the greatest potential for value appreciation and growth, but will take at least a mid-term time frame for an economic return to be achieved.

  The social equity situation may show a misleading picture. There is a confusing mix of long-time residents and businesses in lower-cost space commingling with the new higher-price entrants. This provides the diversity many people want, but it might quickly switch to a more homogeneous high-end place unless conscious social equity strategies are adopted and implemented.

- **Investing in Gold or Platinum WalkUPs and Walkable Neighborhoods** is much less risky as reflected in the high price of entry. Platinum investments might have less upside, but are more stable and, thus, make them more attractive to institutional investors (insurance companies, pension funds, REITs, etc.).

  Engaging in social equity strategies, such as increased affordable housing and new transit, biking and walkability infrastructure is much more expensive in Gold and Platinum places if the effort is left until it achieves this high economic performance due to high land prices. Better to have started earlier in the redevelopment process.

POLICY IMPLICATIONS

Policymakers must understand how to position their communities to take advantage of this shift in market demand. At a minimum, the government must not discourage walkable urban development with outdated, auto-oriented zoning codes and parking regulations, or long public approval processes. The best approach for growing the economy, increasing local tax revenues and boosting funding for social equity strategies is increasing the supply of developable, walkable urban properties. The legal constraint on walkable urban supply is the number one reason for the substantial price premiums this research has uncovered.

Doing the minimum, however, may not be enough for many communities that have long suffered from disinvestment and a poor image to harness the potential of this shift in market demand. This is particularly true for those WalkUPs and Walkable Neighborhoods ranked Copper on the economic scale. In many cases, a major catalytic development effort is needed to transform these places and demonstrate their potential. Without public investment and appropriate zoning, these projects can be difficult to get off the ground, yet the payoff for the public investment has proven to be dramatic. And there is no need to subsidize these catalytic developments. Investing *pari passu* with private sector partners is the best approach, leading to eventual payback of capital with a hoped-for return, which can be invested in the next round of projects.

TRANSPORTATION AND INFRASTRUCTURE

The importance of investing in transportation infrastructure, particularly rail and bus transit, as well as biking and walking, cannot be underestimated. Transportation has always been one of the most significant determining factors behind the shape of the built environment and it is no different today. Rail transit in particular facilitates walkable urbanism. There will always be cars, and therefore roads, for the foreseeable future as a crucial element in a transportation system. However, car transportation should be viewed as one of many transportation options consumers should have. Metro Boston will have a hard enough time maintaining existing roadways that are already in place, so it is important to think twice before adding new roadway capacity.

Expensive as investments in rail transit and walkable urban infrastructure may be, there are growing indications, as this research indicates, that walkable urban development generates higher economic development and fiscal returns than drivable sub-urban development. Educated people are the foundation of the modern knowledge economy, and they seem to be drawn to metro areas with walkable urbanism. This is especially true of the millennial generation and the so-called creative class. Boston has already capitalized on this to sustain one of the highest educated workforces in the country, but competition for these people is intense. Transportation infrastructure that supports walkable urban development is the best investment for the future economy and tax base of Metro Boston.

PROTECTING SOCIAL EQUITY

Public support of walkable urban development in Metropolitan Boston must have a simultaneous commitment to social equity, providing increased opportunity to households that need affordable work force housing and transit, biking, and walkable accessibility to that opportunity. In the long run, an increased supply of walkable urban infrastructure and development is the major answer to the social equity challenge. However, the pent-up demand for walkable urbanism will probably take many years to address, resulting in continued price premiums at even higher rents and prices. What is needed is a conscious strategy in the short- and mid-term to achieve social equity, using the many tools that are available. These tools include expanding the current tax credit programs for rehabilitation, and low income housing and commercial space, inclusionary zoning, legalizing auxiliary dwelling units, investing public and nonprofit land into affordable and work force housing development, implementing anti-eviction policies, real estate transfer taxes, community benefit agreements, condo conversion ordinances, and there are many more tactics to consider.[28]

FINAL COMMENTS

The research in Metro Boston and across the country demonstrates that walkable urban development can lead to an upward spiral of value creation; more development improves the quality of life, produces higher economic returns, boosts tax revenue and provides more money that can be invested in social equity strategies. However, it is more important than ever to ensure that this new cycle of investment does not displace existing residents, and provides additional opportunities for low-income households to live and work in WalkUps. And the amount of land currently used for the walkable urban inventory, 5.6 percent of the regional land mass, is obviously a tiny fraction of the metro area. This small supply of walkable urban land is the major reason for the price premiums. Increasing the density of the existing walkable urban land and adding more walkable urban places, both WalkUPs and Walkable Neighborhoods, will fuel that upward spiral and increase the quality of life while improving the social equity of the metropolitan area.

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APPENDICES

Endnotes

1. Leinberger, Christopher B., *The Option of Urbanism, Investing in a New Amercian Dream*, Island Press, (Washington, DC), 2008, page 8.
2. These two terms employ the logic that "transportation drives development," a principle that has been at work through the 6,000-year history 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). There is a third form of the built environment, drivable urban, pioneered in theory by the Swiss architect, Le Corbusier. Best known in this country as "skyscrapers in the park," it was infamously adopted for much of 20th century public housing and has been judged to be a massive failure, as the demolition of these "vertical slums" demonstrates. China's rapid urbanization is predicated on this form of development, and the jury is out on whether this will result in a similar tragedy or not.
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6. "The Rise of Innovation Districts: A New Geography of Innovation in America," May 2014. http://www.brookings.edu/~/media/Programs/metro/Images/Innovation/InnovationDistricts1.pdf
7. Intersection density is a measure of the number of road crossings per square mile. Drivable sub-urban development tends to have very low intersection density, reflecting super-blocks compatible with car/truck traffic, while walkable urban tendtends to have high intersection density, reflecting smaller blocks compatible with walking. The intersection density calculations in this report are based on the quantity of non auto-oriented intersections as determined by the EPA for the EPA smart location database mentioned above in endnote 2.
8. "Travel and the Built Environment: A Meta-Analysis," Reid Ewing and Robert Cervero, *Journal of the American Planning Association*, Volume 76, Issue 3, 2010.
9. "Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings from SMARTRAQ," *American Journal of Preventive Medicine*, 2005. http://www.yorku.ca/alison3/kahs6020/urban%20form%20-%20SMARTRAQ%20-%20Am%20J%20Prev%20Med%202005_28.pdf
10. This analysis excludes interstates and transit because they serve a regional function.
11. The data on square footage presented here is based on LA3 parcel data, a database of parcel-level data and CoStar. The LA3 parcel data, provided by MAPC, was used for the overall total, as well as the for-sale residential category. The estimates for office, retail, multifamily rental apartments, and industrial square footage come from CoStar. Neither data source is perfect for this exercise. CoStar does not track the entire universe of properties. The LA3 parcel data is not up to date for all towns in the metro area and does not identify whether a property is rented or owned. As such, these numbers should be treated as approximations. In particular, note that some properties in the for-sale residential category are actually rented.
12. Much of the space listed under Civic/Institutional falls into the "owner user" category of space. This includes many non-profits, universities, government buildings and other commercial space that occupied by non-tax paying entities. Although the assessment data permits an analysis of the total square footage and assessed value in this category, it does not permit breakdowns of this information by product type. This is a challenge across the country and will have to be addressed as further research is completed analyzing the totality of the built environment.
13. As an example of the calculation of caps rates, if a property has an annual net income of $1,000 and it is sold for $10,000, the cap rate is 10 percent ($1,000/$10,000). If it is sold for $20,000, the cap rate is five percent ($1,000/$20,000). Lower cap rates are indicative of higher real estate values.
14. This data is based on information provided by Cushman and Wakefield. Cap rates represent averages weighted by the dollar volume of the transaction. For WalkUPs, almost all of the

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transactions from which this average is derived, took place in WalkUPs within the Inner Core. Cap rates in outlying suburban town centers are more likely to be in line with those of the rest of the region.

15. Analysis assumes that expenses as a percentage of rent revenue are equal in the different areas

16. STR (Smith Travel)

17. CBRE, http://www.cbre.us/o/fortlauderdale/AssetLibrary/Cap%20Rate%20Study%20First%20Half%202014.pdf

18. This analysis is based on arms-length property closing data provided by the Massachusetts Department of Revenue Division of Local Services (https://dlsgateway.dor.state.ma.us/gateway/Public/WebForms/LA3/LA3Search.aspx) and square footage information contained in the MAPC parcel layer. Note that no data was available for sales in the City of Boston in 2005 and 2007. Therefore, those years are excluded from the charts.

19. MAPC, http://www.mapc.org/projections

20. Office, retail, rental apartment, and hotel deliveries are based on CoStar data. For-sale residential square footage is based on the parcel data provided by MAPC. Note, however, that the data for the most recent cycle (09-14) may not be accurate because not all towns have provided up-to-date data through 2014. The actual share of for-sale residential deliveries in the most recent cycle could be higher or lower.

21. "A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity." *The Milken Institute*. Feb. 27, 2013. http://www.milkeninstitute.org/publications/view/564

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23. Richard Florida, *The Rise of the Creative Class* (New York, Basic Books, 2012).

24. Leinberger, Christopher B. and Lynch, Patrick, *Foot Traffic Ahead: Ranking Walkable Urbanism in America's 30 Largest Metros*," June 2014. http://issuu.com/gwbusiness/docs/foot_traffic_ahead/1.

25. Data on age and education in 2000 is not available below the Census tract level. Therefore, this estimate is based on a translation of 2000 census tract data to the defined geographies, as well 2009-2013 American Community Survey tract data to the defined geographies.

26. This research defines critical mass as a WalkUP that requires no extraordinary public investment or subsidy to stimulate the next real estate project. Silver and Copper WalkUPs may require public sector involvement to get a new project underway.

27. The "favored quarter" is the roughly 90-degree arc coming out of the downtown of the center city where the majority of upper-middle income households live and most commercial development, especially employment, occurred during the late 20th century. Every metro area has a favored quarter of growth, though a few mega-metros, like New York and Los Angeles, have two or more.

28. http://www.mapc.org/long-term-affordability-strategies

Chart Data Sources:

PAGE 8: *Share of Income Property During the Last Three Real Estate Cycles*
Source: CoStar

PAGE 9: *Key Metrics by Land Use*
Sources: American Community Survey 2008-2012; InfoUSA 2011; Massachusetts Land Parcel Database; CoStar

PAGE 22: *Average Road Length per Capita*
Source: CREUA analysis of road data provided Massachusetts Department of Transportation; excludes Interstates

PAGE 23: *Share of Square Footage of Metropolitan Property Types in WalkUPs vs. Edge Cities* and *Share of Residential & Income-Producing Square Footage by Land Use Type*
Sources: Massachusetts Land Parcel Database; CoStar

PAGE 25: *Average Home Sale Price* (two charts)
Sources: CREUA analysis of transaction data from the Massachusetts Department of Revenue; Massachusetts Land Parcel Database

PAGE 29: *Share of Metro Income Property Square Footage Developed in WalkUPs & Walkable Neighborhoods*
Sources: CoStar; Massachusetts Land Parcel Database

PAGE 30 & 31: *Walkable Urbanism, Higher Education & Metropolitan GDP in the Top 30 U.S. Metros* (three charts)
Sources: CREUA; American Community Survey 2008-2012; Bureau of Economic Analysis

PAGE 34: *Average Rents by Product Type*
Sources: Cushman and Wakefield; CoStar; CREUA
Assessed Values per Acre
Source: Massachusetts Land Parcel Database

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LOCUS | Smart Growth America
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DC: The Walk UP *Wake-Up Call*

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








By Christopher B. Leinberger

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School of Business

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The Center for Real Estate and Urban Analysis

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Making Neighborhoods Great Together

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1. 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.

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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.[1] 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 "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:[2]

- **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.
- **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 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.

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.

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 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*[3], 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,



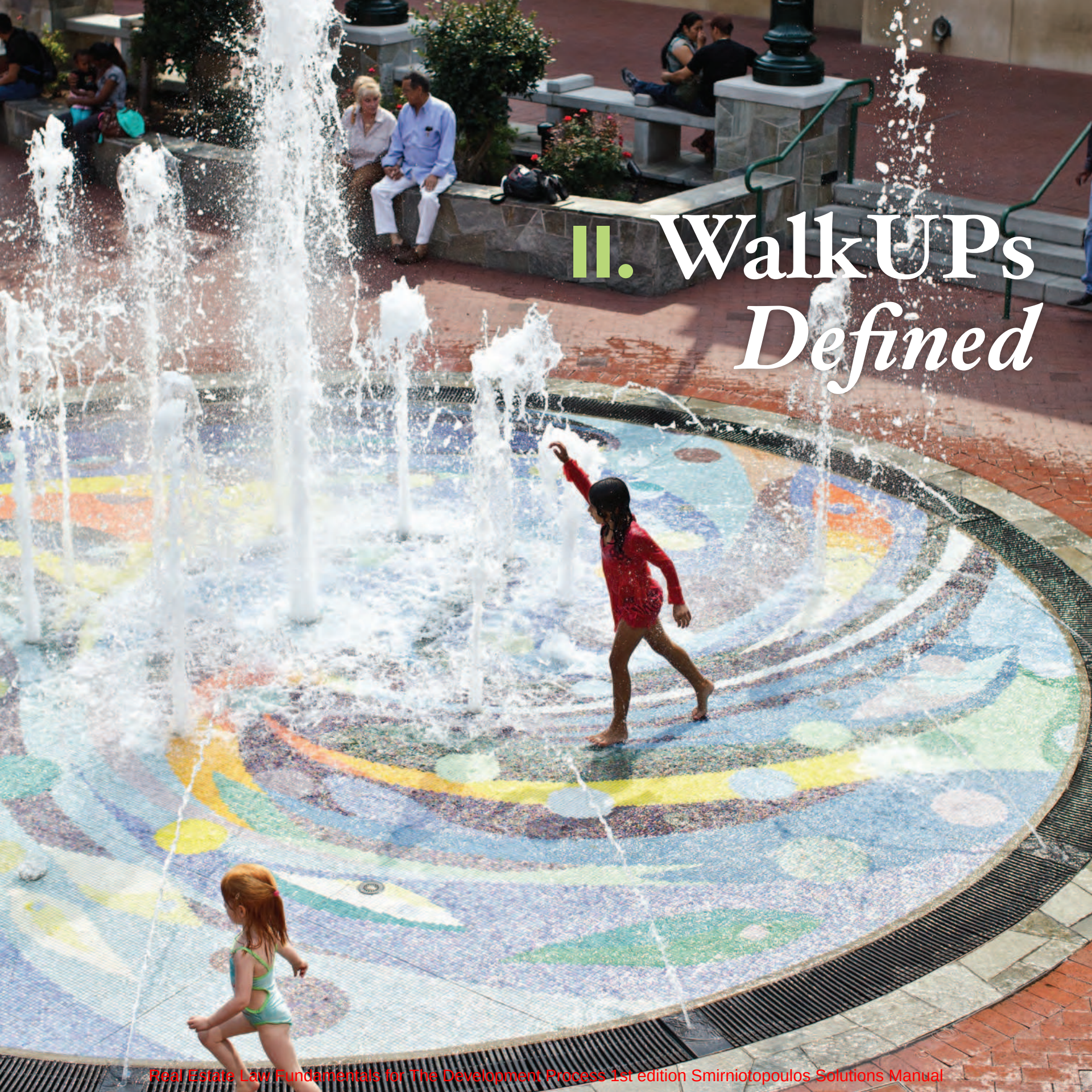
Christopher B. Leinberger

Charles Bendit Distinguished Scholar and Research Professor of Urban Real Estate

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II. WalkUPs *Defined*

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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.

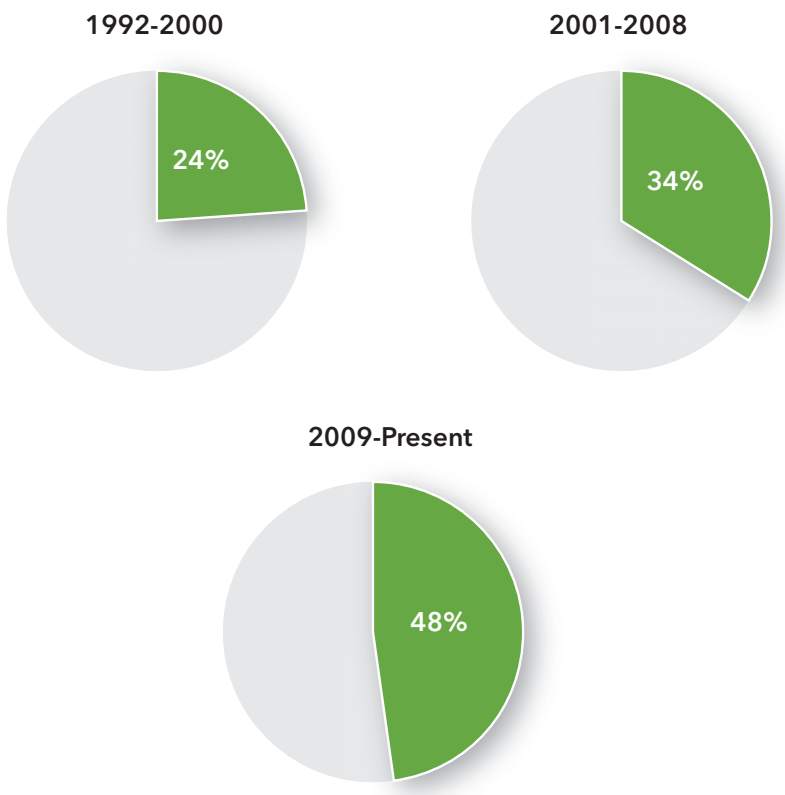
During the second half of the 20th century, the dominant development model has been the familiar drivable sub-urban approach. Most real estate developers and investors, government regulators and financiers have come to understand this model extremely well, turning it into a successful development formula 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,[4] 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



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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.[5] These metrics were used to rank the WalkUPs that emerged from the research and to create four levels of economic and social equity performance.[6]

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.[7] 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.[8]

U.S. Metropolitan Land Use Options

	REGIONALLY SIGNIFICANT	LOCAL SERVING
 WALKABLE URBAN	**WALKUP** (Walkable Urban Place) *1-2% of Metro Area Acreage*	**NEIGHBORHOOD** *3-7% of Metro Area Acreage*
 DRIVABLE SUB-URBAN	**EDGE CITY** *5-7% of Metro Area Acreage*	**BEDROOM COMMUNITY** *80-85% of Metro Area Acreage*

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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.



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.









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

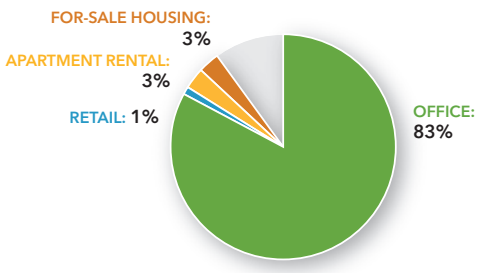






Product Mix: **Downtown**

Average % of Total Square Footage



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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

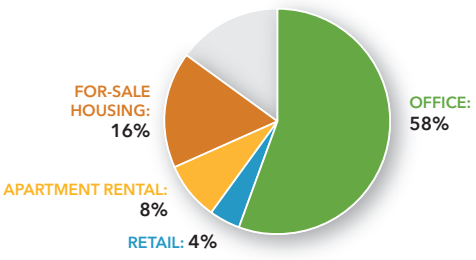
H. Free Wednesday night yoga in the park at Dupont Circle

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



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A


B


C

3 Urban Commercial

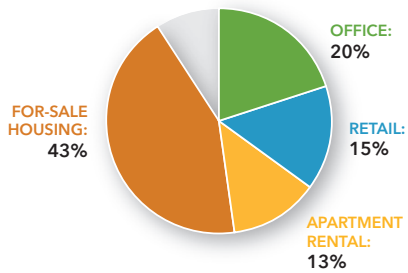
Examples: *Adams Morgan, Columbia Heights, Georgetown, H Street/Atlas District, Tenleytown, U Street/Shaw, Van Ness and Woodley Park*

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



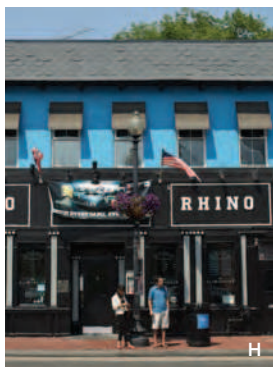

D


E


G



F



H


I

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

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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.

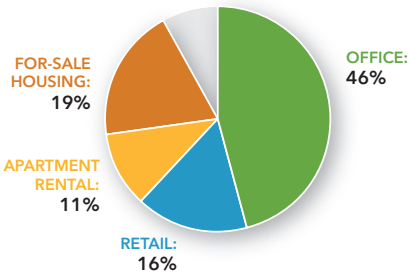
Suburban Town Centers have relatively less office space than in downtowns or downtown adjacent areas (although offices still occupy 46 percent of all space), more residential (30 percent) and significantly more retail (16 percent).





Product Mix: **Suburban Town Center**

Average % of Total Square Footage







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

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5 Strip Commercial Redevelopment

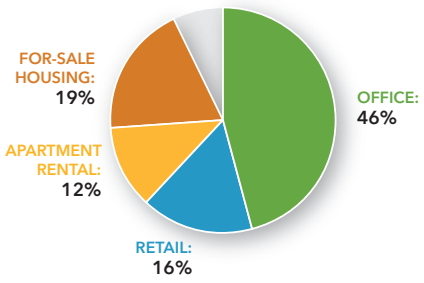
Examples: *Annandale CDC, Bailey's Crossroads, Ballston, Carlyle, Courtthouse, Friendship Heights, New Carrollton, Pentagon City, Prince George's Plaza, Seven Corners CDC, Tysons Corner, Virginia Square, Wheaton and White Flint*

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 of WalkUP will be the major focus of walkable urban development over the next generation.

Product Mix: **Strip Commercial Redevelopment**

Average % of Total Square Footage









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







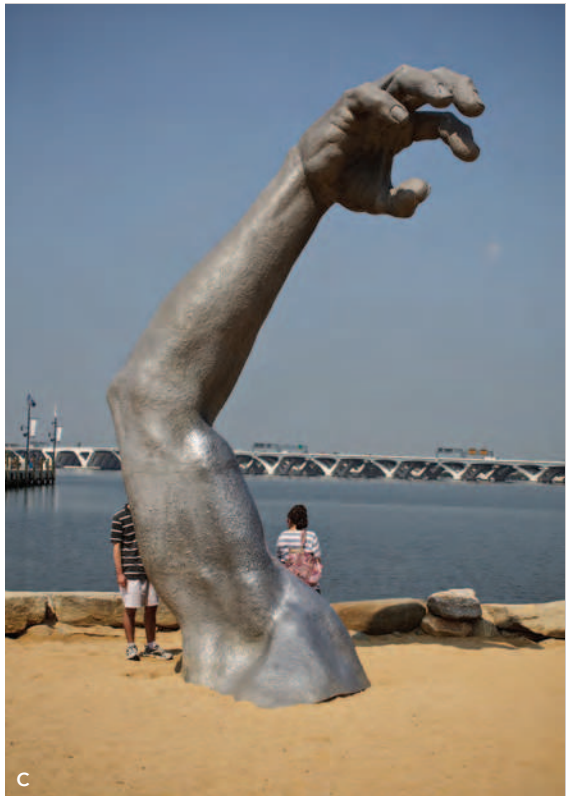




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6 Greenfield

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.





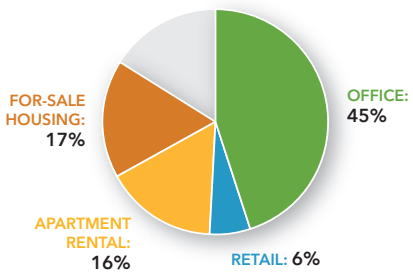






Product Mix: **Greenfield**

Average % of Total Square Footage



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. Retaurant 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.

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III. WalkUPs in *Metro D.C.*

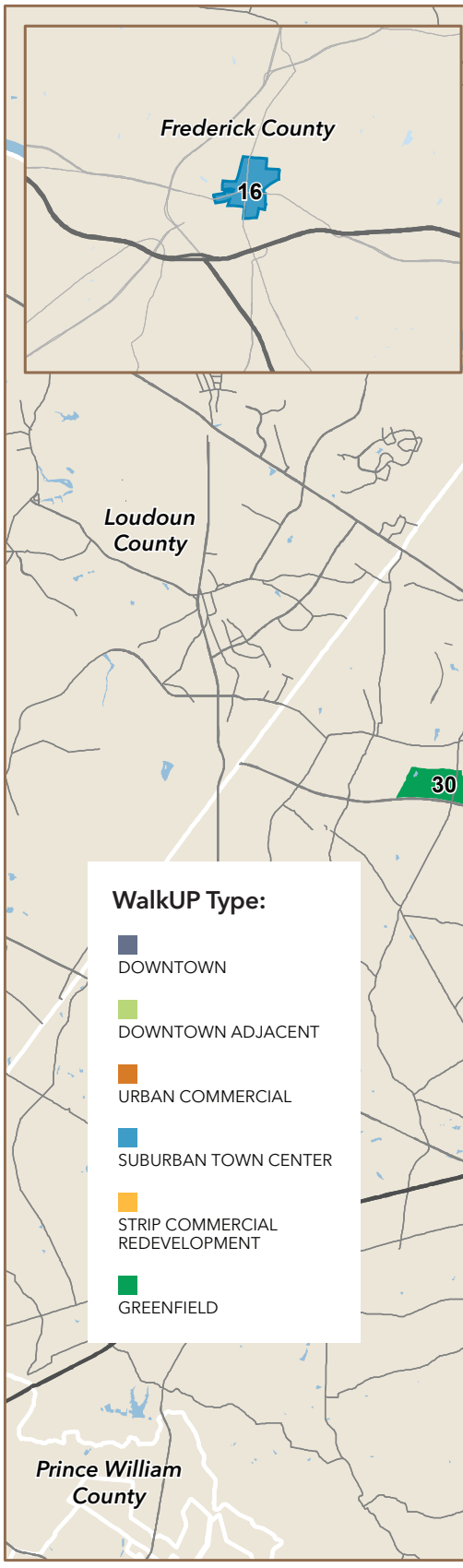
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The 43 WalkUPs

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

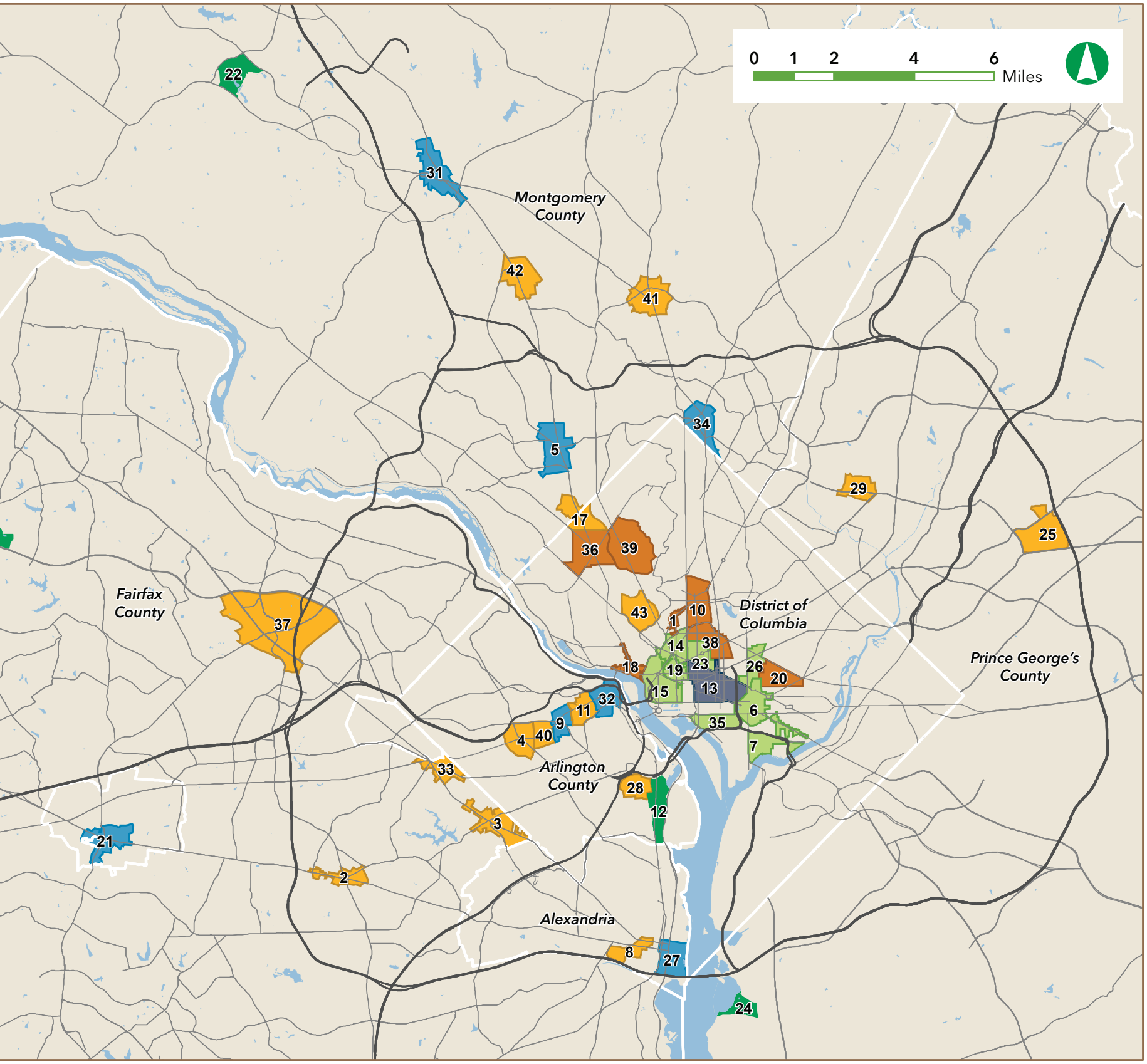
ID #	WalkUP Name	Acres
1	Adams Morgan	61.82
2	Annandale	242.70
3	Bailey's Crossroads	471.11
4	Ballston	342.85
5	Bethesda	518.41
6	Capitol Hill	510.89
7	Capitol Riverfront	304.73
8	Carlyle	223.81
9	Clarendon	207.83
10	Columbia Heights	413.17
11	Courthouse	246.63
12	Crystal City	365.34
13	Downtown DC	635.49
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



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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),[9] 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.[10]
- **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.[11] 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 addition 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.

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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.[12]
- **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
  - Heath 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,[13] 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.

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IV. WalkUP *Trends*

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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 surrounding 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.

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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*,[14] "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.

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.

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

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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.

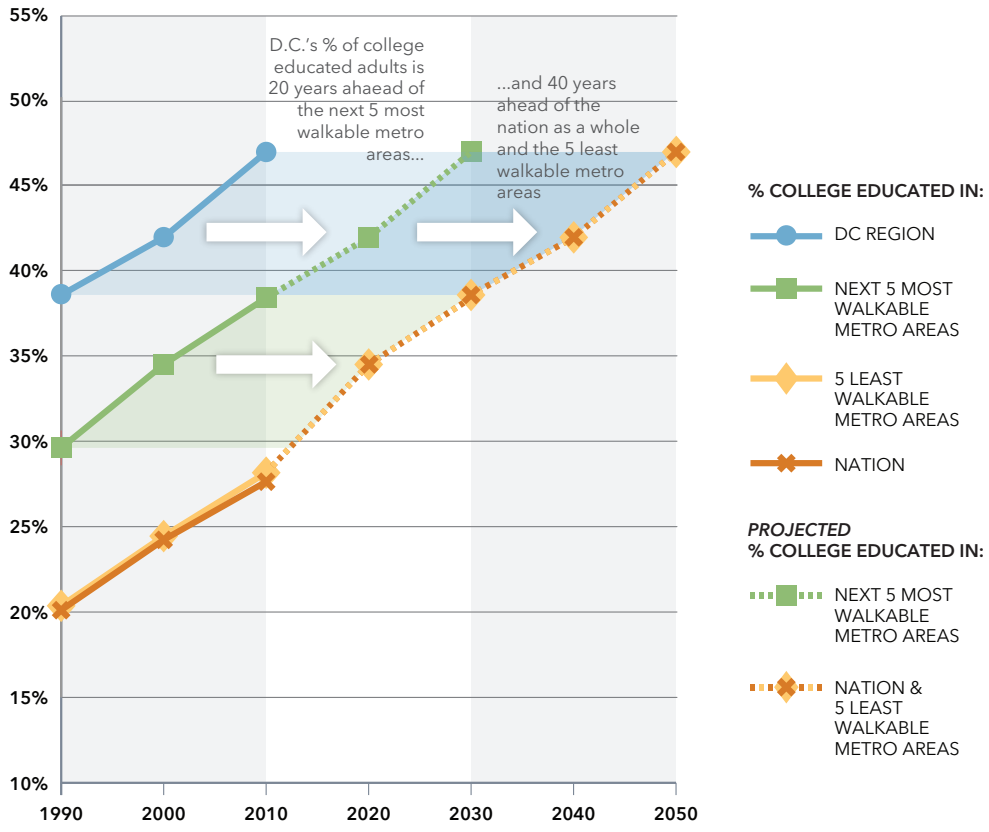
A rise in highly educated knowledge workers has powered the explosion in demand for and development of walkable urban places in metro D.C. and elsewhere. These highly educated creative class workers, especially the young Millennials (born between 1982 and 2004), want the option of living and working 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 recenlty 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.

Growth of College-Educated Population

% of Adults 25 or Older in Select U.S. Metro Areas with at Least a Four-Year Degree



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GOLD

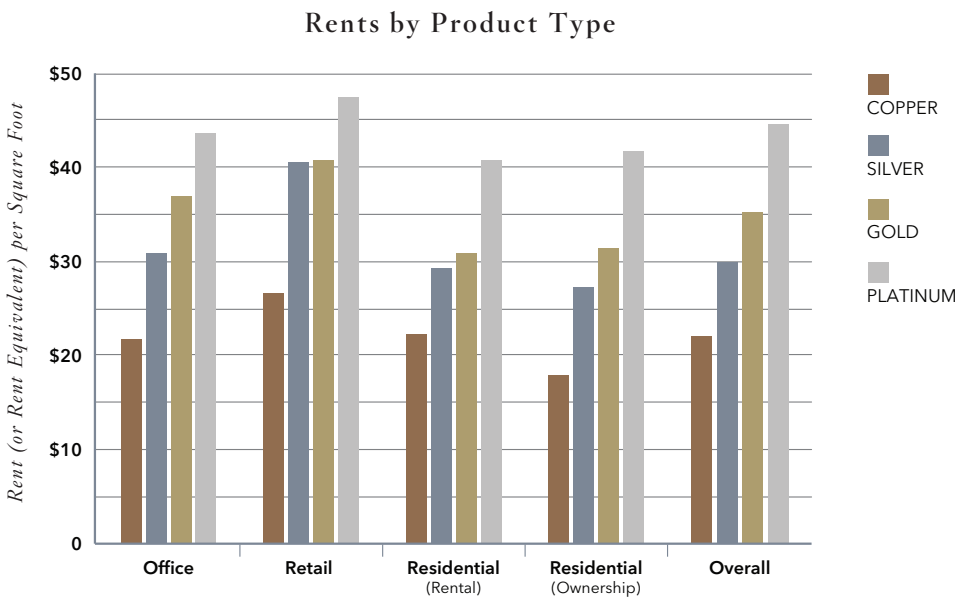
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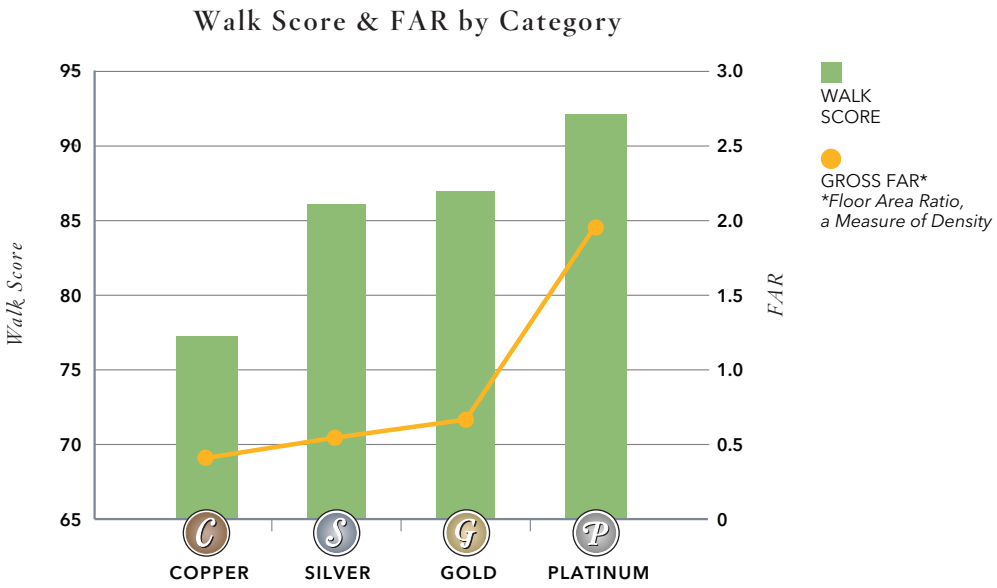
Economic Rankings

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.





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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.

Average Key Metrics

Walk Score: 77.30

Acreage: 531.1 Acres

Gross FAR: 0.41
(Floor Area Ratio)

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

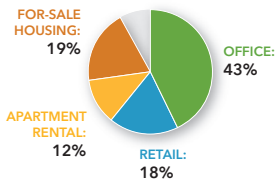
OFFICE: $21.82
RETAIL: $25.17
APARTMENT: $22.02

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

FOR SALE HOUSING: $252.16

Square Footage

TOTAL: 9.3 million sq. ft.



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.

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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}

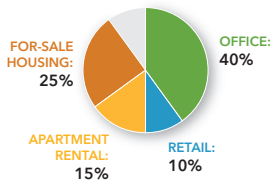
OFFICE: $$$ $33.01
RETAIL: $$$$ $37.25
APARTMENT: $$$ $28.93

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

FOR SALE HOUSING: $$$$$$$$$$ $413.77

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.

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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}

OFFICE:
$$$$ $39.29

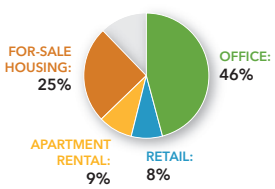
RETAIL:
$$$$ $42.82

APARTMENT:
$$$ $35.74

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

FOR SALE HOUSING:
$$$$$$$$$$ $455.69

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.

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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}

OFFICE:
$$$$$$$$$$ $43.67

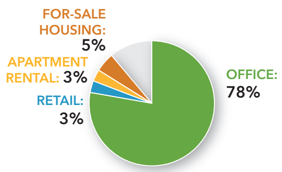
RETAIL:
$$$$$$$$$$ $45.29

APARTMENT:
$$$$$$$$$$ $40.68

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

FOR SALE HOUSING:
$$$$$$$$$$ $590.15
$$$$$$$$$$
$$$$$$$$$$
$$$$$$$$$$
$$$$$$$$$$
$$$$$$$$$$

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.

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SILVER

GOLD

PLATINUM

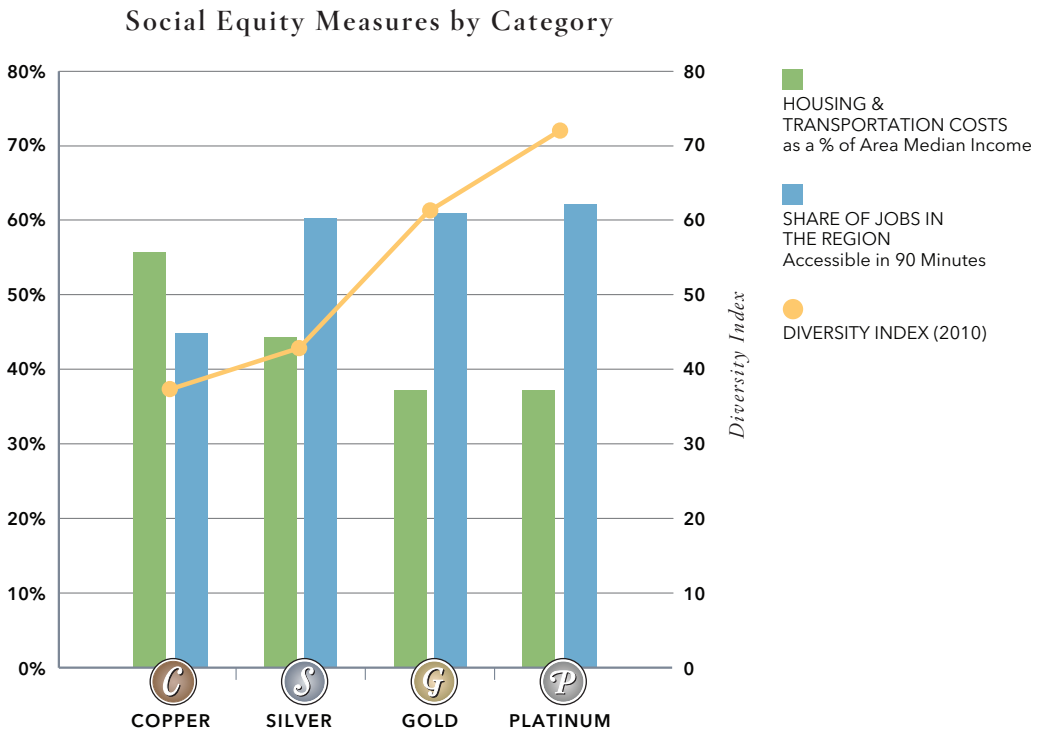
Social Equity Rankings

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.



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.

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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.

OBSERVATIONS

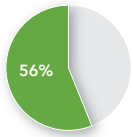
Two WalkUPs that share much in common, Georgetown and Old Town Alexandria, are listed at the Copper level. They are the oldest, most historic, riverfront places (water orientation in real estate is exceedingly valuable) and have no rail transit. These common factors are partially responsible for the 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.

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)

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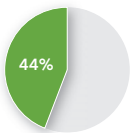
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SILVER

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

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)

CHARACTERISTICS

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

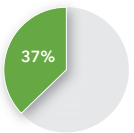
- **The second highest household housing and transportation costs** (44 percent of average metro household income) though substantially lower than Copper and, on average, just within the national average (45 percent). Downtown D.C. has the lowest percentage (30 percent) in the region, even lower than 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.

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

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)

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.

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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%

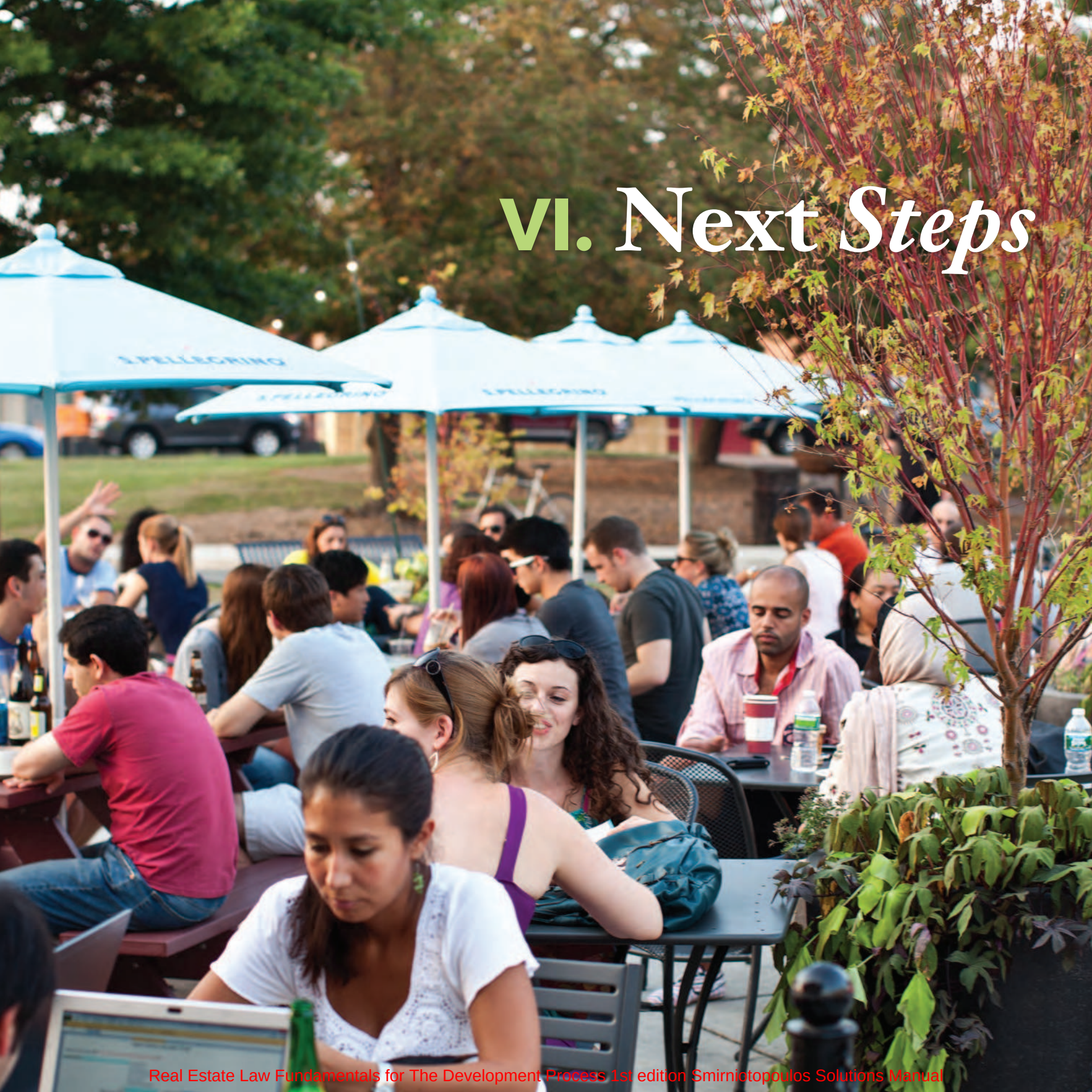
Diversity Index: 72.09

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)

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VI. Next *Steps*

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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

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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.

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.

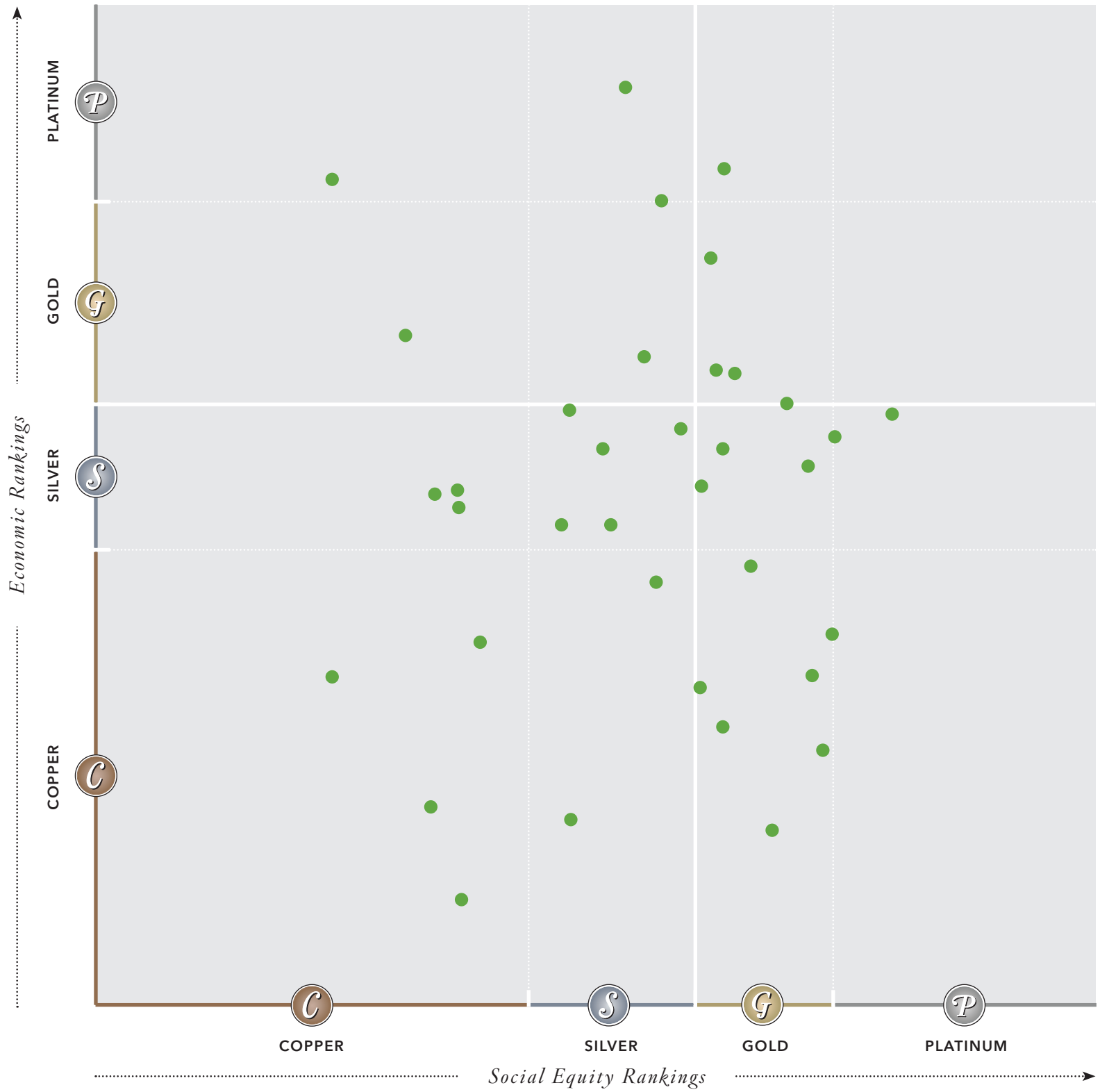
Given a growing understanding of how economically successful WalkUPs can be, we must figure out how to take advantage of this rising tide of economic activity to pay for social equity performance.

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.

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Social Equity vs. Economic Rankings

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



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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.
- 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 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.

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.

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.

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VI. Appendices

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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.

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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).

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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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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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The WalkUP *Wake-Up Call:* Atlanta



By Christopher B. Leinberger

The George Washington University
School of Business





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I. Executive *Summary*

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. There are few metro areas of which this has been more true than metropolitan Atlanta. However, starting in the mid-1990s, the pendulum has begun to move back toward building the opposite—walkable urbanism.

This research has found the surprising and overwhelming recent emergence of walkable urban development and places in metropolitan Atlanta. Walkable urban development represents not only a growing share of new development in the Atlanta region, but recently the majority of most real estate development. Walkable urban real estate projects now command an impressive rent premium over their drivable sub-urban competition. The amount of walkable urban square feet built in each of the last three real estate cycles in metropolitan Atlanta has mushroomed, growing from a small fraction in the 1990s to a majority in the current real estate cycle.

The market has spoken—it is now time for public policy to reflect this new market demand by putting in the necessary infrastructure and zoning as well as encouraging place management entities, such as the Community Improvement Districts (CIDs), which will be the location of most future economic growth and development.

Metropolitan Atlanta, "the poster child of sprawl," is now experiencing the end of sprawl.

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BACKGROUND

In metropolitan areas, land use is categorized as playing one of two economic functions: either regionally significant or local-serving. Regionally significant places have concentrations of employment, civic centers, institutions of higher education, major medical centers and regional retail, as well as one-of-a-kind cultural, entertainment, and sports assets. Local-serving places are bedroom communities dominated by residential development that is supported by local-serving commercial (e.g., grocery stores) and civic uses, such as primary and secondary schools, police and fire stations, and so on.

Land use in metropolitan areas can also be divided between the form that it takes: drivable sub-urban and walkable urban. Drivable sub-urban development is low density and relies on stand-alone real estate products and spatially segregated development patterns that are connected nearly exclusively by one form of transportation: highways for cars and trucks. In contrast, walkable urban places have much higher density, integrate many different real estate products in the same place, and employ multiple modes of transportation—rail and bus-transit, biking, highways—but once one is there, everything is walkable.

Both drivable sub-urban and walkable urban forms of development have market support and appeal; it is not as if one is "better" than the other, it is only a matter of current and future supply and demand. It is important to note that each form can be found in both center cities and suburbs, there is drivable sub-urban development in the city of Atlanta as well as the suburbs. There are walkable urban places in the suburbs of Atlanta as well as the city.

This research report focuses on regionally significant walkable urban places, referred to as WalkUPs. It suggests that these places will be the loci of both the growth of real estate and wealth-creating employment in metro Atlanta for decades to come.

KEY FINDINGS

- **There are 27 Established WalkUPs in metro Atlanta in 2013**. Combined, these WalkUPs account for only 0.55 percent of the total land in the metro area.[1] In addition, we have identified nine Emerging WalkUPs totaling 0.33 percent of the regions land mass. These established and emerging WalkUPs total 0.88 percent of the region.
- **The densities of the 27 Established WalkUPs average 0.60 gross floor-area ratio (FAR)**.[2] The gross FAR for the region, excluding WalkUPs, is only 0.04. In other words, WalkUPs are over 16 times denser than the rest of the region.
- **Nearly 19 percent of total metropolitan jobs are located in Established WalkUPs, with another three percent located in Emerging WalkUPs**. Overall, Established WalkUPs have an employment density of 36.5 jobs per acre; the region as a whole, not including Established and Emerging WalkUPs, has an employment density of only 0.8 jobs/acre.
- **Seventy-four percent of Established WalkUPs in the region are within the city of Atlanta**. However, all nine Emerging WalkUPs are in the suburbs and eight of the ten Potential WalkUPs identified in the study are outside of the city. The city of Atlanta has 83 percent of the total real estate square footage in the Established WalkUPs.
- **Sixteen of the 27 regionally significant WalkUPs, or 59 percent, have rail transit**. The remaining 11 WalkUPs have no rail service and none have rail transit funding.
- **Average rent in all real estate products in Established WalkUPs is 112 percent higher on a rent-per-square-foot basis than drivable sub-urban real estate**.
- **The market share of the region's development within Established WalkUPs over the past three real estate cycles** (1992 to 2000, 2001 to 2008, and 2009 to the present) **has steadily and rapidly increased**; 10 percent share in the 1990s cycle,[3] doubling to 22 percent in the 2000s cycle and more than doubling again to 50 percent in the current cycle.
- **In the current real estate cycle, more than 60 percent of income-producing property in the region was developed in Established or Emerging WalkUPs taking place in less than one percent of the region's land mass**.
- **Within both Established and Emerging WalkUPs, the vast majority of recent development has gone to those areas that are served by MARTA rail**. In the current 2009-2013 real estate cycle, 73 percent of development in Established WalkUPs went to the MARTA-served places. Even more dramatic, 85 percent of development in Emerging WalkUPs went to places with rail transit.
- **Multifamily rental housing was the most significant driver of real estate growth in regionally significant WalkUPs, which is consistent with national trends**. In the 1990s, less than nine percent of income-producing real estate captured by Established WalkUPs was multifamily rental housing. In the early 2000s, this rose to 28 percent and has skyrocketed to 88 percent in this real estate cycle.
- **Following rental housing, office space was the second most important factor in the trend toward walkable urbanism**. Only 19 percent of the office space delivered in the 1990s cycle was built in then-Established WalkUPs. This increased to 31 percent in the 2000s and to 50 percent in the current cycle that started in 2009.
- **Despite higher rents, development of new retail space in WalkUPs lag**s. Only six percent of new retail space developed in the region in the 1990s was located in WalkUPs. For the early 2000s, it rose slightly to seven percent but has fallen to only two percent for the cycle starting in 2009.

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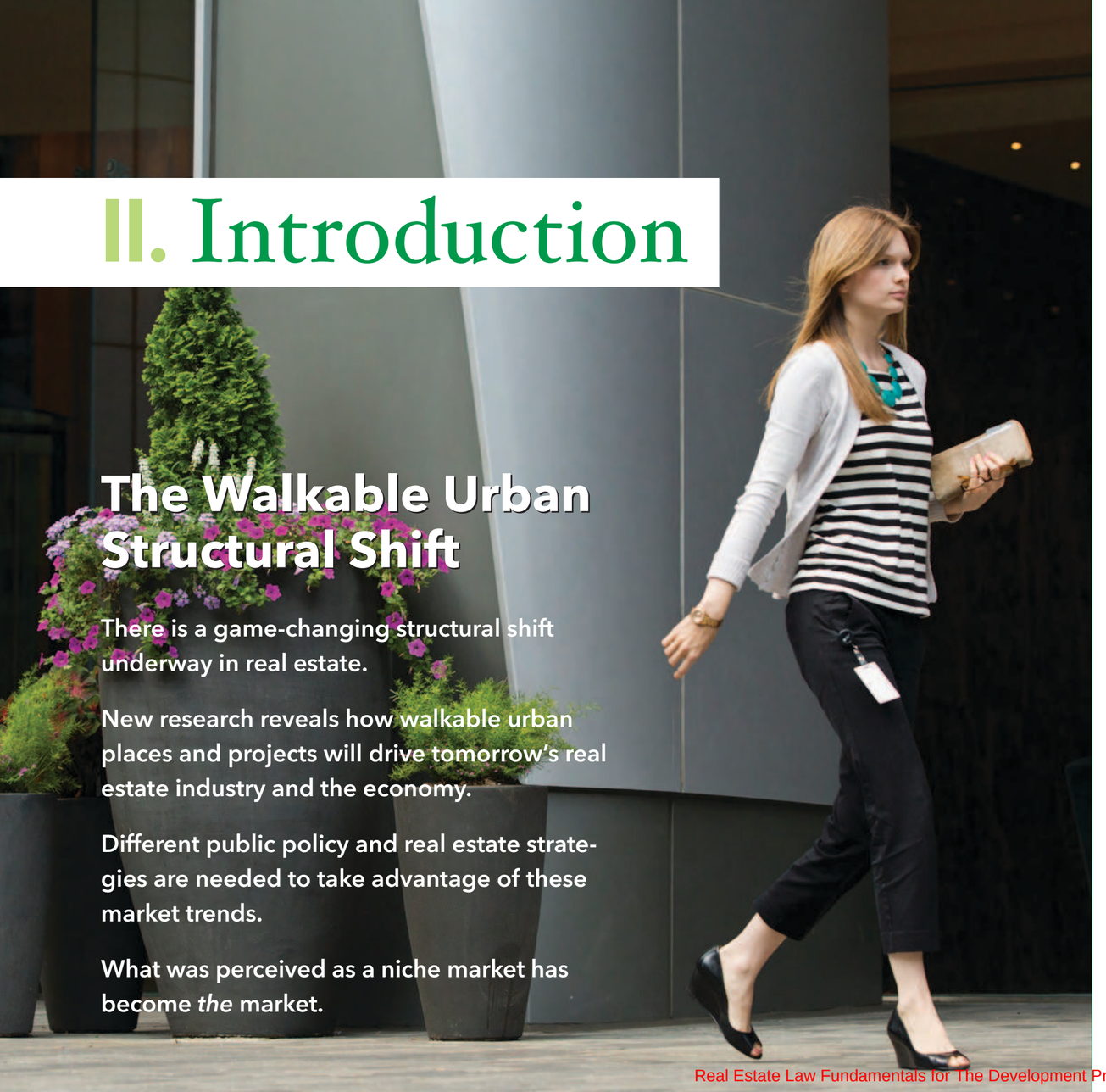
ECONOMIC CONCLUSIONS

- **There are two factors that explain 70 percent of the variation in economic performance among the 24 metro Atlanta WalkUPs that were economically ranked** (the three WalkUPs classified as Urban University were not ranked due to lack of data). The first factor is **educational attainment** (share of the population over 25 years of age with a college degree), and the second is the **share of jobs concentrated in knowledge industries**.
- **Since the two most significant indicators of economic performance were related to the presence of knowledge-based workers, the building of walkable urban places is the most effective economic development strategy that a CID, the city, and the region can pursue**.
- **The public policy response to these market trends should be to encourage the growth of WalkUPs and the resulting benefits to jurisdictions' tax base**. Monitoring the economic and fiscal performance of a jurisdiction's WalkUPs will assist in gaining the political support for the needed investment in infrastructure and the required zoning changes.
- **Lower economically performing WalkUPs may require special attention from the jurisdiction to increase economic and fiscal performance**. When dealing with specific projects, long-term public sector investments (e.g. equity invested in real estate), as opposed to upfront subsidies (e.g. grants and low-interest, soft-second loans), are more effective to obtain project financing as well as fiscal benefits.
- **In contrast, higher economic performing WalkUPs are likely to need less in the way of special public financing programs to encourage new development**. Their relatively high rents are, in most cases, sufficient inducement for new walkable urban development. In fact, there is the possibility of employing "value capture" strategies—the voluntary sharing of private sector economic returns resulting from public improvements, such as a street car line—that could partially fund public investments.
- **Metropolitan Atlanta has been under-investing in the rail transit transportation infrastructure that greatly assists the walkable urban development the market and the economy is now demanding.** Investing in rail transit in the early 21st century is as important as the building of freeways in the 1960s and 1970s was for the economic growth of the Atlanta region 50 years ago. The City of Atlanta has made important steps in this direction with the construction of the Atlanta Streetcar and the development of the Atlanta BeltLine, but the region is continuing to fall behind, as the failure of the 2012 transportation funding ballot measure demonstrated.

SOCIAL EQUITY CONCLUSIONS

- **Stronger economic performance by metro Atlanta WalkUPs was associated with lower measures of social equity**. However, there are exceptions to this phenomenon and there are lessons from those Atlanta WalkUPs that do well on both measures, such as Midtown, Peachtree Center, and Downtown Decatur.
- **In a recently released national economic mobility study by Harvard/Berkeley researchers, metro Atlanta performed second worst in income mobility among major metro areas, and exhibited extremely low rates of income growth for poorer young people over their lifetimes**.[4] Reflecting on the Harvard/Berkeley study, *The New York Times* economic columnist Paul Krugman wrote that metro Atlanta "may just be too spread out, so that job opportunities are literally out of reach for people stranded in the wrong neighborhoods. Sprawl may be killing Horatio Alger."[5]
- **What is needed is a conscious strategy for each WalkUP to create and maintain affordable and workforce housing, as well as to increase physically accessibility**.
- **A critical component of the solution to affordable housing is simple: build more walkable urban product**. Greater land values and cost is the most significant driver of higher costs for walkable urban places—having more walkable urban land will reduce those costs.
- **NIMBY (Not In My Back Yard) opposition to high-density development is equally responsible for the land shortage**. One of the proven ways of overcoming NIMBY opposition is to have multiple examples in the region of great walkable urban places that increase consumer desire for this type of development near where they live.
- The very economic success of WalkUPs may play a key role in paying for walkable urban infrastructure, such as rail transit, and increased social equity performance. Harnessing a portion of the profits and tax-base increases from gentrification to help pay for infrastructure and affordable and/or workforce housing is becoming a possibility for metro Atlanta WalkUPs.

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II. Introduction

The Walkable Urban Structural Shift

There is a game-changing structural shift underway in real estate.

New research reveals how walkable urban places and projects will drive tomorrow's real estate industry and the economy.

Different public policy and real estate strategies are needed to take advantage of these market trends.

What was perceived as a niche market has become *the* market.

The research in this report takes an in-depth look at metro Atlanta, which has frequently been referred to as "the poster child of sprawl."[6] It examines how metropolitan Atlanta is transitioning from one of the forerunners of post-World War II, auto-oriented development to a future that combines the metro area's conventional development with 21st-century walkable urbanism. We examined Atlanta's regionally significant walkable urban places to identify where development has recently occurred, and will occur, to understand how this differs from the suburban development of the late 20th century. We will illustrate the economic and social impact that this structural shift toward walkable urban development will have in metropolitan Atlanta.

Surprisingly, this research has found that sprawl in metro Atlanta is approaching an end. Assuming these trends continue and Atlanta is a harbinger for the country, the end of sprawl is the end of an era that is nearly as significant as the "closing of the frontier," as proclaimed by the historian Fredrick Jackson Turner following the release of the 1890 Census.

This research challenges policy makers, real estate developers, investors, the new field of place management, 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.[7] 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 nearly a century ago.

This "new" development model is walkable urban development, which is not actually new but is the rediscovery of how cities and metropolitan areas were planned and built for the vast majority of the 6,000 years since cities first emerged. Despite Atlanta's reputation as a sprawling, auto-oriented region, the metropolitan area has already begun adjusting to the walkable urban trend on the ground in a surprisingly rapid manner.

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 "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. Discovered 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."

Thus, in recent decades researchers have analyzed the urban/suburban debate where "the light was," based on crude geographic distinctions between center city and suburbs without differentiation between different forms of the built environment. In the 21st century, we have come to realize that regardless of the Census-defined location within the metropolitan area, there are two broad forms of metropolitan development:[8]

- **Drivable Sub-Urban:** This development has the lowest development density in the history of building metropolitan areas. It relies on stand-alone real estate products and segregated development patterns that are connected nearly exclusively by one form of transportation: highways for cars and trucks. This geographic segregation exacerbates the current *de facto* racial and socioeconomic segregation.
- **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.

Both drivable sub-urban and walkable urban forms of development have market support and appeal and each are found in both center cities and suburbs. In the case of metropolitan Atlanta, examples of drivable sub-urban development include both the City of Atlanta's Tuxedo Park neighborhood and Cherokee County's exurban subdivisions. Likewise, Downtown Decatur and Downtown Roswell, both outside the Atlanta city limits, are examples of walkable urban development just as Atlanta's Midtown or Peachtree Center.

Surprisingly, this research has found that sprawl in metro Atlanta is approaching an end. Assuming Atlanta is a harbinger for the country, the end of sprawl is the end of an era that is nearly as significant as the "closing of the frontier."

Drivable sub-urban has been the dominant approach to real estate development during the late 20th century. There was pent-up market demand for this form of development following the Second World War and the real estate industry and required infrastructure were put in place to meet that market demand. Today, that is reversing; the pendulum is swinging back to walkable urban development.

The reasons for this shift back include significant demographic changes (decreased percentages of households with children and increased one and two-person households), absolute increase sub-urban traffic congestion, proportional increase in household transportation costs, and an increased appreciation for the convenience, diversity, creativity, and health benefits associated with walkable urban lifestyles. As a result, drivable sub-urban development has become overbuilt and this overbuilding was one of the primary market causes of the mortgage meltdown that triggered the Great Recession. There is strong pent-up demand for walkable urban development in Atlanta—as evidenced generally by the ability of walkable urban places to hold

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value better than outer suburban locations during the Great Recession, as well as the price premiums shown in this research. Although some of the area's shopping malls and office parks continue to command high rents, the degree of rental and sales price premiums per square foot and capitalization rates for walkable urban development suggest it could take a generation of new construction for this demand to be satisfied.

Given that Atlanta's primary reason for economic success over the past 175 years has been as the transportation hub of the Southeast U.S., this lack of investment is disappointing. It is as if the reason for the region's very existence, transportation, has been forgotten. The overwhelming loss of the July 2012 transportation ballot measure is just the latest example of turning a blind eye to the reason for Atlanta's economic success.

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

This shift is extremely good news for the beleaguered real estate industry and the economy as a whole, which appears to be stuck at a sub-par 2.0 percent GDP growth rate. It will put a foundation under the metropolitan economy and increase 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. It also requires the introduction of a new industry: place management. This new field develops the strategy and provides the day-to-day management for walkable urban places (referred to in short-hand as WalkUPs), creating a distinctive "could only be here" place in which investors and residents are willing to invest for the long term.

Most importantly, this trend reinforces the need for metropolitan Atlanta to substantially invest in rail transportation, biking and walking infrastructure. The funds required to just maintain an over-extended and congested highway system will be a challenge in and of itself. However, the MARTA system has been starved of funding, as well as the other "alternative" transportation systems[9] like biking and walking.

However, there are also signs of the region embracing the walkable urban future the market is demanding. The most hopeful of these signs is the BeltLine, the 22-mile circumnavigation rail, bike and walking loop around greater center city. Similar to the Perimeter highway and other beltways around major metro areas worldwide, the BeltLine is a lateral connection between the radial MARTA rail lines coming out of downtown Atlanta. As a result of this being the first of its kind in the country, the BeltLine is the most important next phase of transit development in the country. Many metro areas will use the BeltLine as a model of future transportation infrastructure; only Atlanta will have been first, just like it was for much of its transportation history. This is appropriate for a city whose early name was Terminus, reflecting the role transportation has always played.

This new research defines–for the first time–where the Established WalkUPs are in the metropolitan Atlanta region. It shows specific locations, the physical size of the places, the product mix, the transportation options and so forth. This research also identifies the Emerging and Potential WalkUPs in the region since it appears there is more pent-up demand than the Established WalkUPs can satisfy.

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 compare against one another. The social equity performance metrics demonstrate whether a broad cross-section of metropolitan residents can afford to live in and have access to WalkUPs.

This is our second effort at quantifying the economics and social equity of WalkUPs in a metropolitan region. It builds on our last report, *D.C.: The WalkUP Wake-UP Call*, which was released in September of 2012.[10] Both research reports are based on research methodology, titled *Walk This Way*, which Dr. Mariela Alfonzo and I developed at the Brookings Institution.[11] The methodology has been modified and improved to encourage easier replication in other metros areas. Over time, we expect the results and methods will continue to evolve. 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,

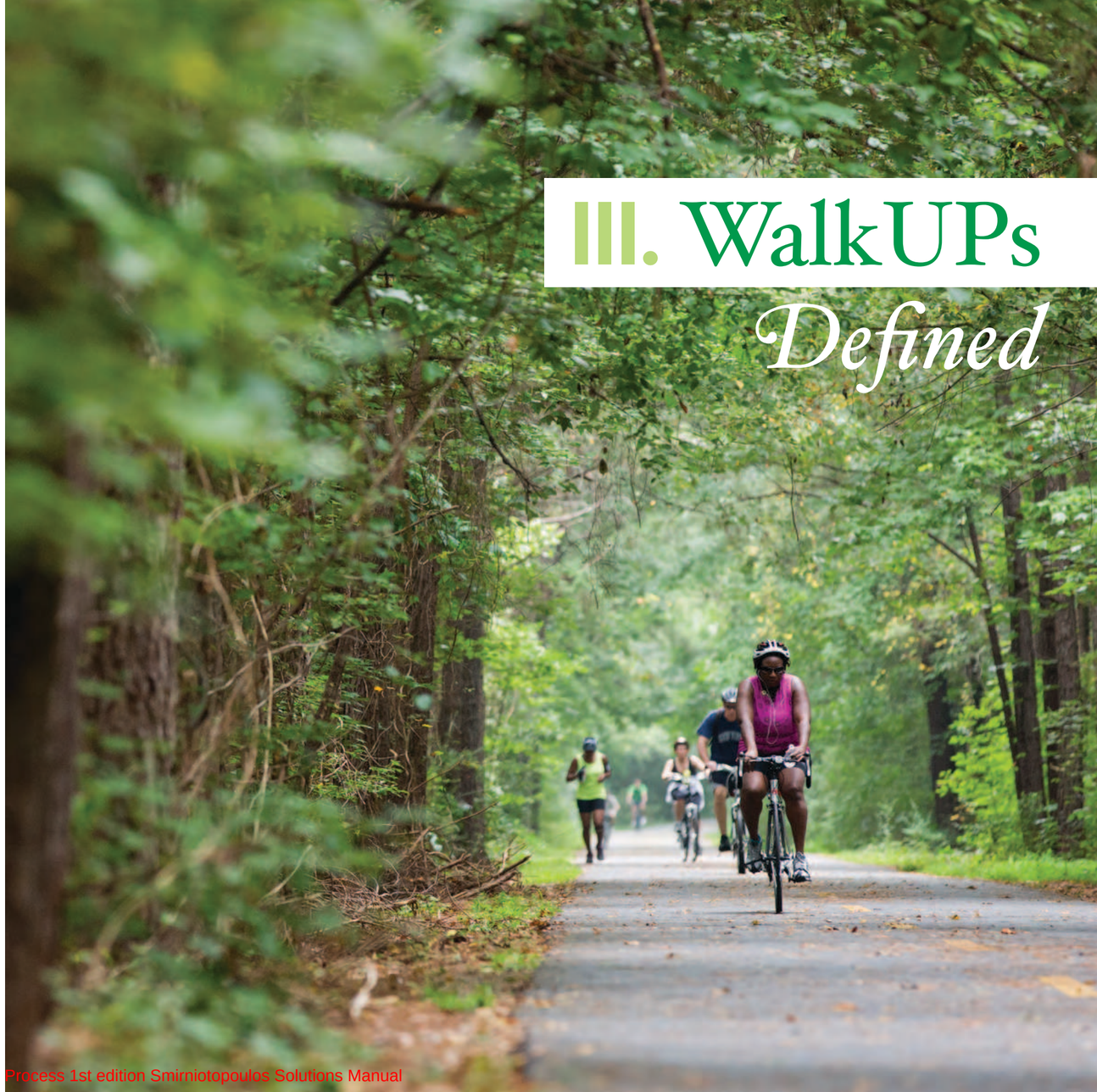


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III. WalkUPs *Defined*

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The Rise of the WalkUP

Starting in the mid-1990s, walkable urbanism has become the dominant development pattern in Atlanta—and many other metropolitan areas in the country. Going forward, walkable urbanism is the driving force in real estate.

The market demand for WalkUPs started to be seen nearly two decades ago in U.S. metropolitan areas, as selective downtowns began to revitalize, the birth of the New Urbanism developments such as Seaside in Florida, and the urbanization of close-in suburbs began. Today WalkUPs promise to be a powerful driver of the economy, *if* the appropriate infrastructure, legal regime and financing mechanisms are put in place. In the late 19th and early 20th centuries, Atlanta had such mechanisms in place when it constructed an extensive network of streetcar suburbs. Although the streetcars are long gone, the legacy of walkable urbanism in places like Midtown and Inman Park has led in their revitalization. Today, the question is what can Atlanta's leaders do to support both the established and the next generation of WalkUPs?

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 in the late 20th century, particularly in metropolitan Atlanta. It not only provided a super-charging for the economy but "fueled" the dominant industry of the industrial era—trucks and automobiles—plus the road-building, finance, insurance and oil industries that were essential supports. Metro Atlanta directly benefited as two major car assembly plants supported the drivable sub-urban development, and the real estate boom of the era lead the region to become known as "Hotlanta."

However, starting in the mid-1990s, the pendulum has begun to move back toward building walkable urbanism, which was the dominant development pattern prior to the 1930s Great Depression in the Atlanta metro area and virtually every other metropolitan area in the country. Our work in metropolitan Washington, D.C., found that during the real estate cycle in the first decade of this century and the current cycle, real estate developers, investors, government regulators, and financiers have become quite experienced developing and managing walkable urban projects. While this degree of understanding is not yet the case in the Atlanta region, its walkable urban places are surprisingly attracting a growing share of new development, and command an impressive rent premium over its drivable sub-urban areas. The market has spoken; it's only a matter of time before most of the region's policymakers and real estate professionals catch up with this new reality.

The amount of walkable urban square feet built in each of the last three real estate cycles in metropolitan Atlanta mushroomed, growing from a small fraction of the total regional net growth in office, retail, rental housing and for-sale housing, to a majority in the current real estate cycle. This growth matches the experience of metropolitan Washington, a region ranked as having the most WalkUPs in the country by a 2007 Brookings Institution study.[12]

It is now time for public policy to match this market demand by encouraging the real estate industry to build these places and to multiply and strengthen place management entities, such as the Community Improvement Districts (CIDs), which will guide these places in the future.

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Form Meets Function

Regionally significant WalkUPs will be the primary location of economic growth in metropolitan Atlanta.

In metropolitan areas, land use is categorized as playing one of two economic *functions*, either regionally significant or local-serving. Regionally significant places have concentrations of employment (particularly in base/export or regional-serving businesses and jobs), civic centers, institutions of higher education, major medical centers and regional retail, as well as one-of-a-kind cultural, entertainment and sports assets. Local-serving places are bedroom communities dominated by residential development that is complemented by local-serving commercial (e.g., grocery stores) 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 most residents spend their non-work lives.

This research focuses on the upper-left quadrant of the matrix: regionally significant WalkUPs, where the Atlanta region will build much of its wealth-creating employment in future decades. This is not to say that the late 20th century dominant drivable sub-urban areas are obsolete. While not having pent-up demand, these areas will, for the most part, do well economically, though some fringe drivable sub-urban areas do face an uncertain future and some have been demonstrating early signs of economic decline. However, the pent-up demand is for walkable urban places.

U.S. Metropolitan Land Use Options

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

Future research will focus on local-serving neighborhoods, represented by the top right cell of the matrix. For the Atlanta region, this means neighborhoods like Virginia Highland, Little Five Points, East Atlanta Village, and Cabbagetown, and places outside of Atlanta such as Stone Mountain and Woodstock.

There is a major gap in this and all other research about metropolitan development patterns: the location and size of "owner-user" space is not included.[13] Owner-user space is defined as office, retail, industrial, civic, higher education, medical facilities, etc., that is owned by the user of that space. For example, the federal and state governments mainly occupy office and the other space that they own. Universities, such as Emory, and medical centers, such as Northside Hospital, are owner-occupied. There is no regional or national database of owner-occupied space; this results in as much as 30-40 percent of all employment space not being known as to its size and location.

The only way to understand the location and size of these major facilities would be primary research. Like nearly every ranking system this methodology relies upon databases that are national in scope, which allows for comparisons between different metropolitan areas.

The 2012 Brookings Institution report, mentioned above, 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.[14] These metrics were used to rank the WalkUPs that emerged from the metropolitan Atlanta research and create four levels of economic and social equity performance.

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WalkUPs *Defined*

Methodology

The methodology employed in this report has its basis in research described in the Brookings Institution report, *Walk This Way*, and was first applied systematically in the GW School of Business report, *DC: The WalkUP Wake-Up Call*. That method is outlined below.

Identifying REGIONALLY SIGNIFICANT PLACES

- The Atlanta research team began this process with a list of 114 potential places for inclusion as regionally significant WalkUPs. This list was drawn from a variety of sources, but was based most directly on Livable Centers Initiative applications and grants. This list was augmented as a result of comments and suggestions from members of the research team and from participants in a forum where the preliminary findings of this report were presented in April 2013.
- The boundaries of these places were refined to include only the areas that currently are, or have the potential to become, walkable urban in their development form. To the extent possible, single-family detached homes were excluded from these places. Many of these places were subdivided to adhere to the guideline that, based upon the metro Washington research, walkable urban places tend to not exceed 600 acres in total land area, a little less than a square mile. The reason for this is this is the extent that people want to walk before considering an alternative means of transportation.
- Once boundaries were set, we conducted an initial real estate analysis to determine which places met the criteria for being considered "regionally significant." All places that had neither 340,000 square feet of retail space nor 1.4 million square feet of office space were eliminated. What remained was a list of 53 regionally significant places; additional places were later added and place boundaries adjusted as a result of input and suggestions made at the April forum.

Identifying WALKABLE URBAN PLACES

- Walkability was determined using Walk Score. This metric was developed to estimate how easy it is, in a given place, to live a lifestyle with minimal automobile use, (not including work-related commutes). Using the public street grid to determine walking distance, Walk Score takes into account the accessibility of key community services and amenities (including grocery stores, schools, parks, restaurants, and retail) to a pedestrian. Urban design factors, such as block length and intersection density, also influence the Walk Score of a given place.
  - Walk Score measures walkability from the perspective of lifestyle and the concept of "complete communities." It assesses whether the daily needs of residents and workers can be met within a reasonable walking distance or, alternatively, if land uses are spatially segregated, necessitating a car to get around.
  - Notably, Walk Score does not measure the quality of the pedestrian environment. Factors such as pedestrian infrastructure, community design, safety, topography, weather—each of these has a significant influence on the experience of pedestrians and on whether workers and residents will choose to walk, rather than drive.
  - A high quality, successful WalkUP requires both high levels of pedestrian accessibility (what Walk Score measures) and a high quality pedestrian environment (what it does not measure). However, they play different roles in that success. A positive pedestrian experience may encourage those who might otherwise choose not to walk to instead walk. Furthermore, those who prefer the option of walking are likely to be drawn to places where it is more pleasant to travel on foot. However, a place that lacks pedestrian-accessible services and amenities can never be walkable, no matter how much is invested in pedestrian infrastructure; there is no number of street trees that will encourage residents to walk if they have nowhere to go. It is for this reason that we have chosen to focus on accessibility as a "first principle" of walkability, and the metric used to designate walkable urban places.
  - An assessment of pedestrian environment, including urban design and pedestrian infrastructure for selected metro Atlanta CIDs, was also conducted during this research, though not included in this report.
- The geographies of each of the regionally significant places determined in the previous step were submitted to Walkscore.com, for scoring. Scores came in the form of a grid of "sample" scores throughout the WalkUP. This grid was translated into a grid of polygons; census data was used to determine the total population and employment of each polygon. Finally, within each area, the "sample" Walk Scores were weighted by total population and employment and then averaged to derive an overall Walk Score for the place.
- Using the benchmark developed in *Walk This Way,* we identified the 27 Established WalkUPs as those that have overall Walk Scores above 70.5.
- In studying the Walk Scores of the other metro Atlanta places, we found a natural break at 57.0. The nine places with Walk Scores from 57.0 to 70.5 were categorized as Emerging WalkUPs.
- The 10 Potential WalkUPs were identified based on factors discussed in more detail later in this report, including MARTA rail accessibility, major redevelopment opportunities, the presence of walkability-supportive place management entities, and/or on-going investments in pedestrian infrastructure.
- *Note:* Maps of the precise geographic boundaries of all 46 Established, Emerging, and Potential WalkUPs can be found at the following address: http://business.gwu.edu/walkup/atlanta2013.

RANKING ESTABLISHED WALKUPS

The 27 Established WalkUPs were ranked on two independent performance metrics: Economics and Social Equity.

- **Economic Performance** is based on effective rents on real estate, assuming that the amount the market was willing to pay for space is a proxy for economic performance. (The ideal would be developing a WalkUP GDP, but currently GDP estimations are only available at the national, state and metropolitan levels.)

  Rent or rent-equivalents were found for four product types within each WalkUP:

  - Office
  - Retail
  - Rental Residential
  - For-Sale Residential

  These rents were then weighted by the relative presence of each of these product types within the WalkUP and averaged to determine an overall rent for the area.
- **Social Equity** is based on a composite index of affordability and accessibility, described in greater detail later in this report.

Walkability/Walk Score does not factor directly into either of these rankings—it is used only as a means of sorting places into walkable urban and drivable sub-urban.

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The Seven Types of WalkUPs

There are seven types of regionally significant WalkUPs in any metropolitan area. Metro Atlanta has at least one example of each.



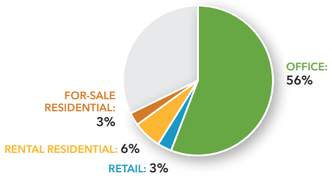
1 Downtown

Examples: *GSU-Government Center &Peachtree Center*

As the original downtown sections of a metro area's principal city, Downtown WalkUPs are dominated by office space. In Atlanta, however, this is much less true—only 56 percent of total square footage in its Downtown WalkUPs is occupied by offices. Two factors account for the comparatively small percentage of office space: (1) Georgia State University's campus, which serves 32,000 students, is located downtown and includes dorms, libraries, classroom space, athletic facilities, and a major hospital complex, and (2) the prevalence of large commercial parking garages, which serve the majority of Downtown workers (only three percent in the region commute via public transit). While the garages themselves do not prevent Downtown areas from being the region's most walkable, they do occupy real estate that could be used otherwise and also reinforce Atlanta's reputation as a city where car use—and ownership—is necessary.

Product Mix: **Downtown**

Average % of Total Square Footage













PHOTOS:
Dane Sponberg

A. Underground Atlanta adjacent to Five Points MARTA station

B. Fenestration and flowers

C. Tourists, students, workers and residents mingle at Five Points

D. Segway tours of downtown

E. Woodruff Park near Five Points

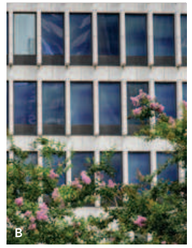
F. Peachtree divides Decatur and Marietta Streets at Five Points

G. An icon of an Atlanta institution

H. Chess in Woodruff Park

I. The Georgia State Capitol







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2 Downtown Adjacent

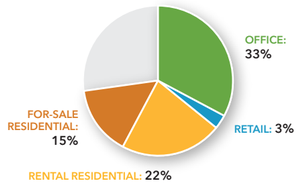
Examples: *Castleberry Hill, Centennial Olympic Park, Midtown, SoNo, Sweet Auburn*

Immediately adjacent to, and surrounding downtown on all sides, Downtown Adjacent WalkUPs are usually older mixed-use neighborhoods that have a lower density than downtown, reasonably well-connected street grids, and their own unique character.

These WalkUPs also have a substantial amount of office space—33 percent in the Atlanta metro area. This is significantly less than the 58 percent found in D.C. metro Downtown Adjacent places, and is partly the result of the more than six million square feet of hotel, sports/entertainment, and convention space in Centennial Olympic Park. In addition, Downtown Adjacent WalkUPs have significant residential (37 percent) and some retail development (three percent). The result, in most cases, is a lively, nearly 24-hour environment.

Product Mix: **Downtown-Adjacent**

Average % of Total Square Footage











PHOTOS:
Dane Sponberg

A. Multi-modal transport in Castleberry Hill

B. Pedestrians and transit connect at one of Midtown Atlanta's three MARTA stations

C. Taking advantage of Trees Atlanta shade tree program adjacent to Centennial Olympic Park

D. Appreciating an urban troubadour in Castleberry Hill

E. Spraypainting squid art in Castleberry Hill

F. Outdoor dining on the streets of Midtown

G. Celebrating Civil Rights in Sweet Auburn

H. Legacy of the 1996 Centennial Olympics—Centennial Olympic Park and continued development

I. Midtown street scene

J. Young boys on a walk in Sweet Auburn

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3 Urban Commercial

Examples: *Arts Center, Buckhead Village, Inman Park, Ponce, Upper Westside, West End*

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 Atlanta have a large amount of residential property (50 percent) and are marked by more retail (12 percent) and less office space (25 percent) than Downtown or Downtown Adjacent WalkUPs. The retail in Urban Commercial WalkUPs includes businesses that draw customers from the wider region (such as boutique shops, restaurants, bars, and nightclubs, and furniture and home décor stores), but also retains some space devoted to local-serving uses, such as grocery stores.















PHOTOS:
Dane Sponberg

A. & G. BeltLine-driven infill townhome development in Inman Park

B. Family stroll on Atlanta's burgeoning Westside

C. Award-winning Fourth Ward Park and the development that is following

D. The Westside's proximity to the Downtown job market

E. Adaptive reuse of Sears warehouse becoming mixed-use Ponce City Market

F. Tony Hawk-designed skate park adjacent to BeltLine's Eastside Trail

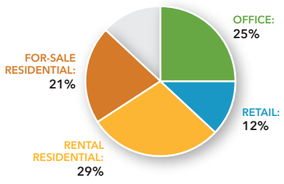
H. Former GA House member Doug Teper enjoys a book and a coffee

I. Highland Ave. street scene

J. Typical sunny day on the BeltLine's Eastside Trail

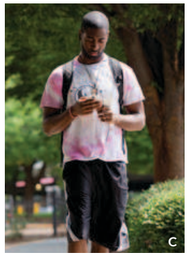
Product Mix: **Urban Commercial**

Average % of Total Square Footage









4 Urban University

Examples: *Atlanta University Center, Emory, Georgia Tech*

Previously not recognized as a distinct WalkUP type, Urban University WalkUPs present a unique set of conditions and opportunities for walkability.

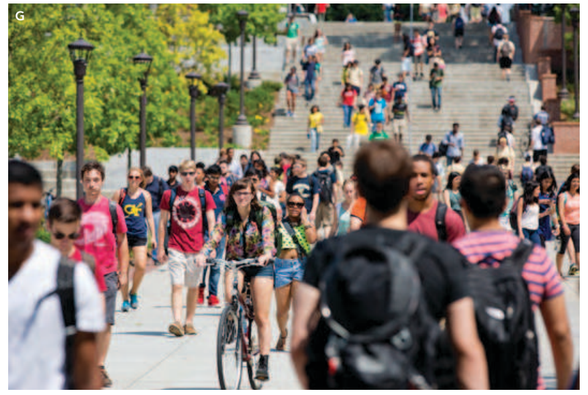
In these areas, the majority of land is controlled by a small number of owners, such as universities, medical facilities, or government research centers. These land owners gauge the "success" of their development not only in terms of rent they may be able to collect, but also in their ability to attract talent. Thus, the vast majority of economic activity is aimed at benefiting the students and employees of these institutions.

The predominance of owner-user space makes real estate analysis difficult for these areas. However, the institutions' centralized control of land and progressive natures mean that these places are, or can be, models of walkable urban development. Increasingly, many also lead in developing measures such as "bikability" that increase accessibility to their facilities and reduce auto dependence.

Since the bulk of the space is owner-user and the data not available for standardized collection, the product mix presented below is not reliable. Thus, most of the Urban University WalkUPs cannot be ranked at this time, but we acknowledge their existence and importance to the regional economy.









PHOTOS:
Dane Sponberg

A. Preferred wheeled transportation at Emory University

B. The environment created at Emory when cars were relegated to the campus edge

C., F. & H. Students at Atlanta University Center

D. View of Emory's campus

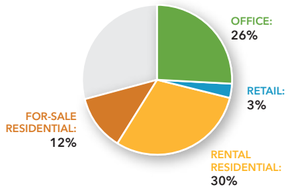
E. & G. Students on campus at Georgia Tech

I. Entrance to Emory Village

J. Biking the class commute at Georgia Tech

Product Mix: **Urban University**

Average % of Total Square Footage









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A


B


C


D



E

5 Suburban Town Center

Examples: *Downtown Decatur, Downtown Marietta*

Typical Suburban Town Centers are 19th-century towns that were swept up in the sprawl of the metropolitan area after World War II. Laid out before the automobile, they have a walkable urban grid and, in many cases, historic buildings that preserve the memory of the place from a more vibrant era. Following decades of decline, many have found a new regionally significant economic role.

Suburban Town Centers tend to have a significant office component (30 percent in the Atlanta metro area). In contrast to many downtowns, however, Suburban Town Centers are also major centers for retail (17 percent) and residential space (30 percent).

PHOTOS:
Dane Sponberg

A. Street musician in Downtown Marietta

B. & C. Dining and retail connects people with the street in Decatur

D. Marietta Square farmers market

E. The intersection of Ponce de Leon and Commerce in Decatur

F. Strolling in Glover Park at Marietta Square

G. Appealing public space that is both inviting and functional at Decatur's MARTA Rail Station

H. & I. Dog walking and hanging out in Downtown Marietta

j. Scooters in Decatur


F


I

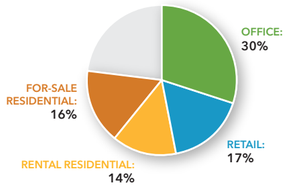

J


H


G

Product Mix: **Suburban Town Center**

Average % of Total Square Footage




A

6 Drivable Sub-Urban Commercial Redevelopment

Examples: *Buckhead, Buckhead Triangle, Cumberland-Core, Lindbergh, Downtown Roswell, Perimeter at The Center, Sandy Springs, South Buckhead*

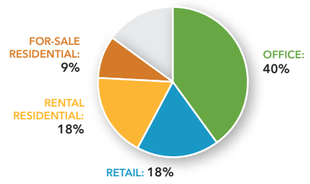
These WalkUPs are mid-to-late 20th-century drivable sub-urban commercial areas that are evolving into higher density walkable urban places.

Drivable Sub-Urban Commercial Redevelopment WalkUPs are similar in real estate mix and form to Suburban Town Centers, albeit with somewhat more office space. And whereas Suburban Town Centers are often oriented around a central node, Drivable Sub-Urban Commercial Redevelopment WalkUPs are more linear: Developed around a major auto corridor, they also integrate walkable infrastructure into the rights of way.

Many of these WalkUPs include regional malls, which have proven to be key redevelopment opportunities in recent years: nationally, 31 enclosed shopping malls in the U.S. have been redeveloped into more walkable places, with another 43 in various stages of planning.[15] This type of WalkUP will be the major focus of walkable urban development over the next generation.

Product Mix:
Drivable Sub-Urban Commercial Redevelopment

Average % of Total Square Footage




B


K


J


I



C


D


E

PHOTOS:
Dane Sponberg

A. Runners on the Cumberland Connector trail

B. Sidewalk dining in Roswell

C. The MARTA headquarters at Lindbergh Center station

D. New townhouse construction in Sandy Spring

E. Peachtree Road's transformation to a "complete street" in Buckhead

F. Trader Joe's in Sandy Spring

G. Walking on Atlanta's "Main Street" in Buckhead

H & I. Picturesque Downtown Roswell

J. Urban biking in Buckhead

K. Enjoying Buckhead's new Peachtree Road street life from a great vantage point


F



G


H

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7 Greenfield & Brownfield

Example: *Atlantic Station*

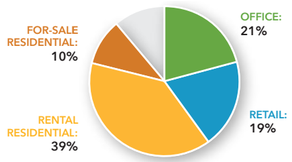
Greenfield and Brownfield WalkUPs are found where major investment has turned formerly undeveloped or contaminated land into a walkable urban place.

Among Atlanta's Established WalkUPs, Atlantic Station, planned and developed as a single project on the former grounds of the Atlantic Steel mill, is the only example of this place type. However, several of the region's Potential WalkUPs will join this category if current plans are fully implemented.

Usually planned and built by a master developer, these WalkUPs have the potential for a balanced product mix. Atlantic Station, for instance, is 21 percent office, 19 percent retail, and 50 percent residential. The large upfront capital costs required for these WalkUPs and subsequent high market risk mean few will probably be attempted in the next generation.

Product Mix: **Greenfield & Brownfield**

Average % of Total Square Footage













PHOTOS:
Dane Sponberg

A. Free outdoor yoga classes during Wellness Wednesdays in Atlantic Station

B. Outdoor screening of *The Wizard of Oz* in Atlantic Station's Central Park

C. A sunset tennis match during the 2013 BB&T Atlantic Open

D. Tennis fans take a break and head to Atlantic Station's shops many shops and restaurants

E. View of spectators at the BB&T Atlantic Open

F. Strolling and shopping along 18th St NW

G. The 16-screen Regal Cinemas multiplex inside Atlantic Station



IV. WalkUPs in *Metro Atlanta*

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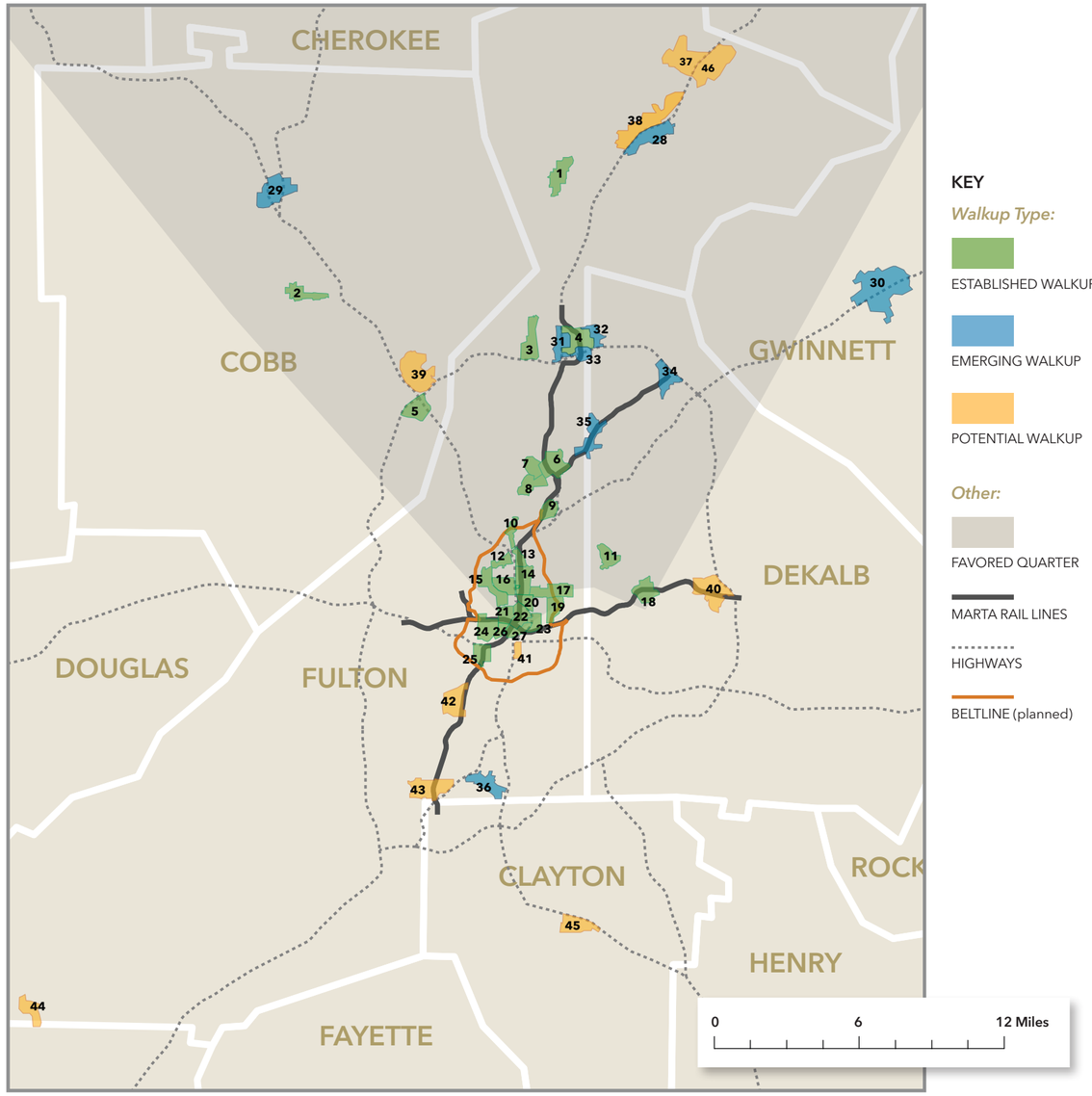
Atlanta's Established, Emerging & Potential WalkUPs

While Established WalkUPs are concentrated in the Favored Quarter and within the central city, Emerging and Potential WalkUPs are developing throughout the core of the Atlanta metro area.

ID#	ESTABLISHED WALKUPS	Acres
1	Downtown Roswell	536.6
2	Downtown Marietta	410.6
3	Sandy Springs	560.9
4	Perimeter at The Center	628.3
5	Cumberland- Core	509.6
6	Buckhead	625.9
7	Buckhead Triangle	291.2
8	Buckhead Village	391.9
9	Lindbergh	293.1
10	South Buckhead	188.2
11	Emory	353.0
12	Atlantic Station	181.3
13	Arts Center	168.3
14	Midtown	474.1
15	Upper Westside	489.7
16	Georgia Tech	350.5
17	Ponce	548.7
18	Downtown Decatur	461.8
19	Inman Park	351.9
20	SoNo	207.8
21	Centennial Olympic Park	268.5
22	Peachtree Center	369.5
23	Sweet Auburn	230.7
24	Atlanta University Center	478.9
25	West End	338.9
26	Castleberry Hill	144.1
27	GSU- Government Center	245.9

ID#	EMERGING WALKUPS	Acres
28	North Point	713.2
29	Town Center	874.8
30	Gwinnett	2,002.6
31	Perimeter West at 400	427.8
32	Perimeter East	248.9
33	Perimeter Summit	249.6
34	Doraville	484.9
35	Brookhaven	575.3
36	Hapeville	530.5

ID#	POTENTIAL WALKUPS	Acres
37	West Windward	968.0
38	Encore Park	1,156.5
39	Cumberland- Powers Ferry	1,169.9
40	Kensington Station	870.0
41	Turner Field	123.4
42	Ft. McPherson	624.9
43	College Park	762.2
44	Serenbe	398.8
45	Morrow- Southlake	526.1
46	East Windward	1,046.2



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WalkUPs in *Metro Atlanta*

Geographic Findings

There are a surprising number of Established, Emerging, and Potential WalkUPs in Metropolitan Atlanta for a region known as the "poster child of sprawl."

- **There are 27 Established WalkUPs in metro Atlanta in 2013.** Combined, these WalkUPs account for only 0.55 percent of the total land in the metro area. Their sizes range from 144 to 628 acres with an average of 374 acres, which is consistent with the 408-acre average size in metropolitan Washington. Since WalkUPs are bound within the comfortable walking distance from a central node, it is rare that a WalkUP will exceed the area of a circle with a half-mile radius (roughly 500 acres).
- **In addition, we have identified nine Emerging WalkUPs.** These are regionally significant places that have long been auto-oriented, but are in the process of intentionally developing into walkable urban places. They do not yet meet the walkability criteria necessary to be included in the list of Established WalkUPs, which includes size of developed square footage (defined by the Brookings methodology mentioned above) and the level of walkability (measured by Walk Score[16]), but it is likely that they will achieve that designation in the near future if they continue their current trajectory. Combined, these WalkUPs account for another 0.33 percent of the total land in the metro area. Their sizes range from 249 to 2,003 acres with an average of 679 acres. Because these areas are not yet fully pedestrian-oriented, their edges are less well defined and their central nodes less distinct. As a consequence, many of them are significantly larger than the 27 Established WalkUPs described above.[17] As the Emerging WalkUPs continue to develop with a more walkable character, some of these WalkUPs will become smaller than their current boundaries; others may split into several sub-areas, some of which may become a separate WalkUP. In total, the Established and Emerging WalkUPs only use 0.88 percent of the region's land mass.
- **Finally, we have defined 10 Potential WalkUPs.** These areas require significant redevelopment if they are to become truly walkable urban places. However, each of these places has a set of assets (transit access, land assembly, supportive policies, planned development, recent/planned infrastructure investments, etc.) that make it probable that such redevelopment will eventually occur. Importantly, each of these 10 places has the intention of becoming a walkable urban place, as indicated by local planning and implementation efforts and/or the presence of place management organizations.
- **The densities of the 27 Established WalkUPs average 0.60 gross floor-area ratio (FAR), ranging from 0.13 to 2.91.** The gross FAR for the region, excluding these 27 Established WalkUPs and the nine Emerging WalkUPs, is only 0.04. In other words, **the regionally significant WalkUPs are over 16 times denser than the rest of the region**. The built-in capacity of WalkUPs to use much less land has many environmental, social and economic benefits, including the far more efficient use of infrastructure, even including the capital costs of rail transit. While definitive research has not been completed on this issue, it is likely that the cost per supportable square foot of walkable urban development in most categories of infrastructure is significantly less than for drivable sub-urban development.[18]
- **The WalkUPs cluster in the northern portion of the metropolitan area, especially along the corridor surrounding Peachtree Street/Peachtree Road/Route 9.** This is the core of Atlanta's "Favored Quarter," the portion of the region where wealth and employment growth has been concentrated since at least World War II.[19] Only one of the Established WalkUPs (the West End) is located south of Interstate 20, outside the Favored Quarter. I-20 is a commonly recognized demarcation between the northern (wealthier and predominately white) and southern (poorer with a higher percentage of black residents) portions of the region. The experience in metropolitan Washington, an early walkable urban-adopting region, saw a continuation of development in the Favored Quarter, which goes to the northwest, though there are indications in the current real estate cycle of walkable urban development going outside it to the northeast and southeast.
- **Nearly 19 percent of total metropolitan jobs are located in Established WalkUPs, with another three percent located in Emerging WalkUPs.** Local-serving jobs (grocery clerks, teachers, police officers, firefighters and sanitation workers, etc.), which account for approximately 35 percent of all jobs, are least likely to locate in WalkUPs.[20] Therefore, the share of base (or export) and regional jobs that are found in metro Atlanta WalkUPs is probably closer to 30 percent, meaning these jobs are disproportionately concentrated in these places.
- **Overall, Established WalkUPs have an employment density of 36.5 jobs per acre**; the region as a whole, not including Established and Emerging WalkUPs, has an employment density of only 0.8 jobs/acre.
- **Twenty-seven percent of the Atlanta region's jobs in knowledge industries are in Established WalkUPs, while another four percent are located in Emerging WalkUPs.** In addition, about 52 percent of the region's jobs in public administration are in Established WalkUPs due to the propensity of government jobs to cluster in places like downtown where the state and federal office complexes are concentrated.
- **Seventy-four percent of Established WalkUPs in the region are within the city of Atlanta.** However, all nine Emerging WalkUPs are in the suburbs and eight of the 10 Potential WalkUPs are outside of the city. The city of Atlanta has 83 percent of the total real estate square footage in WalkUPs. This is a key difference from our findings in the D.C. metro area, in which both the number of WalkUPs and the square footage was a slight majority in the suburbs, a surprising and significant finding. If this is indicative of the future, it could mean that the urbanization of the Atlanta suburbs will be major part of the trend in the future, similar to metro D.C.
- **Sixteen of the 27 regionally significant WalkUPs, or 59 percent, have rail transit.** The remaining 11 WalkUPs have no rail service and none currently funded. Rail transit is highly correlated to the development of walkable urban places, as it provides increased transportation option for residents, workers, and visitors. In metropolitan Washington, 80 percent of WalkUPs have rail transit. It also means there is less need for the building of even more costly parking within the WalkUP. However, there is no proven *causal* connection between rail transit and the development of walkable urban places, only *correlation*. The metro Atlanta WalkUPs without rail demonstrate that it is possible to foster walkable urbanism without rail.
- **There is about one regionally significant WalkUP for every 150,000 residents in the 10-county area for which the Atlanta Regional Commission serves as the regional planning and intergovernmental coordination agency.** This is the equivalent of six to seven WalkUPs per million residents (4.1 million residents in the core of the metro area divided by 27 places). As a ratio, this is 80 percent of what we found in the D.C. metro area (where there was one WalkUP for every 120,000 residents, though the metro D.C. WalkUPs are much larger in square footage per WalkUP). Working under the assumption that metropolitan Washington is the model for how the country is developing the built environment, as will be discussed below, this would suggest that, in addition to increasing the density and walkability of its Established WalkUPs, the Atlanta metro area could support at least another eight WalkUPs. However, it 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

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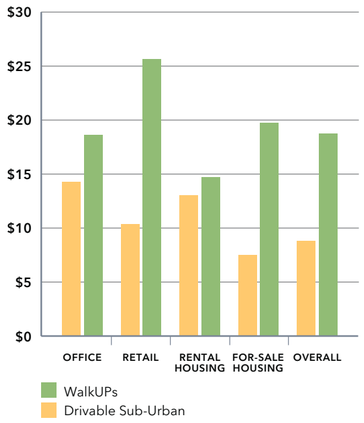
Product Findings

Despite Atlanta's reputation as an auto-oriented region, the market for walkable urban real estate is remarkably robust, particularly in the current cycle.

- **There is 3.2 billion square feet of real estate in the Atlanta region.** However, this figure notably omits "owner-user" space (i.e. government, corporate and institutional-owned space).
- **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 1.5 billion square feet and accounts for 46 percent of metro Atlanta's total real estate square footage.** Again, this excludes owner-occupied space, which would somewhat increase this percentage.
- **For-sale residential (single-family, townhouses and condominiums) account for 54 percent of all real estate in the region.** Less than two percent of this inventory is in Established WalkUPs. The rest is split between drivable sub-urban and local-serving WalkUPs, although it is likely that the majority is in drivable sub-urban locations.
- **Disaggregated by product-type, the share of the region's income-producing real estate in Established WalkUPs varies from a low of 1.3 percent to a high of 64 percent:**
  - Industrial . . . . . 1.3 percent
  - Flex . . . . . 2.8 percent
  - Retail . . . . . 9.1 percent
  - Health Care . . . . . 17.4 percent
  - Rental Residential . . . . . 19.4 percent
  - Office . . . . . 35.4 percent
  - Hospitality . . . . . 37.0 percent
  - Sports/Convention . . . . . 64.3 percent
- **Local-serving WalkUPs are not included in product breakdown numbers, so total WalkUP market share is higher for some of these product types:**

WalkUPs vs. Drivable Sub-Urban

Comparing Average Rents per Sq. Ft.



- **Average annual office rent in Established WalkUPs is $18.55 per square foot, compared to $14.23 for drivable sub-urban office rents, a 30-percent rental premium.** This is a lower differential than in metro D.C., where there was a 75-percent office premium. One potential reason for this is the more highly utilized transit system in the Washington metro area. Transit-accessible locations in metro D.C. have significantly greater access to a highly skilled workforce. MARTA has been stereotyped as being used only by the poor, though growth in ridership since the 2008 may have reversed this perception.
- **Despite the modest rent premium, valuations of office space are significantly higher in WalkUPs.** Annual office rental income in the region totals $4.4 billion; 41 percent of these rents are generated by regionally-significant WalkUPs.
- **While retail space in drivable sub-urban areas of Atlanta had an average vacancy-adjusted rent of $10.42 per square foot, Established WalkUPs retail rented for an average of $25.71 per square foot.** This represents a premium of over 144 percent. While some of this is attributable to the large and highly successful Lenox Square Mall and Phipps Plaza in Buckhead and to other regional malls in Perimeter and Cumberland, the average retail rent in WalkUPs is still nearly double that of drivable sub-urban areas ($20.20) even when these three WalkUPs are removed from the calculation.
- **Rental housing in regionally significant WalkUPs has an average vacancy-adjusted rent of $14.67 per square foot.** In contrast, drivable sub-urban areas averaged $13.07 per square foot for this product type; a 12-percent premium.
- **The price premium is much greater in for-sale housing.** In the drivable sub-urban areas of the Atlanta region, homes are valued at $60.06 per square foot; in Established WalkUPs, values are 161 percent higher, at $156.46 per square foot.



V. WalkUP *Trends*

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WalkUP *Trends*

The Last Three Real Estate Cycles

There are big questions facing developers, investors and public officials: Where is the Atlanta real estate market headed? Established and Emerging WalkUPs are an increasingly larger slice of the pie.

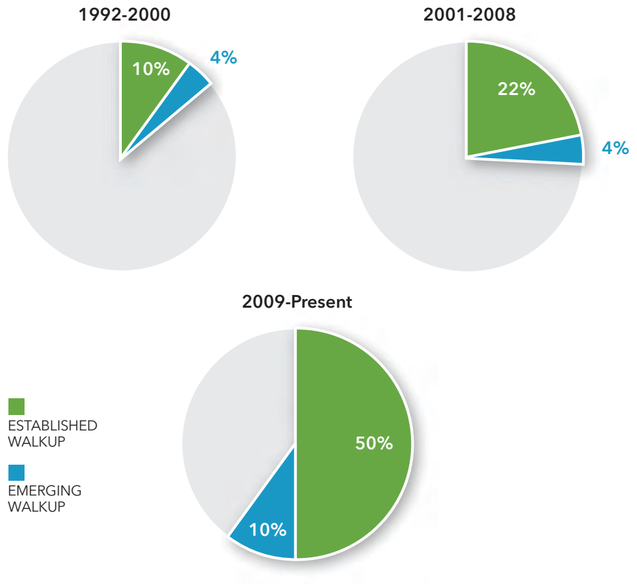
Compared to what we found in metro Washington, Atlanta has fewer WalkUPs per capita, though in general there is a surprisingly greater real estate rental premium associated with walkability. And when plotted over the course of the last three real estate cycles, it is increasingly clear, as shown in Chart 11, that it is rapidly moving toward a walkable urban future.

The market share of the region's development within WalkUPs over the past three real estate cycles (1992 to 2000, 2001 to 2008, and 2009 to the present) illustrates where different real estate products have been built over time. While these data only cover income-producing property (office, retail, multifamily rental housing, hotels, etc.), it is the development of these product types that is the best barometer of economic success for a WalkUP.

As mentioned, data are available only for regionally significant WalkUPs, the balance being both drivable sub-urban locations and local-serving WalkUPs. These data, therefore, understate the amount of walkable urban product developed during each cycle since local-serving WalkUPs are lumped in with drivable sub-urban. Finally, there has been a judgment made regarding which of the Established WalkUPs was actually walkable urban in the past two real estate cycles. For example, Sandy Springs did not consider itself, nor did the market consider it, to be walkable urban in the 1990s cycle so it was reclassified as drivable sub-urban.

Share of Income Property in Established & Emerging WalkUPs Over the Last 3 Real Estate Cycles

Income Property = Office, Retail, Apartment and Hotel



REAL ESTATE CYCLES QUANTIFIED

- **The share of the income-producing property development (office, retail, apartment and hotel) occurring in Established WalkUPs increased steadily over the past three real estate cycles.** In the 1990s cycle, only 10 percent of the region's new development in these four categories occurred in WalkUPs.[3] In the 2000s cycle, however, it doubled to 22 percent and it has more than doubled again in the current cycle, reaching 50 percent.
- **Emerging WalkUPs exhibit a similar trend, albeit on a smaller scale.** In the 1990s and 2000s cycles, the share of income-producing property development occurring in Emerging WalkUPs held steady at four percent.[21] In the current cycle, however, it has vaulted to 10 percent. Taken together, from 2009-2013, more than 60 percent of income-producing property in the region was developed in Established or Emerging WalkUPs.
- **The vast majority of recent development in Established and Emerging WalkUPs has been concentrated in areas served by the MARTA rail.** In the 2009-2013 real estate cycle, 73 percent of development in Established WalkUPs went to the MARTA-served places. Even more dramatic, 85 percent of development in Emerging WalkUPs (nine percent of total regional development) went to places with rail transit.
- **Multifamily rental housing has been the most significant driver of growth in regionally significant WalkUPs.** In the 1990s, only nine percent of multifamily rental housing was captured by Established WalkUPs. In the early 2000s, this rose to 28 percent but has skyrocketed to 88 percent in the current cycle. In fact, multifamily rental housing built in Established WalkUPs accounted for 18 percent of *all* income-producing property developed in the Atlanta region from 2009-2013. The volume of rental apartments in local-serving WalkUPs has further increased the walkable urban rental apartment market share considerably in recent years, although we do not have the data on local serving places. There are two reasons for this boom in rental apartments in this cycle. First, it was the real estate product type that has led the way out of the Great Recession throughout the country, following the for-sale housing crash. Second, and less understood, experience has shown that households in walkable urban places have historically had a higher propensity to rent than to own. It is not understood why this is the case, but this has been observed around the world as well as in this country.
- **Following rental housing, office space has been the second most important factor in Atlanta's trend toward walkable urbanism.** Only 19 percent of the office space delivered in the 1990s cycle was built in Atlanta's then-Established WalkUPs. This increased to 31 percent in the 2000s and again to 50 percent in the current cycle that started in 2009.
- **Despite higher rents, development of new retail space in WalkUPs lags.** Only six percent of the retail space developed in the region during the 1990s was located in WalkUPs. In the early 2000s, it rose slightly to seven percent but has fallen to only two percent for the cycle starting in 2009. The higher cost of parking in WalkUPs, and relatively higher parking requirements for retail, may be a factor. However, another 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, such as Urban Outfitters and Brooks Brothers, and grocery stores like Publix and Whole Foods, etc. have walkable urban formats. These retailers, however, have not taken this format to metropolitan Atlanta as widely as in other regions. Big-box walkable urban pioneers, such as Target and Home Depot, only have five or so years of experience with this format, while Wal-Mart is only recently attempting walkable urban locations. Adding local-serving WalkUPs to these product totals will probably significantly increase the percentage of retail that is walkable urban in the current cycle once we have this data. In the metro D.C. area, the most significant type of development in this cycle has been 200 to 300-unit rental apartments over grocery stores in regionally significant and local-serving WalkUPs.

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A Region Continually in Economic and Land Use Flux

Starting with one of Atlanta's early names, Terminus, transportation has been essential to the region's economy, driving continual changes in economic growth and land use.

Public policy initiatives on the regional and local levels are creating conditions to respond to and encourage the development of WalkUPs. The Atlanta Regional Commission (ARC) administers the Livable Centers Initiative (LCI), which was begun in 1999 as a way to provide an alternative to the prevailing development patterns; through the LCI program, planning grants are provided to local governments and non-profit organizations in order to prepare a plan for the enhancement of existing town centers, activity centers, and corridors. This enables these areas to take advantage of the infrastructure and private investments already committed in these jurisdictions—resulting in more balanced, regional development while reducing vehicle miles traveled and improving air quality. Then, after the initial plan is complete, more money is made available to the jurisdictions that can help implement these plans.

ARC established the LCI program in 1999. To date, more than $195 million in planning and transportation funds have been allocated to over a 110 distinct areas in the region. Livable Communities Coalition, Georgia Conservancy, the Congress for New Urbanism-Atlanta, and the Urban Land Institute-Atlanta are other important organizations that work to advance walkable urbanism throughout the region.

The City of Atlanta is developing one of the most comprehensive programs in the country that has the potential to create several new regional and locally significant WalkUPs—the Atlanta BeltLine. Originally proposed in a graduate thesis at Georgia Tech by Ryan Gravel, the Atlanta BeltLine is the most ambitious effort in the City's history to catalyze its WalkUP future that will guide private real estate development for decades to come. The program consists of a combination of public infrastructure investments in transit, trails and green space, incentives for affordable housing and economic development and a land use and zoning scheme that will create more urban, walkable destinations. The project is built on a 22-mile loop of old rail corridors that are two to four miles from the Downtown and Midtown WalkUPs. This program will be a model for the country as a whole.

Atlanta is also building its first new streetcar line downtown, connecting Centennial Olympic Park with the Sweet Auburn district, home of the Martin Luther King Jr. historic site. This is the first expansion of the region's rail transit system in more than a decade and is the beginning of a new streetcar network that will better serve mobility needs within the City of Atlanta and will connect to the Atlanta BeltLine.



PHOTO: Dane Sponberg

The Atlanta BeltLine is being built on a 22-mile loop of old rail corridors that encircle the city's Downtown & Midtown WalkUPs.

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Metro Atlanta & Metro DC: Peas in a Pod

As comparable as any two metropolitan areas in the country, these two cities can learn much from each other.

Our first WalkUP study looked at metropolitan Washington which, based upon 2007 Brookings research, is the leading metropolitan area for walkable urban development in the nation. For many observers, 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 provides a recession-resistant foundation.

Yet every metro area has a unique economic base upon which it earns its living. Metro D.C. does have the federal government as its economic base, though it also includes many high tech and bio-tech sectors and a cluster of corporate headquarters for the hospitality industry. And the federal government is not always resistant to economic contractions, as the current budget cuts due to the "sequester" demonstrate.

In Detroit, the economic base continues to be autos. In Seattle, it is aircraft, the port and software. In Columbus, it is state government and insurance. In Atlanta, the economic base, besides the state and federal governments, includes transportation (rail, highway, pipeline and air based), which has led to Atlanta being a major logistics center (e.g., UPS), other Fortune 500 headquarters and the world's largest airline, Delta. The concentration in metro Atlanta of higher education, media, telecommunications and research shows the growth of the knowledge economy as well.

This section will postulate a hypothesis that metro Atlanta is tracking the same walkable urban land development pattern as metro Washington. Atlanta is somewhat behind, but gaining rapidly. This hypothesis is based upon the most critical input into the knowledge economy: an educated work force.

First, it is important to point out the many similarities between metro Washington and metro Atlanta. On the surface it may not be obvious, but these two metro areas may be as comparable as any two large metropolitan areas in the country, as shown by:

- **Population:** Atlanta and DC share the same population in the Metropolitan Statistical Area (MSA)—metro Atlanta is 5.4 million versus metro Washington at 5.7 million (2011 estimates).
- **Character:** Both are historically sleepy Southern metropolitan areas that economically boomed in the late 20th century, primarily from being "invaded" by Northerners.
- **Development Form:** For most of the late 20th century, both metro areas were at the cutting edge of the then new drivable sub-urban development patterns, inventing some of the most famous "edge cities," such as Perimeter Center and Tysons Corner.
- **Traffic:** As a result of the development boom, these two metropolitan areas had consistently the worst traffic congestion in the nation, repeatedly in the top 10 most congested in the Texas Transportation Institute's rankings.
- **Rail Transit:** These regions received two of the three federally funded heavy rail passenger transit systems in the 1970s.[22]
- **Government Capitals:** Both are capitals, one being the state capital and the other being the federal capital, putting a stabilizing foundation under both metro economies.
- **African American Middle Class:** These metro areas are the first- and second-most favored regions by African Americans, having the two largest concentrations of black middle class households.

There are many differences as well:

- **Scale of Government:** The federal government is a far larger economic presence in metro Washington than the combination of the state and federal presence in metro Atlanta.
- **Sports Teams:** Atlanta has had consistently better performing sports teams—while this is a mildly tongue-in-cheek comment, it reflects an important but difficult to measure reality: confidence. The Atlanta business community has a confidence, civic engagement and swagger which makes it a better than even match for the metro D.C. business community, which is in the shadow of the federal government.

However, metro Washington was a first-mover in the trend toward walkable urbanism, starting in the mid-1990s with the early turn around of downtown D.C. and the urbanization of selected suburbs, such as Arlington, as verified by the D.C. research report. The differences include:

- **Forty-three WalkUPs in metro D.C. versus 27 in metro Atlanta**.
- **The average size of metro Washington's WalkUPs is 408 acres versus 374 in metro Atlanta**.
- **The economic performance ranking of the WalkUPs in each metro area was relative to the area**; a platinum ranking in Atlanta is probably a gold or even silver ranking in metro D.C.

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- **One of the major conclusions in the metro D.C. WalkUPs report is that there was a positive correlation between Walk Score and economic performance**; one Walk Score point increase was associated with a $0.62 increase per square foot in annual rent for office. While the Atlanta WalkUPs have a dramatic average price premium (112 percent) over drivable sub-urban product, **in Atlanta there is no correlation within WalkUPs between Walk Score and economic performance**. Surprisingly there was a correlation between the social equity performance and Walk Score in metro Atlanta but not in metro D.C.
- **While both MARTA and D.C.'s Metro rail systems started out approximately the same in size, stations, and length in 1980, today Metro is 2.4 times larger than MARTA in these categories**. This reflects reasonably consistent investment in the expansion of Metro over the decades, including the huge new Silver Line to Dulles airport and beyond, currently under construction.
- **Metro rail riders reflect the demographic profile of the region as a whole much better than MARTA**. This means that Metro appeals to all income classes and races and therefore has sparked dramatically more walkable urban activity around the stations than MARTA in metro Atlanta. For the past half century, much of the Atlanta region has turned its back on MARTA and its potentially huge economic development impact, though this is now changing as this research shows.
- **Eighty percent of metro D.C. WalkUPs are rail-served versus 59 percent in metro Atlanta**, showing both how metro D.C. is in front of metro Atlanta in the walkable urban trend but that there is much more potential to be achieved in Atlanta.
- **In metro Washington, only 42 percent of the WalkUPs and 49 percent of the square footage are in the center city (District of Columbia) while 74 percent of the WalkUPs and 83 percent of the square footage is in the city of Atlanta**. The major opportunity for metro Atlanta is the urbanization of the suburbs. Every Emerging WalkUP, and nine of the ten Potential WalkUPs, identified in the study are in the suburbs–the next frontier of walkable urbanism in metro Atlanta.
- **There are approximately 120,000 people supporting each WalkUP in the core of the metro D.C. region** (eight and one half per million of population) **but 150,000 people per WalkUP in the core of the Atlanta region** (six and one-half per million).[23] No one knows how many people will eventually be needed to support a WalkUP since it is early in this trend, but there is certainly room to grow many more in Atlanta.

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Hypothesis: An Educated Workforce Matters

In the 21st century knowledge economy, it is widely agreed that a highly educated workforce is essential to economic success.

The hypothesis most economic development professionals and many business people subscribe to is that the U.S. economy has been layering a "knowledge economy" over the 20th century industrial and 19th century agricultural base. Therefore, the education of the work force– best defined as the percentage of the workforce over age 25 with a college degree–is key to the economic success of a business, metropolitan area, and ultimately, the country. This hypothesis has not been definitively proven but it has been accepted by many observers.

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 recently revised *The Rise of the Creative Class*,[24] 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's research demonstrates 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.

Notably, metro D.C.'s population holds more college degrees per capita than anywhere else in the nation. And knowledge workers want walkable urban options. 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 having highly educated workers. The graph below shows three sets of data about the percentage of the workforce over 25 with a college degree in 1990, 2000 and 2010:

- **Metropolitan Washington**
- **The Next Five Most Walkable Metro Areas** (out of the 30 largest U.S. metros, based on Brookings research referred to above)
- **Metropolitan Atlanta**
- **The Nation**

Metro D.C. has had the most educated workforce and has the most WalkUPs according to the Brookings study (even more than metro New York since the vast majority of the walkable urban places are in Manhattan and Brooklyn, where about 10 percent of the metro population is, while the suburbs have not urbanized as much as D.C.).

The next five most walkable metro areas of the largest 30 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 10-20 years ahead of both metro Atlanta and the nation.

Further, assume that metro D.C. is roughly 20-30 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, the country evolves further into the knowledge economy and, therefore, the walkable urban trend continues. Metro Atlanta falls in between the next highest five metros and the national average. The hypothesis would indicate that metro Atlanta would be 15-20 years behind metro D.C. However, the speed with which metro Atlanta is delivering walkable urban development shows, nearly as high a market share in this real estate cycle as metro D.C., that metro Atlanta is much more quickly adopting to this new development trend. It is a plausible conclusion that metro Atlanta is only between five and ten years behind metro Washington.

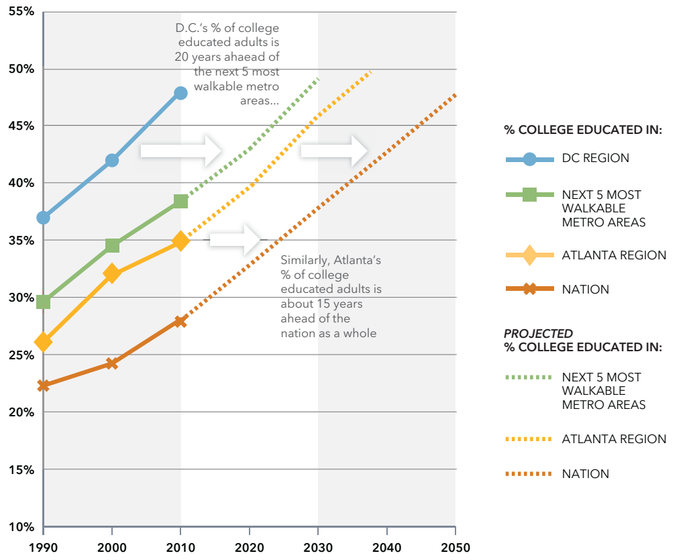
In 1990, metro D.C. had few meaningful walkable urban areas. Its downtown–like many city centers across the nation–was abandoned and considered dangerous. No suburban-located walkable urban places had yet emerged, except for Old Town Alexandria and Rosslyn. When Joel Garreau wrote Edge City in 1989, 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; now it is on the path to 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 to live and work 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 Walk UPs phenomenon. As these Millennials age, many seem to be moving to or near suburban WalkUPs, such as Arlington and

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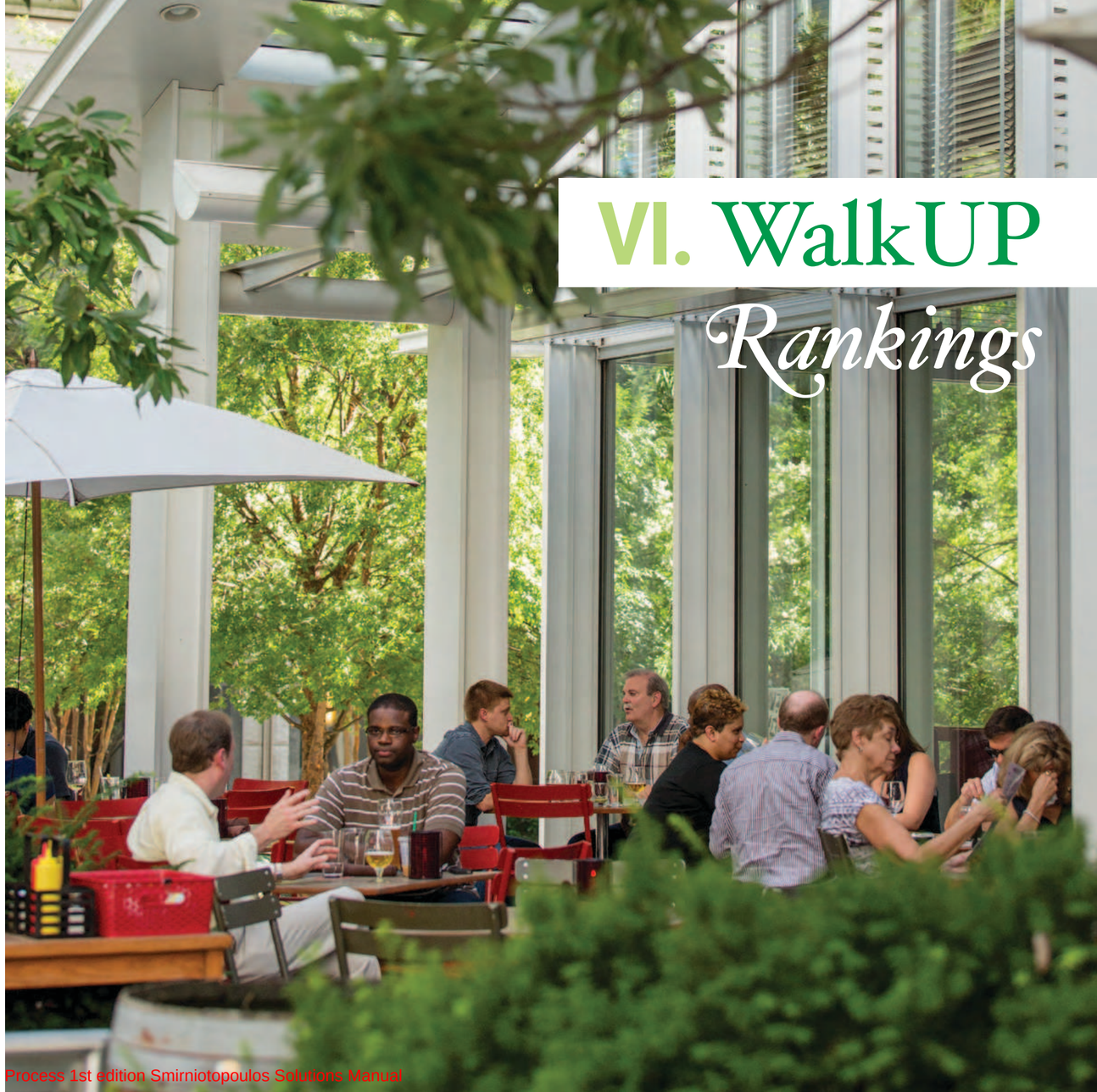
Growth of College-Educated Population

% of Adults 25 or Older in Select U.S. Metro Areas with at Least a Four-Year Degree



Bethesda. When it comes to developing suburban Walk UPs, metro D.C. has a substantial lead over all other U.S. areas.

The trajectory for large metropolitan areas–and the country as a whole–is toward a better-educated population, a greater participation in the knowledge economy and a growing demand for more walkable urban places. Metro D.C. just happened to get there first. However, this research reveals that metro Atlanta is not far behind.



VI. WalkUP *Rankings*

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COPPER

SILVER

GOLD

PLATINUM

The charts to the right summarize, by level, the relative rent, Walk Score, and FAR of 24 of the 27 Established WalkUPs.

The three "Urban Universities" WalkUPs were omitted due to lack of data concerning owner-user space.

Even so, we know the amount of square footage in those three WalkUPs surpasses the minimum required and their Walk Scores were sufficient to qualify.

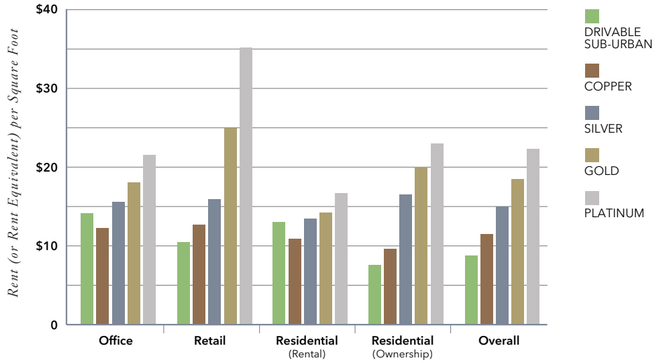
Economic Rankings

Based on the Brookings methodology, WalkUPs in the Atlanta region fall into four levels when measured by economic performance. Each WalkUP level has different growth and investment potential.

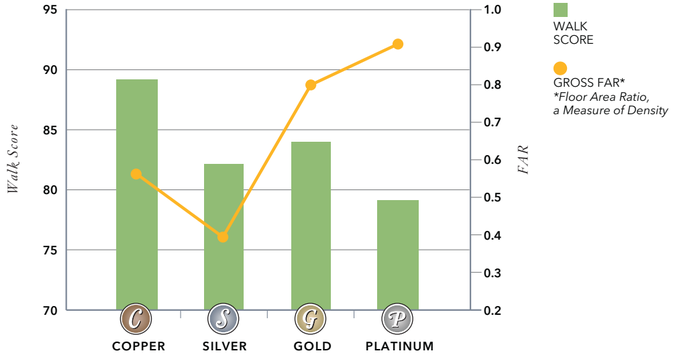
Economic rankings are based on the rents achieved for four product types: office, retail, rental apartment, and for-sale housing.[25] Each WalkUP's average rent per square foot was determined and weighted according to the percentage of square feet per product type. The assumption is that the amount the market is willing and able to pay in rent is a proxy for that WalkUP's economic performance. Rent is a proxy, but the best proxy we have at the moment since there is no calculation of gross domestic product (GDP) below the metropolitan level.

The ranges for overall weighted rents in Atlanta are vastly different than those in D.C. Annual rents for WalkUPs in metro Atlanta range from $11.21 to $25.28 versus a range of $14.07 to $46.73 in metro D.C. Because of this disparity, we graded Atlanta's WalkUPs "on a curve." Therefore, the economic performance of WalkUPs in Atlanta cannot be directly compared with their counterparts in D.C. In future studies, however, they will be directly compared, as they will be adjusted for relative GDP per capita.

Rents by Product Type



Walk Score & FAR by Category



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COPPER

Castleberry Hill
GSU-Government Center
West End

CHARACTERISTICS

The lowest level of economic performance, Copper WalkUPs have generally demonstrated the intention to be walkable urban. These include some of the densest, most walkable areas of the entire region and are concentrated in and adjacent to downtown Atlanta. Though these WalkUPs have attracted a great deal of new development in recent years, Atlanta's downtown neighborhoods continue to struggle economically, achieving lower rents than most other WalkUPs in the region. However, as further explored in the social equity rankings, WalkUPs in the Copper tier of economic performance tend to have some of the highest levels of social equity in metropolitan Atlanta.

Compared to the portions of the region that are not walkable urban in nature (i.e., are not within Established or Emerging WalkUPs), office and housing rents are lower in Copper WalkUPs: office rents are only 82 percent of the average in non-WalkUPs and housing rents are only 89 percent of drivable sub-urban values. However, Copper WalkUPs do have higher retail rents (22 percent greater) and for-sale housing values (27 percent greater) than the average for non-WalkUPs.

OBSERVATIONS

Copper WalkUPs include GSU-Government Center. There is reason for optimism for increased economic performance in the near future. Georgia State University has invested significant resources in its transition away from being a primarily commuter school to one with a large residential component. New school-owned residences have also encouraged the development of private residences to accommodate the expanding student population. These developments should bring new wealth and activity to the downtown area and will provide a built-in market for new retail and entertainment uses, as has been experienced with other downtown or downtown adjacent universities, such as New York University and Columbia University in New York City, University of Pennsylvania in Philadelphia, and the George Washington University in Washington, D.C.

Copper WalkUPs also include downtown adjacent Castleberry Hill, the West End, and if we had data so as to rank it, probably Atlanta University Center. Castleberry Hill was an industrial and warehouse district that is becoming an arts community with lofts and other uses aimed at young urbanites as well as potential new entertainment and hospitality venues associated with a new stadium.

Given the pervasive trend toward the re-population and revitalization of downtown and downtown-adjacent places across the nation, increased demand for housing and retail real estate in similar locales in Atlanta is highly likely. These three places have the lowest median incomes and the largest African-American majorities among the 27 Established WalkUPs. Potentially undervalued due to demographics and the legacy of racial segregation, these areas are both well-served by transit and close to the employment centers of downtown.

Atlanta University Center can leverage the presence of four significant institutions of higher education to spur neighborhood change as has happened with other urban universities, including historically Black universities such as Howard in Washington, D.C. The West End will benefit from the development of the Atlanta BeltLine with both its linear park system and the future rail line. Consequently, these WalkUPs are well positioned to offer significant returns to investors in walkable urban development opportunities that have been seen in many other similar metropolitan areas.

Average Key Metrics

Walk Score: 89.3

Gross FAR: 0.56
(Floor Area Ratio)

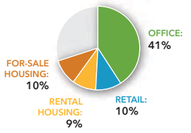
Annual Rent per Sq. Ft. {$ = $5}

OFFICE: $$$	$12.08
RETAIL: $$$	$12.67
RENTAL HOUSING: $$	$10.90
OVERALL AVERAGE: $$	$11.49

Housing per Sq. Ft. {$ = $5}

FOR-SALE HOUSING: $$$$$$$$$$	$73.71

Square Footage Breakdown by Use:



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WalkUP *Rankings*

SILVER

Centennial Olympic Park
Downtown Marietta
Downtown Roswell
Lindbergh
Sandy Springs
SoNo
South Buckhead
Upper Westside

CHARACTERISTICS

This is a diverse category, including both downtown-adjacent and urban commercial places that have attracted significant new real estate development in recent years as well as suburban places that have long been auto-dependent. Silver WalkUPs have not yet achieved "critical mass," defined as not requiring any special government assistance or subsidy, but they have a trajectory that suggests they will continue to develop into higher performing walkable urban places.

Silver WalkUPs have the greatest value-creation potential for investors and developers if they continue to evolve and achieve critical mass. 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 relatively improved with more development and place management. These WalkUPs have begun to achieve a "buzz" in recent years and talk that they are "gentrifying." The eventual result should be lower capitalization rates over time and, therefore, higher valuations as they move into the Gold tier, mostly affecting the underlying land values.

Silver WalkUPs have 31 percent higher overall rents than Copper WalkUPs. This includes a 28-percent increase in office rents, a 26-percent increase in retail rents, a 23 percent increase in residential rents, and a 71 percent increase in for-sale housing values. As compared to drivable sub-urban portions of the region, Silver WalkUPs have 5 percent higher office rents, 54 percent higher retail rents, 9 percent higher housing rents, and have more than double (117 percent higher) for-sale housing values. Silver WalkUPs are both 71 percent as dense (measured by gross FAR) than Copper WalkUPs and achieve a lower Walk Score (-7.1 points) on average. The lack of density is a reflection that most of these WalkUPs are still in the redevelopment process so there is significant new development land available.

Average Key Metrics

Walk Score: 82.2

Gross FAR: 0.40
(Floor Area Ratio)

Annual Rent per Sq. Ft. {$ = $5}

OFFICE:
$$$$$$$$$$ $15.72

RETAIL:
$$$$$$$$$$ $16.00

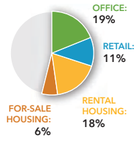
RENTAL HOUSING:
$$$$$$$$$$ $13.44

OVERALL AVERAGE:
$$$$$$$$$$ $15.01

Housing per Sq. Ft. {$ = $5}

FOR-SALE HOUSING:
$$$$$$$$$$ $134.16

Square Footage Breakdown by Use:



OBSERVATIONS

This tier includes four areas adjacent to or near downtown: Upper Westside, SoNo, Sweet Auburn, and Centennial Olympic Park.

Traditionally a center for light industry, the Upper Westside has undergone significant change in recent years. Older buildings have been rehabilitated and put to new uses as retail and restaurants, while new multifamily housing rental and for-sale housing has also been built. The impact of the Atlanta BeltLine is already being felt even though there are no physical improvements in place yet.

"SoNo," or South of North Avenue, is the area that connects Downtown to Midtown. This was one of Downtown's earliest redeveloped residential areas with a variety of single-family homes, town homes, apartments, high-rise condos, and garden-style condos. However, much of the 1980's redevelopment of this area actually reduced walkability through the installation of superblocks and large suburban garden apartment complexes. This WalkUP also contains Emory Midtown Hospital.

Sweet Auburn, the area centered along Auburn Avenue, is a downtown-adjacent place that was the historic center of black business and culture in Atlanta. It was the birthplace of Martin Luther King Jr. and includes three historic churches and storied fraternal organizations among its historic and cultural assets, many of which are managed by the National Park Service. The construction of Interstates 75 and 85 in the 1950s cut off the community from Downtown and since then it has suffered significant disinvestment and currently contains many underutilized properties. Revitalization is slowly emerging in some parts of Sweet Auburn and the streetcar line opening in 2014 will provide a major catalyst to spur a quicker pace of investment. A variety of mostly one- and two-story storefront buildings retains the character of the area and will be an important historic asset in any development. As a WalkUP in between large GSU-Government Center to the west and the economically vital Inman Park to the east, it will probably be an in-fill opportunity. Finally, while highly walkable and directly adjacent to Atlanta's downtown core, much of the land in the Centennial Olympic Park WalkUP is devoted to large, multi-block uses, which depresses its vibrancy.

Lindbergh and South Buckhead are both Strip Commercial WalkUPs, located further north from downtown, within Atlanta's favored quarter. Lindbergh Center includes a major 51 acre, master-planned site with 2.7 million square feet of office space, 330,000 square feet of retail space, 566 apartments, and 388 condominiums, all built over the course of the last decade. This has spurred new development on nearby sites and, as such, Lindbergh is on a rapidly upward economic trajectory. South Buckhead is anchored by Piedmont Hospital and the continuing transformation of auto-oriented Peachtree Street into Peachtree Boulevard will drive more walkable redevelopment in this WalkUP.

This tier also includes three suburban areas that lie beyond Atlanta's Perimeter highway: Downtown Marietta, Downtown Roswell, and Sandy Springs. Sandy Springs is a Strip Commercial Redevelopment WalkUP that is investing in new infrastructure to increase its walkability. The city of Sandy Springs, the first of a spate of new cities that have recently formed in formerly unincorporated Fulton County, is actively pursuing the development of a town center that it currently lacks. Downtown Marietta and Downtown Roswell are Suburban Town Centers that are becoming more vibrant with smaller shops and restaurants and additional residential development. Downtown Marietta would benefit from the development of a Bus Rapid Transit (BRT) corridor, currently being planned (but not yet funded), which would connect to the MARTA rail transit system. Roswell has a long-established and growing bicycle infrastructure and would benefit from future MARTA rail transit expansion up the GA 400 corridor.

Finally, though unranked due to lack of available data on its predominantly owner-occupied real estate, what data is available suggests that Emory would likely be ranked in the Silver tier. This WalkUP is home to a significant research university and a large concentration of owner-user offices and research facilities occupied by Centers for Disease Control and Prevention and two hospitals. The presence of these major institutions and employers, each of which relies on its ability to attract students and workers in the knowledge economy, offer opportunities for more walkable development patterns in the WalkUP.

Emory, however, has not yet leveraged its location to support walkable urban vitality to the degree that many urban universities have done in the last 15 years. While it is probable that this WalkUP has significant economic potential, neighborhood opposition has thus far limited the extent to which this potential has been realized—while this place serves a regional, even international function, it has the visual character of a local-serving place. The development of Emory Point, which includes 80,000 square feet of urban-oriented retail and 443 units of multifamily housing, may be a signal that this is changing.

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GOLD

Atlantic Station
Arts Center
Buckhead Triangle
Buckhead Village
Downtown Decatur
Inman Park
Peachtree Center
Ponce

CHARACTERISTICS

These places have achieved critical mass; there is a "there, there" and there is generally no need for public sector intervention for projects to get financed and built. Investors recognize this by lower capitalization rates (increasing valuations). Land prices are at a premium, reflecting the higher rents and selling prices per-square-foot that have been achieved and the anticipated increase in rents/selling prices due to the upside potential as the WalkUP continues to evolve. Developers are attracted to Gold WalkUPs since the market risk is lower than Silver or Copper and there are relatively assured "exit strategies" for selling stabilized projects to institutional investors.

In metropolitan Atlanta, average rents for Gold WalkUPs are 23 percent higher than those of Silver WalkUPs, their Walk Score is somewhat higher (1.8 points) and they are twice as dense. Office rents in Gold WalkUPs are 16 percent higher than in Silver WalkUPs, retail rents are 57 percent higher, housing rents are five percent higher, and for-sale housing values are 22 percent greater. As compared to the drivable sub-urban portions of the region, Gold WalkUPs have 22 percent higher office rents, 141 percent higher retail rents, 15 percent higher housing rents, and 165 percent higher housing values.

OBSERVATIONS

Peachtree Center is the historic core, and best performing portion of, Atlanta's downtown. It has attracted a significant amount of new development in the last decade, and is (along with Centennial Olympic Park, SoNo and portions of GSU-Government Center and Sweet Auburn), managed by the Atlanta Downtown Improvement District. Peachtree Center has the highest Walk Score in the Atlanta metropolitan area and is at the nexus of MARTA's rail system; it is well positioned for economic performance improvement.

Average Key Metrics

Walk Score: 84.0

Gross FAR: 0.80
(Floor Area Ratio)

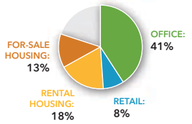
Annual Rent per Sq. Ft. {$ = $5}

OFFICE:	
$$$$$$$$$$$$	$17.92
RETAIL:	
$$$$$$$$$$$$	$25.12
RENTAL HOUSING:	
$$$$$$$$$$$$	$14.18
OVERALL AVERAGE:	
$$$$$$$$$$$$	$18.45

Housing per Sq. Ft. {$ = $5}

FOR-SALE HOUSING:	
$$$$$$$$$$	$157.11

Square Footage Breakdown by Use:



Inman Park and Ponce WalkUPs are Urban Commercial WalkUPs that have attracted a great deal of private investment in recent years, in no small part due to the public investment in the Atlanta BeltLine but also the relative scarcity of walkable urban places that attract a broad audience. These places abut the portions of the Atlanta BeltLine that have been first developed as a linear park and new multifamily housing has been developed to accommodate the new interest that the parks and trails have generated. The Ponce City Market, currently under construction, has the potential to further catalyze development and enhance its walkable character, providing a needed "100 percent" location for the WalkUP.

The Gold Tier includes the region's only Established Greenfield/Brownfield WalkUP: Atlantic Station. This master planned development has been hailed as a national model for walkable urban in-fill development, including a destination retail center, high-rise office construction, and a variety of housing options, ranging from high-rises to townhomes. A pedestrian/car bridge to Midtown and a free shuttle service connecting to MARTA was an essential part of the project. Its success is evident in its rents: at an overall average of $19.60 per square foot, Atlantic Station is only slightly below the cut-off to achieve platinum status. It did have a difficult early phase, reflecting the expense and risk inherent in developing Greenfield/Brownfield WalkUPs. The first phase must be large and includes significant infrastructure for subsequent phases.

Buckhead Village and Buckhead Triangle benefit from their proximity to Platinum-ranked Buckhead and by their location in the heart of the favored quarter. However, they have become WalkUPs in their own right as a consequence of active management and investment from the Buckhead CID. Both of these areas have been rezoned in recent years, with an emphasis on walkability and place-making. The form-based codes are encouraging a healthy mix of uses, with a great deal of multi-family housing being added to the office, retail and entertainment product in each of these areas.

Decatur has been a leader in suburban walkable urbanism in the region for decades as a Suburban Town Center. Laid out in the 19th century, it has many historic buildings and a pedestrian-oriented grid of streets. Supportive land use policies and investments in pedestrian and bicycle infrastructure have paid off for Downtown Decatur, with housing values that are among the highest in the region on a square foot-basis. Decatur's vibrant downtown, linked to the region by MARTA, help to make this WalkUP a regional destination in its own right.

Arts Center is home to the Woodruff Arts Center, a major visual and performing arts center which includes the High Museum of Art, the Alliance Theatre, and is the home to the Atlanta Symphony Orchestra. These institutions are complemented by Atlanta campus of the Savannah College of Art and Design, which adds to the vitality of the place. The restaurant concentration and the high-income housing (both high density and the Ansley Park neighborhood immediately adjacent), add to this early example of a WalkUP in the region

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PLATINUM

Buckhead
Cumberland-Core
Midtown
Perimeter at The Center

CHARACTERISTICS

This ranking has been achieved by only four of the 27 WalkUPs, but they represent a wide array of walkable urbanism. Despite their varied geographical and historical position, however, all three platinum WalkUPs share one key characteristic: aggressive place management.

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, 21 percent above Gold. Office rents, retail rents, and housing rents and for-sale housing values are 20 percent, 40 percent, 17 percent, and 15 percent greater than Gold WalkUPs, respectively. When compared to drivable sub-urban areas, the difference is dramatic: office rents, retail rents, and housing rents and for-sale housing values are 78 percent, 178 percent, 53 percent, and 140 percent greater, respectively. The average density is 13 percent higher than that of Gold WalkUPs, but this tier has a lower average Walk Score (79.2). This is due, in part, to highly successful regional malls in Buckhead, Cumberland-Core, and Perimeter at The Center, which depress walkability but enhance overall economic performance.

OBSERVATIONS

The WalkUPs that achieved Platinum in Atlanta are of a strikingly different character than those that we found in our Washington, D.C., research. In that earlier research, there was a tight association between common measures of urbanity (walkability, density, etc.) and economic performance. In Atlanta, however, that connection is somewhat looser. While the redevelopment efforts of the last two decades have transformed Midtown into a highly walkable

Average Key Metrics

Walk Score: 79.2

Gross FAR: 0.91
(Floor Area Ratio)

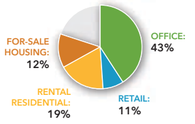
Annual Rent per Sq. Ft. {$ = $5}

OFFICE:	
$$$$$$$$$$$$	$21.53
RETAIL:	
$$$$$$$$$$$$	$35.21
RENTAL HOUSING:	
$$$$$$$$$$$$	$16.64
OVERALL AVERAGE:	
$$$$$$$$$$$$	$22.27

Housing per Sq. Ft. {$ = $5}

FOR-SALE HOUSING:	
$$$$$$$$$$	$182.63

Square Footage Breakdown by Use:



place, this process is not as far along in the other three members of this category (despite their management by active CIDs who have invested significant resources into achieving that goal). In fact, the retail sectors in Buckhead, Cumberland-Core, and Perimeter at The Center are all anchored by highly successful, but auto-oriented, enclosed regional malls. In each case, the malls help to buoy the overall rents of the places (though, each of these places also has a thriving office market). Though these malls may be valuable, cash-producing assets today, national trends suggest that the era of this retail model is coming to a close, with more malls being redeveloped into connected, gridded places every year. The CIDs that manage these places will need to help manage this transition, whenever it occurs, if they are to maintain their Platinum-level economic performance.

Midtown, located just north of Atlanta's downtown, was a nine-to-five office alternative to downtown two decades ago. Guided by the Midtown Alliance's Blueprint Midtown, nearly 13 million square feet of new real estate has been developed in this area since 2001, all with an eye toward the creation of a vital, walkable urban place. The success of Midtown has doubtlessly had a positive impact on adjacent WalkUPs (Arts Center, Ponce, SoNo, and Georgia Tech).

When Buckhead emerged to regional prominence it was due to the distinctly suburban-style development of the luxury Lenox Square mall in 1959. However, after its initial development as a drivable sub-urban office and retail district, Buckhead has achieved its current success as it has invested in an aggressive program to activate its streets and promote walkable urban development. Although it must still contend with the high-capacity traffic streets, such as Peachtree Road, Piedmont Road, and Lenox Road, and significant drivable sub-urban-style retail (including Lenox Square), Buckhead has made significant strides. Recently the entire area was rezoned to encourage more walkable urbanism.

Cumberland-Core is one of the largest employment concentrations in the entire state of Georgia, but has historically been an auto-oriented Edge City, in the mold of Tysons Corner in the Washington area. However, aggressive place management and an investment in pedestrian infrastructure have helped this area to begin the transition to a more walkable environment. Cumberland-Core is currently undertaking a rezoning process to support more walkable development and an under-utilized, 50-acre parcel with an oversized surface parking lot may be a key opportunity for catalytic redevelopment that advances this transition. However, there is a near-total absence of for-sale housing and it achieves very low rents for its rental housing. The development of additional housing of both types could help further advance the vitality and economic performance of the WalkUP.[26]

Perimeter at The Center is a former Edge City with a major concentration of employment and a major regional mall, similar to Cumberland. Unlike Cumberland, however, Perimeter has the advantage of being connected to the MARTA rail system, with two stations within its boundaries. Like Cumberland, there is a paucity of housing, either rental or for-sale. More residential development would help the WalkUP to better leverage its infrastructure (becoming an "origin" in addition to being a "destination") and help to support community-serving retail, services, and other amenities.

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S SILVER

G GOLD

P PLATINUM

Social Equity Rankings

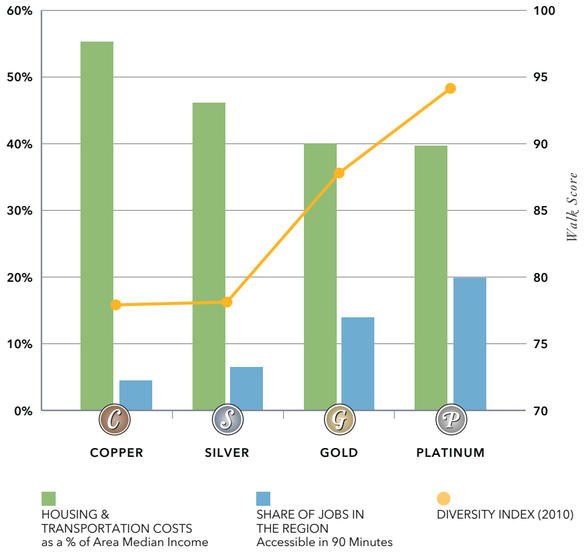
WalkUPs fall into the same four levels as the economic rankings, although driven by entirely different variables.

Our work in metropolitan Washington was our first attempt at operationalizing the social equity performance rankings for WalkUPs, based upon the original Brookings research referred to above. Since the release of the D.C. report, we have taken into account reaction and insight from commentators and refined our social equity metric, particularly regarding the concept of "access." In general, we consider a regionally significant WalkUP to be more socially equitable to the extent that it meets the following two conditions:

1. **The WalkUP is accessible to as wide a range of potential workers and consumers as possible**
2. **The WalkUP is affordable to as wide a range of potential residents as possible**

These criteria *exclude* a great many potential factors in evaluating social equity, including quality of public services, safety, and public and environmental health to name only a few. The decision

Social Equity Measures by Category



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to exclude these factors was partly a function of data availability (much of this data is not available at the micro-level we require) and/or it is not available from a nationally replicable source so it can be used in all metropolitan areas in the U.S. for comparison purposes. However, we recognize that this ranking is, by its very nature, controversial. It is hoped that the release of these rankings will provoke lively discussion, further research and, hopefully, eventual consensus on how to measure social equity, something that there is no agreement upon today.

Our social equity metric is a composite of the following data:

- **Household housing and transportation costs as a percentage of the metropolitan area median income**: This is used to measure actual household affordability since housing and transportation are intimately linked, especially since many lower and middle-income households have to "drive until you qualify"—the current U.S. affordable housing strategy. The Center for Neighborhood Technology, which developed this metric, pegs 45 percent as the maximum share of a household's budget that should be devoted to H+T before it ceases to be affordable.[27] This metric factors into both elements of "access" considered in our definition of equity, since the transportation costs of living in a place are related to those of working in that place. Relative weighting is equal to 20 percent of total score.
- **Racial Diversity Index:** This measures how evenly split the population of a WalkUP is between four major racial categories: Hispanic, non-Hispanic white, non-Hispanic black, and non-Hispanic Asian.[28] A higher racial diversity index means a WalkUP's population is less concentrated among a single race. For instance, a high-diversity place like Lindbergh has no racial majority: 42 percent of its population is Hispanic, 33 percent of its population is non-Hispanic white, 17 percent of its population is non-Hispanic black, and seven percent of its population is non-Hispanic Asian. In contrast, in a low-diversity place, the vast majority of the population is in a single racial group: in the West End, for instance, 90 percent of the population is non-Hispanic black and no other racial group constitutes more than 10 percent. This serves as a measure of a common non-economic barrier to housing access—a racially diverse neighborhood is an indication that residents, brokers, and landlords facilitate an inclusive environment. Relative weighting is equal to 15 percent of the total score.
- **Income Diversity Index:** This measures the breadth of the distribution of household incomes within the WalkUP—the higher the index, the greater the degree to which the income distribution of the WalkUP matches that of the Atlanta region as a whole. This is a proxy for measuring the range of housing options and the accessibility of housing in the area to potential residents at each income class. Relative weighting is equal to 15 percent of the total score.
- **Share of housing units receiving public subsidy:** While the preservation of "market-rate affordable housing" is a widely held goal to achieve social equity, it is often difficult to meet this goal while also striving for local economic development. The provision of subsidized, rent-restricted housing is a means of maintaining long-term housing accessibility, thus allowing lower-income residents to live in a WalkUP even after the price of market-rate housing rises out of the reach of these households.[29] As such, this measure accounts not only for current affordability (which is reflected in other metrics used here), but also future affordability. In calculating this measure, we also included subsidized units within a quarter-mile of the WalkUPs boundaries, as those living within an easy walk of the neighborhood can also easily access its jobs and services. Relative weighting is equal to 10 percent of the total score.
- **Share of the population that can access the WalkUP by transit within 45 minutes:** Regionally significant WalkUPs are chiefly employment centers so the measure of access to the area was determined to be crucial for social equity.[30] Strong transit access to employment centers opens opportunities to transit-dependent workers, fosters the development of transit "riders-of-choice," and can play a critical role in sustainable regional development. Relative weighting is equal to 25 percent of the total score.
- **Share of the population that can access the WalkUP by car within 20 minutes:** While transit is favored as a more sustainable and equitable mode of commuting, we recognize that the automobile is the dominant mode of transport in the Atlanta region and is likely to remain so for the foreseeable future. However, shorter auto commutes are also valuable as a means of addressing employment access and sustainability. Relative weighting is equal to 15 percent of the total score.

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Arts Center
Atlantic Station
Buckhead
Buckhead Triangle
Downtown Roswell
Emory
Perimeter at The Center
Sandy Springs
South Buckhead

Average Key Metrics

Housing & Transportation Costs: (As a % of median income for metropolitan Atlanta)



Subsidized Housing: 3%

Income Diversity: 0.55 (Breadth of income distribution)

Racial Diversity: 0.50 (Higher scores indicate greater diversity)

Walk Score: 77.9

Transit Accessibility: 4% (Share of population that can access the WalkUP by transit within 45 minutes)

Auto Accessibility: 4% (Share of population that can access the WalkUP by car within 20 minutes)

CHARACTERISTICS

The lowest level of social equity, these nine 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). Arts Center, the least affordable of these WalkUPs, housing and transportation costs consumes 67 percent of an average Atlanta area household's budget. In contrast, we found in D.C. that living in the least affordable WalkUP, Georgetown, would require an average Washington-area household to spend 84 percent of its budget on housing and transportation.
- **The second lowest average level of racial diversity,** albeit with significant variability within the Copper rankings: it includes both Emory, which has one of the highest levels of racial diversity among WalkUPs (probably due to the racially integrated nature of the student population) and Sandy Springs, which has one of the lowest.
- **Counterintuitively, the greatest average income diversity**. However, it includes WalkUPs that do not perform well on this measure, such as Emory (which is skewed toward lower-income households, again, most likely due to its student population).
- **The lowest provision of affordable housing,** with an average of only 3.3 percent of units receiving subsidy.
- **The lowest levels of transit- and auto-accessibility,** with only four percent of the population able to reach these destinations by transit in less than 45 minutes and only four percent of the population within 20 minutes by auto. Buckhead and Buckhead Triangle were the only WalkUPs accessible to more than 10 percent of the population via transit and no Copper WalkUP is accessible to more than five percent of the population via car.
- **The lowest WalkScores,** averaging 77.9 (compared to 82.5, the average for all WalkUPs in the Atlanta region).

OBSERVATIONS

Five of the nine WalkUPs in this tier lack access to MARTA rail transit, with three being located in the suburbs, outside of the I-285 beltway. This significantly limits access to the jobs and services located in these areas. Atlanta's long-range transit plan includes building regional rail to serve Emory, light rail to serve Emory and Sandy Springs, a streetcar to serve South Buckhead and Buckhead Triangle, and bus rapid transit (BRT) to serve Sandy Springs and Downtown Roswell, but none of these projects has been funded and the most recent transportation ballot measure dramatically failed.

The two WalkUPs in this category that is best linked to the regional transit network, Buckhead and Arts Center, is also the least affordable. However, as the loci of a great deal of on-going construction and future development interest, they may also have the greatest opportunity to foster greater equity through inclusionary housing agreements that will increase affordable housing. The same is true of Perimeter at The Center, one of the other WalkUPs in this category that is served by MARTA rail.

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SILVER

Buckhead Village
Cumberland-Core
Georgia Tech
Inman Park
Downtown Marietta
Ponce
Upper Westside
West End

Average Key Metrics

Housing & Transportation Costs: (As a % of median income for metropolitan Atlanta)



Subsidized Housing: 11%

Income Diversity: 0.51 (Breadth of income distribution)

Racial Diversity: 0.49 (Higher scores indicate greater diversity)

Walk Score: 78.1

Transit Accessibility: 7% (Share of population that can access the WalkUP by transit within 45 minutes)

Auto Accessibility: 5% (Share of population that can access the WalkUP by car within 20 minutes)

CHARACTERISTICS

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

- **The second highest household housing and transportation costs** (46 percent of average metro household income).
- **A significantly greater provision of subsidized housing than Copper WalkUPs** (11.1 percent), and better transit- and auto-accessibility, as defined by the metrics above (seven and five percent of the region's population, respectively).
- **Slightly lesser racial diversity than Copper WalkUPs,** though again, with a wide range within the category. West End (with a population that is 90 percent African-American) has the lowest diversity among all WalkUPs, while Inman Park has relatively high levels of diversity).
- **Somewhat worse income diversity than Copper WalkUPs**, though again, with a wide range within the category. This category includes both the most income-diverse WalkUP in the region (Ponce) and the least income-diverse (West End).
- **Slightly higher Walk Scores than Copper WalkUPs** (78.1).
- **Greater accessibility than Copper WalkUPs,** with six percent of the population accessible by transit and five percent by auto (as defined above).

OBSERVATIONS

Six of the eight WalkUPs in this tier (Georgia Tech, Downtown Marietta, Ponce, Cumberland- Core, Upper Westside, and Buckhead Village) lack access to MARTA rail transit, but they are, on average, better connected than those in the Copper tier. Of those six, four (Georgia Tech, Ponce, Buckhead Village, and Upper Westside) are within a short bus ride or long walk to MARTA.

Most problematic in this tier is Cumberland-Core, one of the most important employment centers in the state, but with a location at the Perimeter that is inaccessible to a substantial portion of the region's population (only five percent can access it by transit and only five percent with a short car trip, as defined by the metrics above). However, BRT service is among the priorities for future transit expansion in the region.

Downtown Marietta, which is currently among the least accessible WalkUPs in the region, is also targeted for BRT service.

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GOLD

Atlanta University Center
Centennial Olympic Park
Castleberry Hill
Downtown Decatur
Midtown
Lindbergh
Sweet Auburn

Average Key Metrics

Housing & Transportation Costs: (As a % of median income for metropolitan Atlanta)



Subsidized Housing: 16%

Income Diversity: 0.49 (Breadth of income distribution)

Racial Diversity: 0.56 (Higher scores indicate greater diversity)

Walk Score: 87.8

Transit Accessibility: 14% (Share of population that can access the WalkUP by transit within 45 minutes)

Auto Accessibility: 6% (Share of population that can access the WalkUP by car within 20 minutes)

CHARACTERISTICS

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

- **Among the lowest housing and transportation costs** (40 percent of average metro household income), **substantially below those of Copper or Silver WalkUPs**. The locations within the core of the region and presence of MARTA rail transit in all seven are significant factors in the lower average transportation costs.
- **A much greater provision of affordable housing units than Silver WalkUPs.** An average of 16 percent of units are subsidized in these WalkUPs—in four of the five (Centennial Olympic Park, Castleberry Hill, Decatur, and Atlanta University Center), more than 20 percent of units receive subsidy.
- **Much better transit accessibility** (14 percent) **than Silver WalkUPs**, and slightly better auto accessibility, six percent of the population able to reach the WalkUPs by that mode.
- **Significantly higher Walk Scores than Copper WalkUPs** (87.8).

OBSERVATIONS

Overall, we found there was an inverse relationship between social equity and economic performance (a phenomenon that was also true of WalkUPs in the D.C. metro area), which makes intuitive sense; the better the economic performance, the lower the social equity performance. Downtown Decatur and Midtown are important exceptions to this rule. In addition to achieving Gold in social equity,

Decatur achieved Gold in economic performance and Midtown achieved Platinum in that ranking. Downtown Decatur has both one of the largest provisions of affordable housing among all WalkUPs and among the highest sales-per-square-foot values of for-sale housing prices. The presence of both affordable housing and highly sought-after market-rate units accounts for it also having one of the greatest degrees of income diversity.

Midtown has the greatest income diversity in the region and among the highest levels of transit accessibility, as well as the highest residential rents in the region. The only social equity category in which Midtown is below the regional average is in the provision of affordable housing. As with Buckhead, the intensity of interest in new development may present an opportunity to address this concern through inclusionary housing agreements in new developments.

VII. *Future* WalkUPs

PLATINUM

GSU-Government Center
Peachtree Center
SoNo

CHARACTERISTICS

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

- **Much greater transit accessibility than Gold WalkUPs,** with an average of 20 percent of the region's population located within 45 minutes. They equivalent levels of auto-accessibility (six percent of the population).
- **Dramatically higher Walk Scores than Gold WalkUPs,** including some of the most walkable neighborhoods in the region (94.2).
- **Comparable housing and transportation costs to Gold WalkUPs** (40 percent AMI), still below the threshold for affordability set by the Center for Neighborhood Technology (45 percent).
- **Somewhat greater provisions of subsidized housing units** 22 percent), much greater levels of racial diversity, and slightly greater levels of income diversity than Gold WalkUPs.

OBSERVATIONS

All three of these WalkUPs are highly walkable and highly transit-accessible. While that has not proven as surefire a path to economic performance in Atlanta as in D.C. where economic rankings are driven by walkability, there is strong reason for optimism that this will soon change. As such, these highly socially equitable places are well positioned to move up the economic rankings.

With the proper policies in place, Atlanta has the potential to host more WalkUPs that are both highly valuable and highly equitable. Peachtree Center ranked as Platinum in social equity and Gold in economic performance. A healthy and expansive office market—coupled with the greatest racial diversity and transit-accessibility in the region—are critical factors in this achievement.

Average Key Metrics

Housing & Transportation Costs:
(As a % of median income for metropolitan Atlanta)



Subsidized Housing: 22%

Income Diversity: 0.51
(Breadth of income distribution)

Racial Diversity: 0.77
(Higher scores indicate greater diversity)

Walk Score: 94.2

Transit Accessibility: 20%
(Share of population that can access the WalkUP by transit within 45 minutes)

Auto Accessibility: 6%
(Share of population that can access the WalkUP by car within 20 minutes)

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Future WalkUPs

WalkUPs: The Next Wave

There are more WalkUPs in metropolitan Atlanta waiting in the wings, the vast majority in the suburbs.

In addition to the 27 Established WalkUPs in the Atlanta region, we wanted to determine where the next WalkUPs are likely to emerge. As a result of this analysis, we defined 19 additional places that are either emerging as regionally significant WalkUPs or potentially have a set of assets (land, supportive policy, place management, infrastructure, etc.) that make them well positioned to redevelop as WalkUPs at some point in the future.

There are nine Emerging WalkUPs. These are places that have a sufficient allotment of commercial real estate to be considered regionally significant. Most of these have also made significant investments in walkable infrastructure and have active place management entities that have helped these places make great strides in their transition from drivable sub-urban to walkable urban development. However, in each of these cases, a diffuse, auto-oriented street layout result in lower Walk Scores ranging from 57.0 to 69.3, which is below the 70.5 threshold for WalkUPs based upon the Brookings research.

There are also 10 Potential WalkUPs. These places require significant development and/or redevelopment in order to become either Emerging or Established WalkUPs. However, each of these has some combination of many of following assets that are critical in the rapid development of newly walkable urban places.

- **Major opportunity sites** (e.g. Fort McPherson)
- **Strong transit accessibility** (e.g. College Park)
- **Supportive land use policies** (e.g. Serenbe)
- **Ongoing investment in pedestrian infrastructure** (e.g. Encore Park)
- **Existing walkable development planned, proposed, and/or under construction** (e.g. Encore Park)
- **A strong place management entity** (e.g. East Windward)
- **A long-term vision and early development of a walkable urban form but requires more scale** (e.g. Serenbe)

Brookhaven
Doraville
Gwinnett Place
Hapeville
North Point
Perimeter East
Perimeter Summit
Perimeter West at 400 Town Center

EMERGING WALKUPS

Each of the places identified as Emerging WalkUPs lie outside of the city limits of Atlanta, with six located either largely or entirely outside of the Perimeter beltway. However, four of the Emerging WalkUPs are currently served by MARTA rail and six are managed by Community Improvement Districts, with plans for an seventh CID (in Brookhaven) under consideration. As such, these places have better regional access and more tools for achieving walkable urbanism than many drivable sub-urban areas.

On average, these places have a much larger retail component than any of the Established WalkUP place types, with 31 percent of square footage in that use. This is largely due to the presence of major regional malls in North Point, Gwinnett Place, and Town Center. Office space occupies an average of 21 percent of the total square footage, while residential uses constitute an average of 23 percent of square footage, the smallest share outside of downtown Atlanta. A greater provision of residential real estate would help to encourage the development of more resident-serving retail and services, which will be an essential step toward the advancement of walkable urbanism in these WalkUPs.

While, on average, real estate in Emerging WalkUPs rent for $15.09 per square foot, (compared to $18.45 for Established WalkUPs), these places span the full range of economic performance in the region. At the high end, North Point would qualify as a Platinum WalkUP if it were able to achieve the necessary walkability benchmarks; at the low end, Hapeville and Gwinnett Place would be ranked in the Copper tier.

On the social equity axis, however, Emerging WalkUPs perform almost uniformly poorly: six of the nine would be ranked as Copper and the other three as Silver, with none reaching either of the upper two tiers. Most of these areas were relatively diverse in terms of race and income (with a notable exception being Brookhaven, which is very skewed toward higher income households due to the presence of Brookhaven Club). However, none of these areas have more than six percent of their units in the form of subsidized housing and seven of the nine have no such units at all. In addition, the peripheral locations of most of these areas hurt their performance in transit- and auto-accessibility.

While Emerging WalkUPs have not yet met the walkability criteria, active Community Improvement Districts (CIDs) have helped many of these places make great strides. For instance, Perimeter CID has invested millions of dollars in sidewalk improvement, while North Fulton CID has plans to replace the Encore Parkway Bridge and add pedestrian/bicycle facilities to that roadway in North Point. While these infrastructure enhancements are critical to improving walkability and will lay the groundwork for more walkable urban development. The advancement of supportive land use policies and assistance with recruiting and implementing high-quality development is another function these CIDs are playing in aiding the transformation of these places. Currently, CIDs manage the emerging WalkUPs of Gwinnett, North Point, Town Center, and all three sub-areas of Perimeter.

In addition to these current investments, there are plans and major opportunities related to each of these areas, which may help them become more walkable in the long term. There are unfunded plans to extend MARTA rail to Hapeville and to implement other high-capacity transit lines to North Point, Perimeter Center and Gwinnett, which will improve their regional accessibility and help support development that leverages enhanced pedestrian activity. In Hapeville, there is a 130-acre mixed-use development planned on the former Ford assembly plant that will include Porsche's new North American headquarters. Similarly, there are plans for a mixed-use town center on the site of the now-shuttered GM facility in Doraville. Future opportunity site may include the regional malls that are present in four of these Emerging WalkUPs; in other communities throughout the country, regional malls has been the focus of catalytic walkable urban redevelopment.

College Park
Cumberland-Powers Ferry
East Windward
Encore Park
Ft. McPherson
Kensington Station
Morrow-Southlake
Serenbe
Turker Field
West Windward

POTENTIAL WALKUPS

Potential WalkUPs are places in the region that currently have significant under-utilized land; have a sparse, auto-oriented street grid; lack supportive retail, services, or community amenities; or simply lack the critical mass to achieve walkability. However, each possesses some combination of assets that present strong opportunities to attract walkable urban development to become Emerging, and then Established, WalkUPs in the future.

East Windward, West Windward, Encore Park, and Cumberland-Powers Ferry are all places that were originally developed as highway-oriented, low-density, drivable sub-urban districts. However, each of these places is managed by Community Improvement Districts that are committed to the transformation of these areas to more walkable urban places. North Fulton CID (which includes Encore Park and the two Windwards) North Fulton CID has made major investments into improvements in mobility and pedestrian infrastructure and has played an important role in supporting updated land use policies at the municipal level.

This advocacy has borne fruit, as the City of Milton adopted a transfer of development rights ordinance and form-based code for its portion of West Windward. In addition, development is underway for a new walkable community near Encore Park, which will include 350 units of housing, 750,000 square feet of office space, more than 600,000 square feet of retail, two hotels, and a new campus for Gwinnett Technical College. Cumberland-Powers Ferry, managed by Cumberland CID, has also been the

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focus of major planning efforts and there are plans to construct a BRT line with a station located in this area.

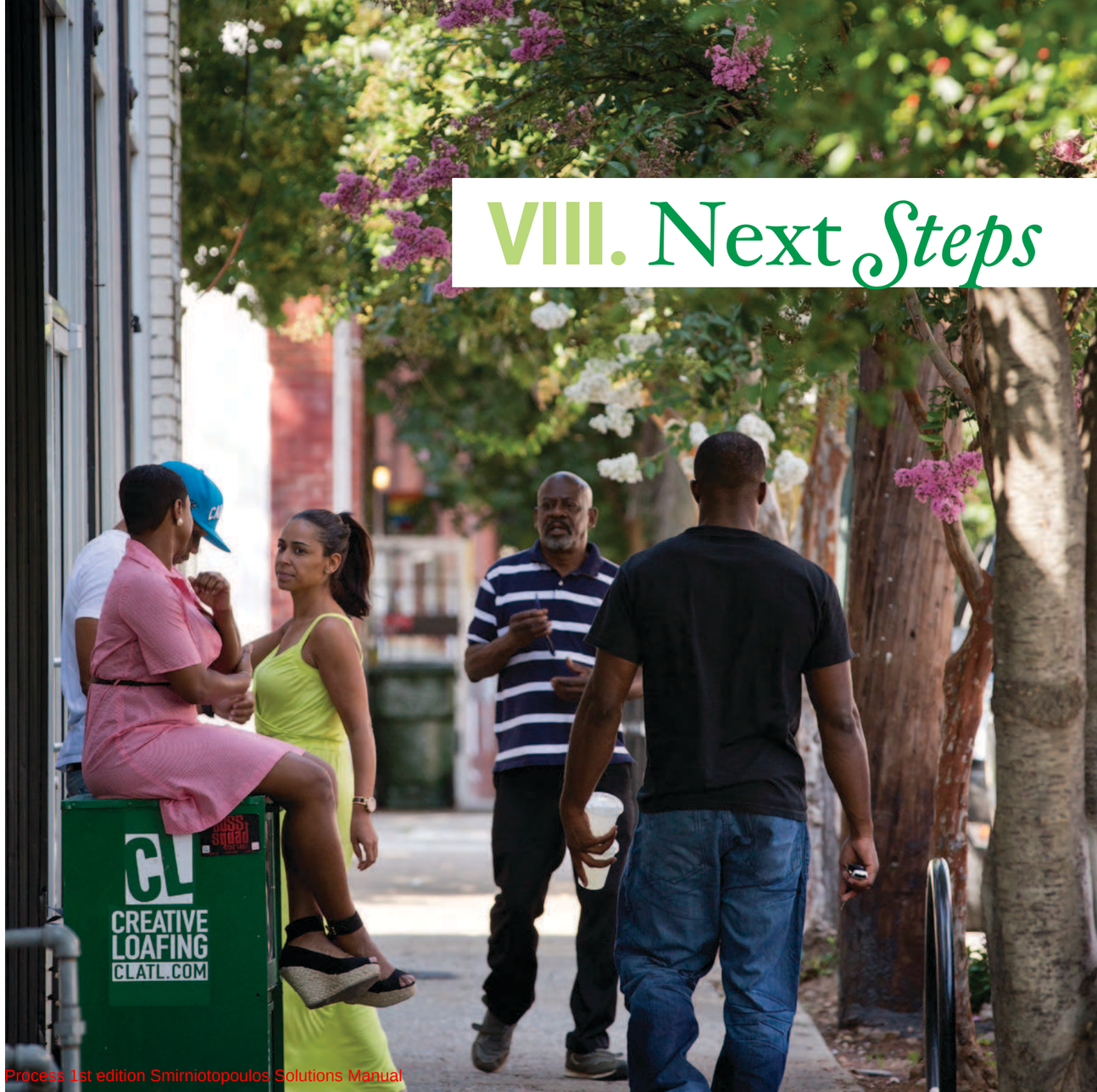
WalkUP Name	Plans/Visioning	Pipeline Development	Major Opportunity Sites	Rail/Bus Rapid Transit Accessibility	Place Management Entity	Zoning in Place	Infrastructure Investment
College Park	x			x	f		
Cumberland-Powers Ferry	x	x		f	x		x
East Windward	x			f	x		x
Encore Park	x	x	x	f	x		x
Ft. McPherson	x	x	x	x		x	
Kensington Station	x			x			
Morrow-Southlake	x			f		x	x
Serenbe	x					x	x
Turner Field	x		x	f			
West Windward	x			f	x		x

Three of the Potential WalkUPs are composed of major, publicly owned opportunity sites, two of which are adjacent to existing MARTA rail stations. Fort McPherson was closed as an Army base in 2011, and plans have been crafted by the McPherson Planning Local Redevelopment Authority to redevelop the area into a mixed-use, transit-oriented community. The first phase of this development is intended to include 3.5 million square feet of lab and office space and 1,747 units of residential development; subsequent phases may include a high-density retail district, a historic district, open space, and an additional 4,000+ units of housing. An experienced walkable urban development team has been selected, including Atlanta-based Cousins Properties and Forest City Enterprises, one of the largest walkable urban developers in the country. Kensington Station has a large vacant parking lot and older residential properties. The DeKalb County government owns a large amount of land nearby and is looking to redevelop that area into walkable urban community, consisting of as much as 2,000 housing units, 150,000 square feet of retail, and 930,000 square feet of office. Finally, a 55-acre surplus of parking lots at Turner Field, adjacent to the redeveloped local-serving Grant Park, represents a significant in-fill development opportunity for which the City of Atlanta has been evaluating development options.

Located in the southern portion of the region near the regional employment center at Hartsfield-Jackson Airport, College Park and Morrow-Southlake are also looking to redevelop as more walkable urban areas. College Park, with its existing MARTA rail station and plan to develop over 500 new housing units and 350,000 square feet of new commercial space, may be better positioned to become a WalkUP in the near term. The lead developer is Jacoby Group, the original developer of Atlantic Station. There are plans to build a commuter rail station at Morrow-Southlake. The Southlake Mall represents an opportunity for catalytic redevelopment, if that plan is implemented.

Serenbe is an innovative Greenfield WalkUP development located at the southern edge of Fulton County. With its focus on walkability, diverse architecture, access to nature, and premier restaurants, it has already become a regional destination for local tourism. While it lacks the critical mass to be an Established WalkUP, plans to attract more employment uses and to develop nearby communities in a similar mold might allow Serenbe to become a regional model for walkable urbanism.

Finally, the potential developments on the BeltLine may prove to be the catalyst for many as yet defined WalkUPs. Acting as a rail transit perimeter, similar to the highway perimeter, the BeltLine is probably the most important rail transit project in the country. The number of WalkUPs resulting from this investment has not been defined but could be between two and four.



VIII. Next *Steps*

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Conclusions & Recommendations

The metropolitan landscape in Atlanta has never before 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 between the two forms of development.

ECONOMIC CONCLUSIONS

Increases in Average Key Metrics

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

Office Rent:
+$3.15/square foot annually

Retail Rent:
+$7.51/square foot annually

Rental Apartment Rent:
+$1.91/square foot annually

For-Sale Housing Price:
+$42.06/square foot

Statistical analysis shows that there are two factors that explain 70 percent of the increased economic performance in the 24 Atlanta WalkUPs.

1

EDUCATIONAL ATTAINMENT

The share of the residential population 25 years or older that has a bachelor's degree or more is a positive indicator of economic performance.

By itself, this variable predicts 57 percent of the variability in average rent among WalkUPs.

2

INDUSTRY PROFILE

The share of jobs concentrated in knowledge industries (NAICS codes 51-55) is a positive indicator of economic performance.

Adding this to the educational attainment explains 70 percent of the increase in rents.

WalkUP place managers and investors/ developers would improve their economic returns by increasing the density of jobs in knowledge industries as well as the education levels of the work force.

The 27 WalkUPs yield a 112 percent rent premiums on a price per square foot basis over the rest of the metropolitan area for all four product types studied: 30 percent for office, 147 percent for retail, 12 percent for rental residential, and 161 percent for for-sale residential. However, we did not find walkability, on its own, to be a significant predictor of variations in economic performance among the 27 WalkUPs.

In the D.C. study, the walkability of a WalkUP was by far the strongest determinant of economic performance. According to a Brookings institution survey in 2007 (which will be updated in late 2013), metro D.C. is the location of the most walkable urban places in the largest 30 metro areas in the country and metro Atlanta was 14th. Thus, this finding may reflect that metropolitan Atlanta is at the beginning of its transformation of providing walkable urban development as a viable alternative and compliment to the dominant drivable sub-urban form so prevalent here. Rome was not built in a day. Just two percent of the built environment is delivered to a metropolitan area in a good year so the introduction of a new development form, such as walkable urbanism, will take decades to make itself evident. This long-term development of walkable urban places, both regionally significant and local-serving, will put an economic foundation under the metropolitan economic for a generation or more—just as the building of drivable sub-urban districts and neighborhood did during the late 20th century when Atlanta was referred to as "Hotlanta."

We did find that both of the two most significant indicators of economic performance were related to the presence of knowledge-based workers. Given that our *D.C. WalkUP Wake Up Call* report found that education and the knowledge economy are the primary drivers of the growth of walkable urban places, emphasis on the building of walkable urban places may prove to be the most effective economic development strategy a CID, city and the region could pursue. There have also been many studies showing the propensity of knowledge workers and the "creative class" to demand walkable urban places, which in turn promotes new ideas, business contacts and a lifestyle demanded by these workers.

The challenge is that while metropolitan Atlanta has a higher than the national average percentage of the work force that is college educated (35 percent in the Atlanta region, compared to 28 percent for the U.S.), many of the region's competitors rank higher. In metro Denver, Portland, Seattle, Boston, and San Francisco, the places ranked two through six in the 2007 walkability survey, an average of 39 percent of workers over the age of 25 are college educated. In the most walkable region, metropolitan Washington, 48 percent of the workforce over age 25 is college educated. The development of more walkable urban places will probably be one catalyst that will attract a more highly educated workforce, hence higher economic performance.

WALKUP INVESTMENT CRITERIA

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 opportunity for improvement to 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 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 and tax-base growth, and increased quality of life resulting from WalkUP development. The first step needed to make this happen is to monitor the increasing economic performance of the jurisdiction's WalkUPs so as to understand the fiscal impact on government revenues. The second step is to make sure the zoning is in place. Crucially, the appropriate infrastructure must be planned and financed in order to make the place more walkable, to increase its job density and to attract an educated workforce.

Lower economically performing WalkUPs may require special attention from the jurisdiction to increase economic and fiscal performance. When dealing with specific projects, long-term public sector investments (i.e. equity invested in real estate), as opposed to upfront subsidies (i.e. grants and low-interest, soft-seconds loans), are more effective. 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.

In contrast, Gold and Platinum WalkUPs are likely to need less in the way of special public financing programs to encourage new development—their relatively high rents are, in most cases, sufficient inducement for high quality walkable urban development. 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. Value capture is essentially a private sector Tax Increment Financing (TIF) program. This is similar to how most rail transit was built in Atlanta a century ago by private developers, using the profits from land development to subsidize the rail transits used to get their customers to the development.

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TRANSPORTATION INFRASTRUCTURE

In the built environment, it is well know that transportation drives development. For the 6,000 years humankind have been building cities, the transportation system the society selects dictates the form of the built environment. Atlanta knows this far better than other metropolitan areas in the U.S. since it has no logical reason to be where it is. The only reason Atlanta exists is that its far-sighted founders and subsequent civic leaders massively invested in transportation, freight rail, passenger rail, highways, and eventually, airports. That one of the early names of the city was Terminus shows the importance transportation has played in the region's economic history.

However, metropolitan Atlanta has been under-investing in transportation in the 21st century. It has been disturbingly under-investing in the rail transit transportation infrastructure that is most needed for walkable urban development, which the market and the economy are now demanding. The region got one of three federal investments in heavy rail transit in the 1970s, the MARTA rail system, yet the system has not been expanded enough, maintained or encouraged to play the economic role it could. Its sister system, Metro in Washington, has played the dominant role in driving economic development for the past 20 years. Unfortunately, the Atlanta region has not seen billions of private-sector development in WalkUPs and unknowable loss of economic development because the rail transit system has not been high priority.

Investing in rail transit in the early 21st century is as important as building the freeways was in the 1960s and 1970s for the economic growth of the Atlanta region. The City of Atlanta has made important steps in this direction with the construction of the Atlanta Streetcar and the development of the Atlanta BeltLine.

SOCIAL EQUITY CONCLUSIONS

Since there is no agreed upon measure of social equity, the development of this social equity performance metric will hopefully allow for more equitable development and management of Established, Emerging, and Potential WalkUPs. If you cannot measure, you cannot manage.

One obvious conclusion is that increased economic performance is associated with lower social equity outcomes.

One obvious conclusion is that increased economic performance is associated with lower social equity outcomes. Buckhead and Perimeter at The Center epitomize this with Platinum economic rankings and Copper social equity rankings. On the other hand, many WalkUPs with high social equity have lower economic performance: GSU-Government Center achieved Platinum in social equity and Copper in the economic rankings.

However, there are exceptions to this phenomenon, and there are lessons to learn from WalkUPs that perform well on both measures. Midtown is the sole WalkUP to score Platinum on economic performance while still performing well in social equity. Peachtree Center ranked as Platinum on social equity, but also scored well in economic performance. In addition, Downtown Decatur achieved Gold status on both rankings. These are all older WalkUPs that have seen significant new development in recent years, but have retained many of their smaller and older buildings, ranging from modest to the very highest rents or sales prices. This could just be part of the evolution from a mix of rents from high to low today to completely gentrified tomorrow, though the significant provision of subsidized housing units in Downtown Decatur and Peachtree suggests that those areas will be able to maintain affordability in the long term.

In their recently released study on regional variations on the likelihood of children of low-income families to rise out of poverty, Chetty, et al. found that class mobility was correlated to several of the factors included in our social equity metric.[4] The degree to which regions were racially and income-segregated was strongly correlated with the likelihood that children raised in the lowest economic quintile would rise to the highest. In addition, a comparison between the regional rankings in mobility and a 2007 ranking of regional walkability suggests that those two variables are also related.[12] The Atlanta region's poor performance in this study of economic mobility (the second worst among regions with more than one million residents) makes consideration of these factors in walkable development all the more critical.

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 social equity goals should be the responsibility of the place management organization and part of its charter from the local jurisdiction. An excellent example of a deliberate strategy to encourage social equity is the establishment of the Atlanta BeltLine affordable housing trust fund and its accompanying policies.

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 higher quality of construction required 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, thinking that the amount of urban amenities outside the home will compensate for the smaller space.

The second and more important reason for higher costs for walkable urban places is land values. Our work in metro D.C. found, for instance, that in platinum level WalkUPs, the land cost as a percentage of the house was at least 50 percent. In most drivable sub-urban housing, however, this cost is less than 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, where there is 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 significant way to address social equity concerns.

NIMBY (Not In My Back Yard) opposition to high-density development is equally responsible for the land shortage. An education campaign must be undertaken to turn the opposition into YIMBYs (Yes In My Back Yard). Recent research is now demonstrating that single-family neighborhood adjacent to successful WalkUPs are achieving for-sale price-per-square-foot premiums of between 40 and 100 percent. This is because these households are living in suburban splendor, yet can enjoy urban excitement (restaurants, retail, transit, and maybe work) within walking distance, which increases their quality of life. However, single-family households, say surrounding Emory University, do not understand the potential quality of life and home value premiums at this point in time.

One of the proven ways of overcoming NIMBY opposition is by having multiple examples in the region of great walkable urban places. People working and living in drivable sub-urban districts and neighborhoods will end up visiting these WalkUPs for an evening out "on the town," strolling down a crowded street after dinner or a show. Eventually they will ask, "Why can't my jurisdiction have a place like that?"

Given a growing understanding of how economically successful WalkUPs can be, we may be able to take advantage of this rising tide of economic activity to pay for social equity performance. Harnessing a portion of the profits and tax-base increases from gentrification to address social equity (a form of "value capture"), could be a strategy to fund affordable housing or pay for the needed rail transit infrastructure.

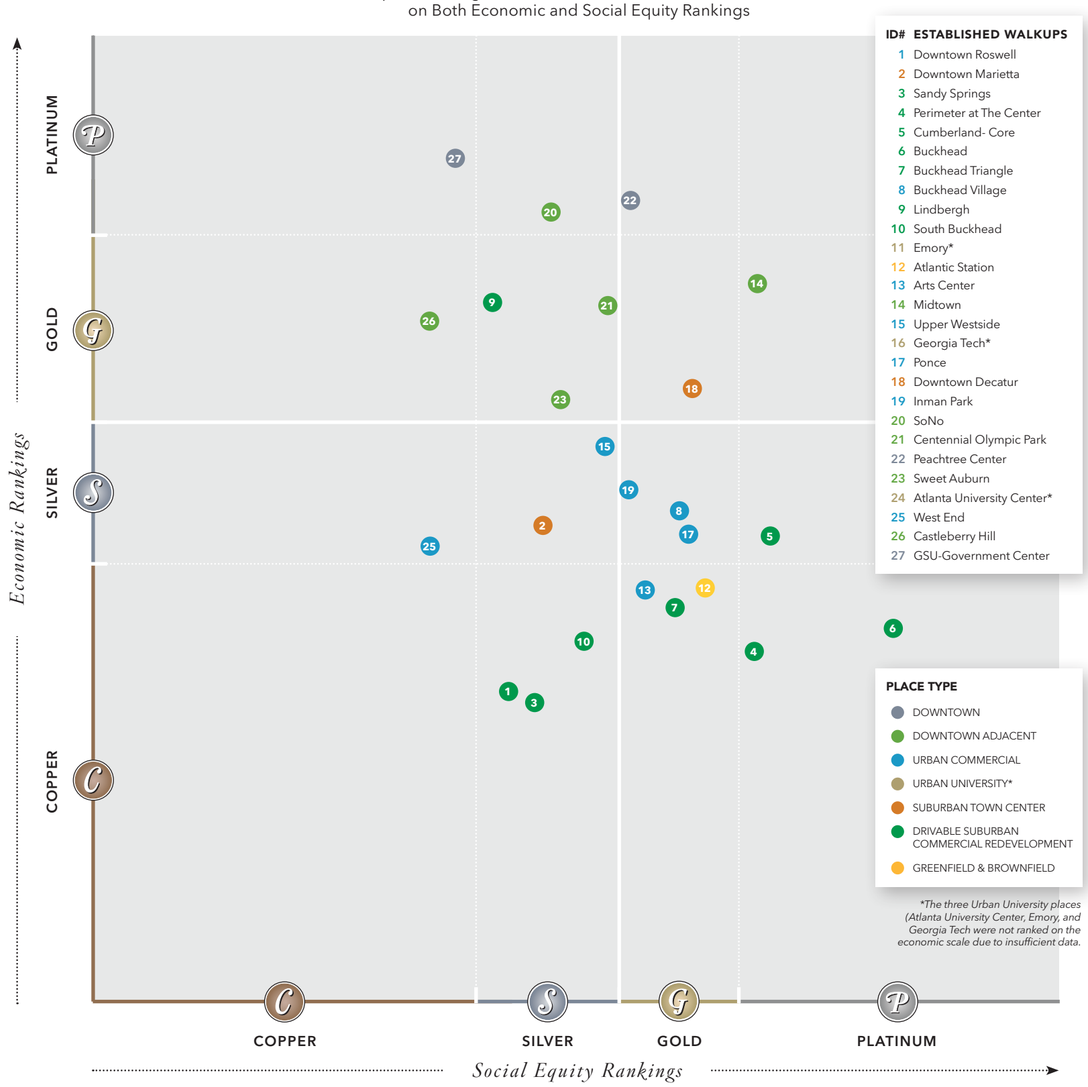
Most importantly, we should recognize that economic success in walkable urban development does not preclude achieving social equity. On the following page we have summarized the performance ranking of the 27 WalkUPs on both economic and social equity in a scatterplot. That Midtown has achieved Platinum on the economic ranking and Gold on social equity, that Peachtree Center ranks as Platinum on social equity and gold in economic performance, while Downtown Decatur has achieved Gold rankings on both demonstrates it can be done. Now that we have the metrics to measure performance—something not available before—the WalkUPs in Atlanta can manage for success in both areas. However, conscious management toward increasing social equity is required for improvements to be made. It is natural to strive for increased economic performance. It takes the intention to balance economic and social equity performance to move to the upper right hand corner of our scatterplot.

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Social Equity vs. Economic Rankings

Scatterplot Showing the Distribution of the Metro Atlanta 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 2013), but longitudinal research will help understand what actions are needed to improve economic and social equity performance over time.
- This is the second installment of what will hopefully be many more studies of walkable urban places in the U.S. and other countries. Comparisons to other metropolitan areas will provide insights into how this market trend is unfolding as well as a larger universe of the seven different types of WalkUPs from which to learn how to improve performance.
- The lack of knowledge of owner-user space is a major handicap in understanding where a significant percentage of business, government, non-profits and others locate, and employees work. It could be any where from 30-50 percent of all employment is not known at present—a huge hole in our understanding of the built environment, infrastructure provision and the metropolitan economy.
- Optimal product mix in a WalkUP is a much debated topic in urbanism 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. Our definition is that a WalkUP is not yet at critical mass if the local jurisdiction needs to provide subsidies or special investment programs to make the next real estate project happen.
- What can be done to encourage development to the south and on the west side of Atlanta, outside of its Favorite Quarter? In metro Washington, there has just recently been market-rate development of a regionally significant nature happening outside the Favored Quarter, a very positive social and development 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. We used the rent per square foot, or the equivalent for for-sale housing values, as a proxy for economic activity, but this is not as robust as a GDP calculation.
- In this analysis we looked how the share of residents that walked or took transit to work affects the economic performance of an area and found the two variables were weakly correlated. However, did not consider the influence of mode split by the workers or customers in an area. In the future, we hope to examine this as a means of testing the hypothesis that there is a value associated with being able to attract a workforce that prefers non-auto-based travel.
- Social equity measures need to be further refined. There are clear and agreed-upon definitions of affordable and workforce housing, but there is no agreed-upon measure of social equity. The only thing we can guarantee about the measure we have developed in this study is that it will be challenged and will be modified with more input and experience.
- The fiscal returns resulting from government investment in infrastructure and operating programs should be continuously measured and analyzed. The measurement of additional government revenues resulting from new investments should be calculated continuously, just as the private sector does.
- Since most of the economic returns from 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.
- Infrastructure costs per supportable square footage for drivable sub-urban districts versus walkable urban places is not understood. Preliminary research shows that drivable sub-urban infrastructure, since it is so spread out, cost many times what walkable urban infrastructure costs, even when rail transit is included in the equation.

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IX. Appendices

Endnotes

1. Metro Atlanta has been defined as the "10-county Atlanta area, including Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties, as well as the City of Atlanta" that comprises the Atlanta Regional Commission.
2. 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.
3. In the 1990s real estate cycle, we included only Arts Center, Buckhead, Buckhead Triangle, Buckhead Village, Castleberry Hill, Centennial Olympic Park, Emory, GSU-Government Center, Midtown, Peachtree Center, SoNo, and Sweet Auburn among Established WalkUPs as the other places had not yet developed as walkable urban. The latter two real estate cycles used the same designations as listed elsewhere in this report.
4. "The Economic Impact of Tax Expenditures: Evidence from Spatial Variation across the U.S.," March 2013. http://obs.rc.fas.harvard.edu/chetty/tax_expenditure_soi_whitepaper.pdf.
5. Krugman, Paul, *The New York Times*, July 29, 2013 (http://www.nytimes.com/2013/07/29/opinion/krugman-stranded-by-sprawl.html?partner=rssnyt&emc=rss).
6. One of the first uses of this phrase in relation to Atlanta was in the CNN documentary in 2000, "Democracy in America" (http://www.timewarner.com/newsroom/press-releases/2000/09/DEMOCRACY_IN_AMERICA_Examines_Where_We_Live_Americas_09-27-2000.php), and it has over one million entries in a recent Google search of "Atlanta, the poster child of sprawl."
7. 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.
8. These two terms employ the logic that "transportation drives development," a principle that has been at work through the 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). There is a third form of the built environment, drivable urban, pioneered in theory by the Swiss architect, Le Corbusier. Best known in this country as "skyscrapers in the park," it was infamously adopted for much of the 20th century public housing and has been judged to be a massive failure, as the demolition of these "vertical slums" demonstrates. China's rapid urbanization is predicated on this form of development and the jury is out on whether this will result in a similar tragedy or not.
9. "Alternative" transportation is a federal term used in many transportation bills referring to every form of transportation, except highways. This ghettoizes the many forms of transportation that have been employed to build civilization for thousands of years.
10. "*DC: The WalkUP Wake-UP Call, The Nation's Capital as a National Model for Walkable Urban Places*," September 2012. http://business.gwu.edu/walkup/.
11. "*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.
12. "*Footloose and Fancy Free, A Field Study of the Walkable Urban Places in the Top 30 U.S. Metropolitan Areas*," December 2007. http://www.brookings.edu/research/papers/2007/12/1128-walkableurbanism-leinberger.
13. 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.
14. The data sources for real estate products in that report included Co-Star (office, retail, sports/convention, health care, institutional, industrial and flex), REIS (rental apartment), Zillow (for-sale housing) and hotel (Smith Travel). In this report, Co-Star was used for (office, retail, sports/convention, health care, industrial, hospitality, and flex), RESI was used for rental apartments, and county tax records were used for for-sale housing.

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Endnotes

15. Arthur C. Nelson, *Reshaping Metropolitan America: Trends and Opportunities to 2030*. Washington, D.C., Island Press, 2012.

16. Walk Score is the most popular and widely available measure of walkability. It is also the measure researchers have most used to measure not just walkability but economics of walkability. It is available throughout the country by specific address and neighborhood at www.walkscore.com.

17. Boundaries and names of all WalkUPs were determined in consultation with the Atlanta Regional Commission, based in part on Livable Centers Initiative applications and on land use patterns, with single-family residential development excluded from these WalkUPs, to the extent possible.

18. Many studies support that walkable urban place infrastructure is less than drivable sub-urban on a supportable price per square foot basis. The most recent is a survey of the literature by Smart Growth America at http://www.smartgrowthamerica.org/documents/building-better-budgets.pdf.

19. 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.

20. 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.

21. In the 1990s cycle, we included only Atlanta University Center, Atlantic Station, Cumberland, Downtown Decatur, Downtown Marietta, Downtown Roswell, Georgia Tech, Inman Park, Lindbergh, and Perimeter at The Center, Ponce, Sandy Springs, South Buckhead, Upper Westside, and the West End as Emerging WalkUPs. Again, the latter two real estate cycles used the same designations as listed elsewhere in this report.

22. The Bay Area Rapid Transit system in California was also constructed during this period, but was primarily locally funded.

23. Here "core of the region" is defined as the area under the administration of the relevant regional planning agency.

24. Richard Florida, *The Rise of the Creative Class* (New York, Basic Books, 2012).

25. A rent-equivalent of for-sale values was calculated by estimating the monthly payments on a mortgage (including principal, interest, taxes, and insurance) for a home of that value. These mortgages were calculated assuming zero percent down payment, since the value associated with building equity and the opportunity cost of that capital investment are not included the rents for any other product type. Other assumptions included 30-year, fixed-rate mortgage at 4.39 percent interest (the average rate available at the time of this research). In addition, homeowners insurance was estimated at $0.50 per square foot annually, mortgage insurance was estimated at 1.35 percent, and property taxes were calculated based on the millage rates for the relevant municipality.

26. While our data shows low apartment rental rates within the WalkUP boundaries, an RCLCO Market Analysis conducted for the Cumberland CID shows that, within a larger geography, apartment rents compare favorably to the rest of Cobb County and the region as a whole, especially among Class A Apartments. This suggests that there may be apartments with higher rents just outside our WalkUP boundaries.

27. Center for Neighborhood Technology, http://htaindex.cnt.org/.

28. Both diversity indices were calculated using the Shannon diversity index.

29. Data was collected from *The National Housing Preservation Database*, created by the Public and Affordable Housing Research Corporation and the National Low Income Housing Coalition, http://www.preservationdatabase.org/.

30. Travel time data for both transit and automobiles was provided by the Atlanta Regional Commission.

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Any mistakes in this report are entirely ours—the efforts of Ellen, Jared and Jim are not to be faulted.

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