Foot Traffic AHEAD

Ranking Walkable Urbanism in America's Largest Metros 2023

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Yardi Matrix

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Smart Growth America
Improving lives by improving communities

Smart Growth America empowers communities through technical assistance, advocacy, and thought leadership to create livable places, healthy people, and shared prosperity. We work with elected officials at all levels, real estate developers, chambers of commerce, transportation and urban planning professionals, and residents to improve everyday life for people across the country through better development.

Places Platform, LLC is an information services company that provides a unified view of both commercial and residential real estate. Our proprietary suite of analytics provides a contextualized understanding of value, risk, and volatility in local real estate markets. Places Platform tells you what "location, location, location" is actually worth.

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Publication Date: January 2023

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Suggested Citation: Rodriguez, M.A. and C.B. Leinberger (2023). Foot Traffic Ahead: Ranking America's Largest Metros, 2023. (Report). Washington: Smart Growth America and Places Platform, LLC. http://smartgrowthamerica.org/foot-traffic-ahead

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INTRODUCTION AND METHODOLOGY

Introduction

In spite of the changes to urban areas brought on by the Covid-19 pandemic, the 2023 edition of Foot Traffic Ahead's research findings demonstrate continued real estate market and consumer preference for walkable urbanism through premiums in commercial rents, multifamily rental rates, and for-sale home prices, compared to drivable alternatives. To illustrate these preferences, Foot Traffic Ahead 2023 benchmarks the range of walkability in the 35 largest metropolitan regions in the U.S. and shows that the market is continuing to seek more well-connected, walkable neighborhoods. This report shows that the demand for walkable, well-connected real estate far exceeds supply; and this imbalance underscores the urgency of policy reform to deliver more mixed-use, mixed-income housing near transit, especially in the midst of today's housing access crisis.

At Smart Growth America (SGA), our work supports our vision of a country where no matter where you live, or who you are, you can enjoy living in a place that is healthy, prosperous, and resilient. While places with Smart Growth elements may each look different, we see many common ingredients including homes of many sizes and price points in an interplay with job locations, offices, retail establishments of all sizes, small businesses, parks, and civic spaces. All of these are brought together in an accessible, welcoming environment scaled for people to easily get around.

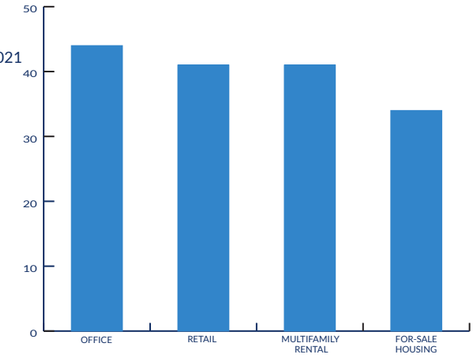
Mixed-use, connected communities are not solely instruments for development and real estate interests; they offer many benefits to regions, cities, and the residents who enjoy living in and accessing these places. When designed to reflect the needs and experience of the community they serve, walkable places create an identity and sense of place for a community, they can also positively impact public health, climate resilience, safety, and, importantly, social justice and racial equity.

But these benefits are not a given. One common consequence of communities with walkable urbanism is that they become unattainable as rising prices only allow those who can afford high-cost housing to access the benefits of these spaces. For example, our research finds that amenity-rich walkable urbanism often comes at a premium due to limited supply—it comprises generally less than 5% of a region's land—and that poses challenges for housing affordability and social equity.

Policy interventions are needed to both protect existing affordability and promote affordability for new construction given the outsized market demand for walkable urbanism. Policymakers are increasingly keen on many tactics to address these issues, including supporting missing middle housing, zoning reform, form-based codes, and other policy remedies that directly focus on affordability.

The lack of walkable places underscores the affordable housing crisis and overall cost of living crisis that nearly every major metropolitan area in the U.S. is currently facing. Housing in the very locations where it is most needed—such as transit-served and infill locations—remains challenging to deliver on account of restrictive zoning, lending policy, and pandemic-era supply chain and labor issues. Some of these barriers to delivering housing originate from the legacy of exclusionary zoning and land use policies, which compound

PRICE PREMIUMS FOR WALKABLE URBANISM VS. DRIVABLE SUB-URBAN, 2021



Source: Smart Growth America; Yardi Matrix; REIS Moody's; Rocktop Partners

segregation and decrease wealth-building opportunities and social mobility for communities of color. Unsurprisingly, this has caused many communities of color to have unequal access to the level of safe, affordable, and amenity-rich housing that is available to other communities.

Additionally, it is important to note the unique circumstances of the moment. With the onset of the Covid-19 pandemic in 2020, the landscape of many neighborhoods shifted dramatically. Many neighborhoods transformed, in some cases temporarily, and in other cases more permanently. Central business districts experienced significantly reduced activity with pandemic-induced telecommuting—creating high vacancy in the downtown office and retail markets that still endures. Meanwhile, small businesses, local parks, and local amenities became critical hubs as many households limited travel and out-of-home contact.

Not surprisingly, the pandemic altered patterns in commercial real estate and housing, and it tempered, though did not undo, many of the price premiums enjoyed by walkable urban real estate. Every region still had a price premium for office and multifamily products, and most had a premium in for-sale housing despite some downward trends since 2019. In some ways the housing affordability crisis in walkable areas worsened given that the pandemic-era supply chain and labor challenges have further exacerbated housing undersupply.

"Walkability" and Inclusive Language

This report analyzes the demand for housing and commercial space in urban areas that can be traversed without a car—a benefit we believe that everyone should be able to access. To explain our findings, we often use the terms "walkability" and "walkable" to describe places that can be conveniently traveled by those using sidewalks, trails, and paths, whether one is walking, using assistive devices like wheelchairs or walkers, pushing strollers, or using some other means to get around without a car. Much of the data in this report utilizes information from the U.S. federal government which groups people using assisted mobility devices in the same category as those that walk to travel, making it challenging to isolate access and the impact on people with disabilities. We continue to look for data that would allow us to better analyze access that includes people of all ages and abilities who choose to walk, bike, or use assistive devices like wheelchairs or walkers.

This year's Foot Traffic Ahead report is an especially important one, as it analyzes a critical point in the midst of the pandemic in 2020 and 2021, with the timeline including the initial recognition of Covid-19 by the World Health Organization (WHO) and the subsequent Omicron wave.

We examine these and other factors in the Social Equity section of this report, where we measure equity along affordability, transit, and walkability access dimensions. There, our findings uncover that our *Foot Traffic Ahead* walkability rankings and Social Equity rankings are not mutually exclusive. There is not an inherent tradeoff between walkability and equitable access to walkable neighborhoods. We found some cities with high cost of living where well-connected transit systems connected a broad range of people to economic opportunities in walkable areas; and we find smaller cities with diverse and affordable walkable areas. When we look at equity across our three dimensions, many regions can be quite affordable for the walkability they have. Ultimately, regions should take strides to encourage the development of more walkable areas. We also call attention to the heightened challenges to affordability in areas with more access to transit and proximity to walkability.

This 2023 Foot Traffic Ahead report is unique because it presents to the public, local policymakers, and urban researchers a systematic, data-driven glimpse into walkability at the metropolitan level, and supporting metrics about how markets respond. Using the most current market and U.S. Census data (generally from 2020 to 2021), we see that walkability continues to be a vital urban form that not only improves quality of life, but improves the fiscal performance of cities and of real estate assets.

By surveying the inventory of office, retail, multifamily rental, and for-sale housing space across the largest 35 metros, and advancing a systematic approach to measuring walkability at the census-block group (CBG) level, we observe a set of rankings spanning from the New York region as our "most walkable" region this year, down to metro Las Vegas as the lowest. When considering what we call the "Future Momentum" of these regions, we see that all regions have great opportunities to enhance walkability through key policy changes like allowing for more mixed-use density all throughout the region, connecting people and economic activity via quality transit and pedestrian infrastructure, and focusing on local affordability at the neighborhood level.

State of the Moment: COVID-19 and Changing Markets

As of production of this report, real estate markets are still in flux as they react to the 2022 inflationary environment, rising interest rates, and concerns around a possible recession. We recognize that data in this report covers U.S. Census data through 2020, and market data through 2021. Thus, many metrics are still "mid-pandemic" and we acknowledge that markets like office, retail, and housing are still evolving to new conditions.

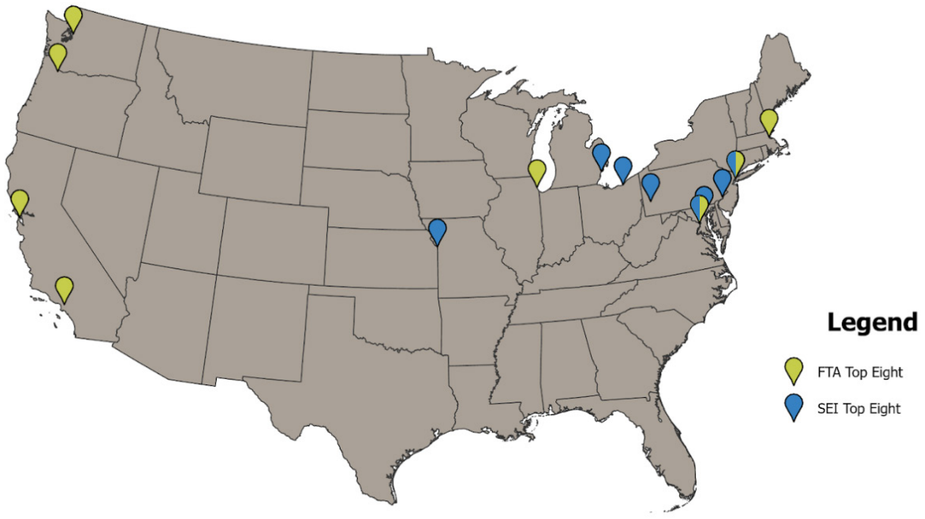
We hope this work, and the recognition of market, regulatory, and cost barriers to walkability, can ultimately lead to the continued uptake of walkable urban places and policy changes that foster the delivery of more affordable, accessible walkable places.

People Continue to Choose Walkable Urban Places

While the dominant narrative during the Covid-19 pandemic has been about fears around urban density and flight from cities, we analyze data that suggest regionally-significant walkable urban places, referred to as "WalkUPs," and walkable neighborhoods are economically resilient. Our research maps these places and assesses walkable and drivable sub-urban places for the largest 35 metropolitan areas down to the Census Block Group (CBG) level.

For decades, many have thought of the land in metropolitan areas and areas outside it as divided into central city and suburban. However, emerging 21st century development patterns suggest that this typology is less meaningful for describing our regions' economies, and we need more comprehensive categories. Measures of both urban form and economic function are critical to move beyond the old city versus suburb division. Thus, this edition of *Foot Traffic Ahead* continues to use the urban form dichotomy of "walkable urban" and "drivable sub-urban." Either of these urban forms of development can occur in both a metro's central city and in the suburbs, so the division between central city versus suburbs has less meaning than most analysts ascribe.

This year's edition has added dimensions to our approach and methodology for the Foot Traffic Ahead series. We now use several different data sources, revised methodological approaches, and include five more metropolitan regions in our rankings. In this report, Smart Growth America and Places Platform, LLC have ranked each metro area by percent of real estate inventory, square footage, and walkable urban development status using data about three product types (office, and rental multi-family products; and for the first time, for-sale housing). Additionally, we now account for how geographically distributed a metro area's walkable places are compared to its size, which can illustrate how easy/effortlessly residents can access these places and navigate daily life without a car. We also evaluate the economic and social performance of walkable places as compared to the drivable sub-urban form of the metro area.



Across regions, these market indicators show that walkable urban places continue to be where the knowledge economy—sectors depending on information rather than goods production—prefers to locate. The walkable urban places have been resilient to the Covid-19 pandemic, though there was a "bump in the road" for some of them, particularly office-dominated downtowns.

When exploring our data we find price premiums for multifamily rental and for-sale housing for walkable urbanism across many metros; and we acknowledge that premiums often translate to increased housing costs, pushing these places out of reach for many. Because walkable urban development is scarce, occupying generally less than 5% of a region's land nearby, housing can be unaffordable. Our Social Equity indicators discussed later in this report acknowledge this and the need for accessible and affordable development in walkable areas .

Our Future Momentum rankings also look at the location in which markets may be headed in the future, and we devote a specific section to the still-ongoing impacts of the Covid-19 pandemic. Overall, we find that people still prefer walkable urbanism as reflected via market prices and leasing activity. Furthermore we find benefits in dense, walkable places existing throughout a region rather than being concentrated in the region's core; and we apply unique GIS-based measures to examine the physical spread of a region's walkable places. Unfortunately, regions have more demand for walkability than they do supply, and this scarcity makes the current housing access crisis all the more acute in well-connected, walkable areas, underlining the need for policy interventions to safeguard affordability.

Form: Drivable Sub-Urban vs. Walkable Urban

During the second half of the 20th century, the now-familiar **drivable sub-urban development** dominated real estate development. These areas are automobile-dependent, have low density (between 0.05 to 0.5 floor area ratio or FAR)[1], and segregated land uses where different product types (office, apartments, for-sale housing, industrial, etc.) are separated from each other. Usually, these places are connected by roads and highways designed for medium- or high-speed traffic for cars and trucks. By the 1980s, only a few regions had other well-connected and predictable public transportation systems.

We have come to know this driveable sub-urban development as "sprawl," and it has become a well-accepted part of metropolitan America and areas around the world. As mentioned above, the drivable sub-urban form can be found in both our suburbs as well as our center cities. For example, many parts of San Francisco are quite sub-urban in nature, while relatively high density can be found in many communities in the New England towns surrounding Boston.

Most real estate developers and investors, government regulators, and financiers are familiar with the drivable sub-urban model; it has remained a successful development formula, a tradable commodity, and macroeconomic driver of economic growth. In addition to real estate growth, this model has fueled the demand for automobiles, drove road and highway construction, powered the oil and insurance industries, and is the foundation of a large part of our financial system. At the same time, this development pattern created significant levels of racial and class segregation, compounding lack of wealth-building opportunities and inequalities that endure to this day.[2] It also created significant fiscal burdens on local jurisdictions' tax base, as Smart Growth America's fiscal impact models throughout the country have illustrated.

By the mid-1990s, starting with the initial redevelopment of downtown and downtown adjacent **walkable urban places**, supported by the New Urbanism and Smart Growth movements, and further sparked by public policy initiatives, there has been renewed market demand for walkable urbanism—a return to the urban forms that were predominant prior to 20th century drivable sub-urban expansion. As previous editions of *Foot Traffic Ahead* have shown, walkable urban places are where much, though not all, of the knowledge economy has chosen to locate and the emerging "experience economy" seems to be following suit.

Walkable urban places have substantially higher densities than drivable sub-urban places, ranging from pre-auto traditional neighborhoods, small-lot single family homes, townhomes and on up to high-rise condos, apartment towers, and major mixed-use development. Importantly, walkable urban places are connected to the broader regional economy via multiple transportation options supplementing automobile travel, such as bus, rail, bicycle, and walking. However, once one has arrived in such a place, most destinations are within walking distance (about a half mile). The most successful walkable places tend to feature elements of Complete Streets,[3] such as narrower street widths, safer design, grade-separated bike lanes, landscape treatments, and multimodal transportation options.

Walkable urban places encompass a range of densities from modest densities (floor area ratios or FARs of 1.0-3.0) towards dense walkable places with FARs of 4.0 to 20, while the highest walkable urban place is Midtown Manhattan at 40 FAR.

Form-based codes (a legally binding land use regulation) are a way to support the more efficient development of a range of housing typologies and product types to allow for flexible mixed-use development by using physical form—rather than separation of uses—as the primary basis and focus for the code and standards. Walkable urban places tend to have mixed-use product types combining office, rental and condominium apartments, and hotels with retail on the ground floor.

Function: How Location Impacts Local Economies

This report assesses and categorizes two types of locations and economic functions within larger metropolitan areas: *regionally significant* and *local-serving*. **Regionally significant** places are where the bulk of the wealth-creating economic growth of a metropolitan area is located. Regionally significant areas bring new revenues from outside the metro area, and are where industries and organizations with "base" or "export" jobs locate.[4] Jobs in these industries produce goods or services that are sold to other regions or abroad, responsible for the wealth of the region. The retail centers here tend to have a larger customer base throughout the region and may often be tourist destinations. Regionally significant places tend to concentrate one-of-a-kind cultural, educational, and sports assets, such as museums, stadiums, and research universities.

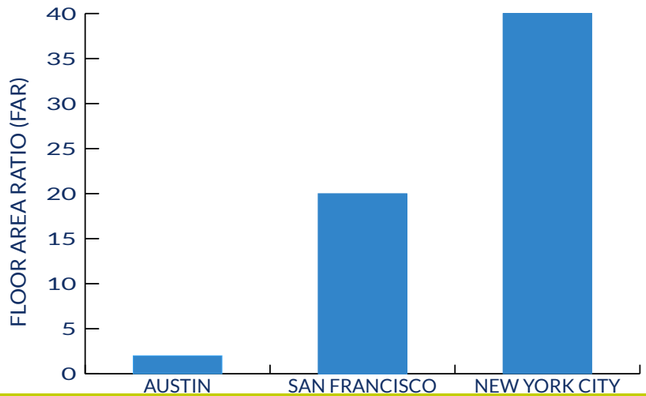
Regionally significant jobs tend to concentrate geographically, a force known as "agglomeration,"[5] and results in the fact that most of a metropolitan area's income is generated in its regionally significant locations. Despite the recent rise of companies allowing their employees to work from home in response to the Covid-19 pandemic, this has so far caused relatively minor impacts.

Each metropolitan area in the country has a suite of regionally significant generators of economic growth; in Seattle it is technology, aerospace and tourism; in Detroit it is automobiles; in Washington, DC it is government, technology, and tourism. Without these regionally significant economic functions, metropolitan areas shrink in population and offer fewer opportunities to residents. We find that in the largest 35 metropolitan areas, roughly one-third of all jobs are in regionally significant locations.

In contrast, **locally serving** places are predominantly residential with complementary commercial development such as grocers, drug stores, small medical offices, and bank branches. They also have local pre-K-12 schools, community-centered activity and social centers, and police and fire stations. Jobs here tend to include school teachers, public safety jobs, grocery store personnel, bank staff, local-serving lawyers, and smaller medical practices.

Locally serving jobs tend to be dispersed throughout the metropolitan area and follow residential housing locations and local population growth. Many local serving jobs tend to pay less than regionally significant jobs and can be highly dependent upon regionally significant jobs. Known as the "ripple effect," as an additional regionally significant job is added, one to three local-serving jobs are created, and vice versa.[6] An example would be how one large corporate office building can support jobs in local lunch eateries, caterers, and facilities maintenance services.

RANGE OF HIGHEST DENSITIES FOUND IN WALKUPS



Form/Function Matrix

Combining the two metropolitan forms (drivable sub-urban and walkable urban) and the two economic functions (regionally significant and local serving) results in a simple four-cell matrix of metropolitan land use. The Form/Function Matrix, shown below, defines all of the land use options available for a metropolitan area, broken down into four "types" numbered I to IV.[7]

New to the Foot Traffic Ahead series, this report now adds measurement of Type II (walkable neighborhoods) in addition to Type I (WalkUPs) that were the focus of previous editions. This gives us a richer view of our metro areas that accounts for places ranging from core downtowns to neighborhoods that have plenty of amenities but do not serve a large, regional function.

We see that walkable urbanism is confined to a very small amount of space ranging from less than 5% of a metropolitan region's land mass, or only 1.2% on average for the largest 35 metropolitan areas.

Drivable sub-urban land use comprises the vast majority of a metropolitan region's land, including housing subdivisions, rural land, and drivable sub-urban office complexes.

	REGIONALLY SIGNIFICANT	LOCAL SERVING
WALKABLE URBAN	**TYPE I WALKUPS** (Walkable Urban Places) Metro Land Area: *Top 35 avg. 0.2%* Range of metro area: 0.1% - 0.5%	**TYPE II WALKABLE NEIGHBORHOOD** Metro Land Area: *Top 35 avg. 1.0%* Range of metro area: 0.1% - 6.2%
DRIVABLE SUB-URBAN	**TYPE III DRIVE-INS** Metro Land Area: *Top 35 avg. 5.2%* Range of metro area: *1.9% - 23.3%*	**TYPE IV DRIVABLE SUB-URBAN** Metro Land Area: *Top 35 avg 93.7%* Range of metro area: *75.6% - 97.9%*

Source: Smart Growth America; Places Platform LLC
Places Platform refers to the Form/Function Matrix as the Places Lens™

Findings of Foot Traffic Ahead 2023

Our findings underscore a continued trend whereby walkable urbanism has become the dominant factor in current and future real estate development across major U.S. metros. This is in spite of some setbacks caused by the Covid-19 pandemic, which we explain in our Pandemic Impact section.

The walkable urban trend is not confined to coastal metros, those with large pre-1940 inventory of walkable urban product, or knowledge economy superstar metros. Walkable urbanism exists in every state, across all regions, and while we focus on the 35 largest metropolitan areas, it exists in smaller towns across rural America as well. No one industry defines these metropolitan areas, though they tend to be hubs for the growing knowledge economy.

The trends in this report can be dramatic as shown by both significant rental price premiums of walkable urban over drivable sub-urban product as well as substantial walkable urban market share gains at the expense of drivable sub-urban product. WalkUPs and walkable neighborhoods both have rental and for-sale price premiums and market share gains, indicating continued pent-up demand for walkable urbanism into the future.

Walkable urbanism will provide as fruitful an economic base for the 21st century economy as drivable sub-urbanism did for the late 20th century and will be far more environmentally resilient by enabling lifestyles that use far fewer carbon emissions via less per-capita household energy use and emissions from driving.[8]

Plus, walkable urbanism can improve quality of life and economic opportunity for low-income households, with high opportunity jobs, civic, and recreational facilities in close proximity to home without requiring the expense and hassle of car ownership.

However, walkable development can only be built with appropriate infrastructure, zoning, and financing mechanisms at the federal, state, and local levels, increased skills and experience by the real estate development community as well as continued community outreach and support for walkable urban development.

Walkability and Form-Based Codes

This report shows that people want to live in vibrant, mixed-use communities that provide a variety of mobility options as well as a variety of housing types. However, these types of places are in very short supply due to the zoning decisions of communities. In most parts of the U.S., new development is limited to low-density single-family homes: in fact, it "is illegal on 75 percent of the residential land in many U.S. cities to build anything other than a detached single-family home."[9] This phenomenon has been codified through "Euclidean zoning," named after the 1926 U.S. Supreme Court case, which is the most common type of land use regulation in the U.S. and separates development by uses such as residential, commercial, and institutional.

As communities across the country seek to manage growth in a sustainable, equitable way, and accommodate the changing desires of residents, form-based codes have emerged as a regulatory framework to guide such growth. While not a one-size-fits-all approach, form-based codes are helping diverse communities unlock a vision for vibrant, human-scaled environments; however, barriers such as political fear stand in the way of adopting form-based codes, hindering the creation of great people-oriented places.

A form-based code uses physical form—rather than the separation of uses—as the organizing principle. To be a true form-based code, the following elements must be included:[10]

- A regulating plan (or map) that designates the locations where different building form standards apply
- Public standards that outline specific elements in the public realm, such as sidewalks, travel lanes, on-street parking, street trees, and furniture
- Building standards controlling the features configurations, facade design and functions of buildings
- A clearly defined and streamlined application and project review process
- A glossary to ensure the precise use of technical terms
- Other elements such as architectural, landscaping, signage, and environmental standards can also be included

Form-based codes often result in an increase in property values, because the kinds of places they create are both in demand and scarce, as illustrated by the findings of Foot Traffic Ahead. In some cases, form-based codes can add to the toolbox to retain existing residents and businesses by leading to the development of a wider variety of housing types including apartments and missing middle units, as determined by SGA's research project, *Zoned In*.[11]

Foot Traffic Ahead finds that there is both significant demand and limited supply of walkable, mixed-use environments across the U.S. Form-based codes are an important tool that can lead to the development of more well-connected, vibrant environments and retain affordability by encouraging the development of a wider range of housing types.

Methodology

Foot Traffic Ahead uniquely brings together data on the built environment, community demographics, and market characteristics using a range of sources. We use government and private sector data sources through year-end 2020 and 2021, as available due to differing data release windows.

Data Sources

Research Partners

Form-Function typology method and data provided by: Places Platform, LLC, PlacesLens™ (2021)

Office, multifamily, and industrial inventory, rent, vacancy, and absorption data provided by Yardi Matrix (2017 to year-end 2021).

For-sale housing price data and research provided by Rocktop Partners, LLC (2018 to year-end 2021).

Destination points of interest data provided by:

American Enterprise Institute Housing Center, Walkable Oriented Development Database (2022)

Commercial Data

Retail inventory, rent, vacancy, and absorption data provided by: REIS Moody's (2017 to year-end 2021).

Government Data:

Population, housing tenure, race, educational attainment, housing units, and housing burden from: U.S. Census Bureau, American Community Survey 5-year estimates (through 2020).

Walkability and transit data from: U.S. EPA Smart Location Database (2021)

Census Block Groups (CBG) from: U.S. Census Bureau TIGER Shapefiles (2020)

Employment data from: U.S. Census Bureau LODES (through year-end 2019)

Gross domestic product (GDP) for metropolitan areas from: U.S. Bureau of Economic Analysis, (2020) and Places Platform, LLC (for CBG imputation).

Data Limitations

It should be noted that the *Foot Traffic Ahead* series, including this 2023 report, does not account for a metro area's owner-user commercial space. Owner-user space is real estate that is owned and occupied by a business, government institution, or nonprofit organization. Many organizations own and occupy their own real estate, such as the federal, state, and local governments, universities, medical centers, and large corporate offices and factories. Thus, these spaces do not appear in a commercial real estate data set that is based on leasing activity. We estimate that possibly 30% to 40% of the U.S. commercial real estate market is of this type, though no one knows for certain since there is no national database of owner-user space.

Secondly, the Moody's retail data was limited by lack of retail data for the New York and Virginia Beach metros. We have retail rental data for 33 of the 35 metros which are used in this report for rent premiums. We impute New York and Virginia Beach retail inventory based on relationships with retail employment.

Finally, while we had data for inventory and absorption going back to 2017, rent price data was only available starting in 2018. Our for-sale housing dataset also starts in 2018.

STEP 1:
Defining Regions And Geography

Our study looks at the 35 largest metropolitan statistical areas (MSAs) based on population per the 2020 U.S. Census American Community Survey (5-year). For the purposes of this report, we have made two important adjustments based on the manner in which real estate markets interact. For the Los Angeles-Long Beach MSA, we have appended the Riverside-San Bernardino MSA and refer to it as "Los Angeles." For the San Francisco-Oakland MSA, we have appended the San Jose-Sunnyvale-Santa Clara MSA and refer to it as "San Francisco." For analysis purposes, we use the most recent 2020 U.S. Census Block Group (CBG) definitions as the core unit of analysis.[12]

STEP 2:
Defining Regional Significance

We use several data points at the CBG level in order to define what we mean by regional significance. There were several "tests" whereby a CBG could qualify as regionally significant. A CBG would be defined as such if it meets any one or more of these three tests:

Test 1 - Major Points of Interest: CBG contains a significant part of a U.S. military installation;[13] or a large- or medium-sized airport; or a higher-education institution with at least 1,000 students.

Test 2 - Jobs and Economics: CBG Is in the metro area's top 2.5% in terms of job density; or GDP share; or net inflow of regional employees based on commute patterns.

Test 3 - Real Estate: CBG has at least 1.2 mil. sq. ft. of office space; or 340,000 sq. ft. of retail space.

STEP 3:
Defining Walkability

We use two data sources to define walkability. First, we use the EPA Smart Location Database 2021 National Walkability Index (NWI),[14] which is based primarily on intersection density, transit proximity, and land use mix. Secondly, we use AEI Walkable Oriented Development (WOD) data,[15] which defines path-based half-mile buffers around important points of interest. We developed a separate "WOD Index" based on this data, which is the share of a CBG that is considered a WOD weighted by the number of points of interest present. Again, we have three tests, and a CBG could be defined as walkable if it met any one or more of these three tests.

Test 1 - EPA NWI: CBG is in the top 15% of its metro's CBGs by NWI.

Test 2 - WOD Index: CBG is in the top 15% of its metro's CBGs by WOD Index; and has an intersection density above the national median.

Test 3 - CBG is in the top 5% of its metros's CBGs by WOD and has a NWI that the EPA considers "walkable" (equal to 10.51, which EPA states is above average).

STEP 4:
Vetting Definitions

We recognize that no one methodology or data-oriented approach can be a perfect view of what people perceive as walkability or regional significance. For this report, the SGA and Places Platform team convened a group of regional experts to provide "ground truth" to the data in each of the MSAs. Based on this process, we adjusted the regional significance or walkability definition for about 9% of the CBGs out of 110,989 in the data set. This finalized our typology definitions.

STEP 5:
Ranking The Metros

The walkable urbanism rankings in the 35 largest metros are based on the share of combined office, retail, multifamily, and for-sale housing that is located in walkable urbanism (either Type I or Type II). For these product types, we report each individual share and a combined share.

To develop our *Foot Traffic Ahead* Index (FTA Index, or Current Index) for our final rankings, we weigh each share by the region's product mix in Type I and Type II respectively, and for a combined Type I plus Type II. The combined walkable urbanism shares are the basis of our *Foot Traffic Ahead* Index. We translate this index to be a range from 0 to 100 with a mean of 50, and use this index for our rankings.[16]

The *Foot Traffic Ahead* Index represents the share of our product types in walkable urbanism, weighted to reflect the product mix that is in walkable urbanism. This mix weighs commercial space (office, multifamily rental, and retail) more than for-sale housing, as compared to the region as a whole. These weights were selected because they more accurately reflect the form and function of walkable urbanism.

For informational purposes, we also provide breakouts by Type I and Type II rankings in the Appendix.

METROPOLITAN RANKINGS

This study identifies walkable urban areas in the 35 largest U.S. metropolitan regions—and ranks the regions according to their current walkable urbanism.

Small Size, Big Benefits

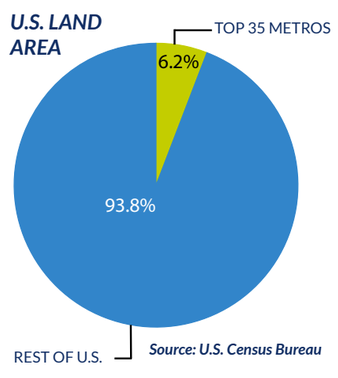
The 35 largest metropolitan areas in the U.S. have a population of 165 million people, or about half of the U.S. population. While these 35 metro areas make up a small percentage of land area (just 5.8%), they accounted for 55% of U.S. real GDP in 2020. While 2020 was a unique year for the economy due to the Covid-19 pandemic, these shares are consistent with previous Foot Traffic Ahead editions.

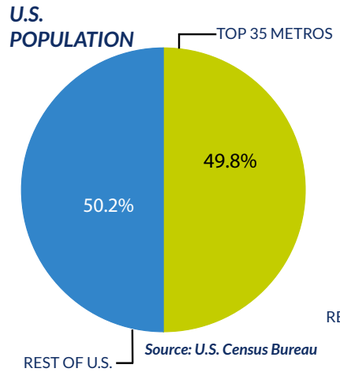
Overall, Type I (WalkUPs) are about 0.2% of all the land in the largest 35 metros, while Type II (walkable neighborhoods) are about 0.9%. Collectively, walkable urbanism accounts for about 1.2% of the land within the largest 35 metropolitan areas. Their range is widely different across metros, with walkable urbanism collectively accounting for between 0.1% to 6.5% of regional land area among them. Their economic activity as well as number of residents, jobs, etc. far outperforms this small percentage.

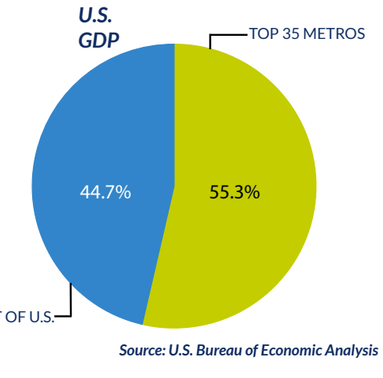
When we add up our estimates of GDP produced in each CBG, we find that **walkable urbanism in the largest 35 metros accounts for 19.1% of all U.S. real GDP in comparison to only being a tiny fraction of U.S. land, or 1.2%,[17] and contain 6.8% of the U.S. residential population.** Walkable urbanism plays a critical role in each metro region and for the nation as a whole.

Because walkable urbanism is where a large share of GDP is produced, it also naturally accounts for an outsized portion of a region's tax revenues from both land values and other taxes like sales taxes, restaurant food and beverage sales, and hotel occupancy taxes. Previous SGA research with many cities and towns across the U.S., using SGA's "fiscal impact tool" and a collaboration with the U.S. EPA on a forthcoming Fiscal Impact Estimator tool, indicate that downtowns and walkable areas are places that generate much of the economic base and serve to subsidize local serving, low-density areas such as Type IV drivable sub-divisions.

Walkable urbanism is where mixed-use, higher-density development is found, whether in downtowns, suburban town centers, innovation districts, or high-amenity neighborhoods. These places have a high concentration of economic activity and jobs, as well as rental and for-sale housing premiums, as compared to drivable sub-urban locations.







Foot Traffic Ahead 2023 Rankings

About 16% of all office, multifamily rental housing, retail, and for-sale housing across these 35 metros is in walkable urban places (WalkUPs/Type I or Walkable Neighborhoods/Type II). However, there are significantly different proportions between these different product types in walkable urban places. Office has the highest concentration in walkable urban places by far (42.1% of all office in the largest 35 metro areas is in walkable urban places), followed by multi-family rental (30.4%), retail (18.5%) and the lowest is for-sale residential (11.6%). Since about 80% of the square footage of these four product types are for-sale housing, the weighted average of all walkable urban space is substantially reduced.

This wide product mix difference has been pronounced by the pandemic; for example, the "work from home" phenomenon has particularly hurt the office product type in general. Office space tends to strongly favor walkable urban places in some of the top metro areas in our rankings – five cities, all in the Top 10, had the majority of their office space in walkable urban places: New York, Washington, DC, Los Angeles, San Francisco, and Seattle. In the case of metro New York City, a staggering 73% of all office space in the region is in walkable urban places, due to the preponderance of corporate headquarters, the largest finance concentration in the world, and the second largest technology concentration, all of which tend to demand walkable urban places. Multifamily rental housing also tends to concentrate in walkable urban places in the most highly ranked walkable urban metro areas. In metro New York City, 70% of all multifamily rental inventory is in walkable urban places, followed by Chicago (45%) and Boston (44%). This high concentration of multifamily rental housing is particularly pronounced in Walkable Neighborhoods (Type II places).

By contrast, retail space is more dispersed, with the walkable urbanism share higher in certain markets like New York (59%) and Miami (30%)—but it tends to be lower across the board, with a weighted average of 19% across these 35 metro areas. Part of the reason for the lower percentage of walkable urban retail is the difficulty of building big box retail in walkable urban places, although some companies like Target, Best Buy, and even Home Depot's Manhattan locations have made progress in doing so.

Finally, these 35 metros tend to have less (16%) of their for-sale housing stock in walkable urban places, which takes the form of small lot single-family homes, townhouses, and attached condos. This reflects the overwhelming late 20th century drivable sub-urban homebuilding patterns and especially zoning, which mandated only sprawl as the default mode of housing development in many communities. Drivable sub-urban housing takes up by far the largest amount of land in these 35 metros, approximately 90%, and the low density zoning and NIMBY opposition has not allowed the market to produce walkable urban product without years of legal and neighborhood battles.

The leader in walkable urban housing is Boston (24%), in part because of the large percentage of pre-World War II homes built when the default development mode was walkable urban. Metro Boston is followed by metro New York, Portland, and San Francisco. It is probable that this pre-World War II housing stock will all be returned to its walkable urban roots in most or all of these 35 metros over the next decade or so, through the addition of small scale retail and other commercial back into these neighborhoods, which is followed by households investing substantial sums in rehabilitation of these houses.

It is important to note that planning for, financing, and constructing walkable urban development is fundamentally different from drivable sub-urban development. There are very different skill sets for these two approaches to real estate; different site acquisition, construction, zoning, transportation, parking, financing, management, and investment time horizons. If a drivable sub-urban developer or investor, using the decades of drivable sub-urban "rules of thumb", tried to use their experience to build a walkable urban development, they would fail spectacularly. This is the reason why for-sale homebuilding companies tend to have different operating divisions to build drivable sub-urban product versus walkable urban product.

Metropolitan Rankings

REGION	RANK	OFFICE SHARE	MULTIFAMILY RENTAL SHARE	RETAIL SHARE	FOR SALE SHARE	COMBINED SHARE	FOOT TRAFFIC AHEAD INDEX
New York	1	73.2%	70.3%	59.1%	17.9%	35.1%	100
Boston	2	47.3%	44.4%	11.2%	24.6%	27%	74.3
Washington, DC	3	55.6%	34.1%	12.4%	8.6%	15.5%	72.6
Seattle	4	60%	37.1%	19.4%	12.4%	18%	69.4
Portland	5	54.3%	36.7%	26.7%	20.8%	24.1%	68.5
San Francisco	6	38%	35.4%	22.2%	21.2%	24%	66.2
Chicago	7	52.7%	44.8%	10.8%	15.2%	18.7%	65.9
Los Angeles	8	42.3%	30.5%	21.3%	17.3%	19.6%	59
Pittsburgh	9	51.4%	27.7%	6.6%	11.9%	14.3%	57.2
Philadelphia	10	39.7%	25%	7.8%	16.2%	17.2%	55.1
Minneapolis-St. Paul	11	37.8%	30%	6.2%	9.8%	13.%	54.4
Miami	12	36.9%	24.7%	30.4%	14.3%	16.7%	54.2
Charlotte	13	39.9%	14.3%	11%	2.2%	5.4%	51.7
Austin	14	33.7%	19.9%	22%	6.7%	11%	50
Atlanta	15	37.6%	15.1%	10.4%	2.7%	6.1%	49.4
Denver	16	33%	23%	6.5%	10.6%	12.6%	48.7
Cleveland	17	37.4%	17.6%	6%	3.8%	6.4%	47
Houston	18	38.5%	13.4%	7.2%	5%	7.7%	46.6
Columbus	19	36.5%	11.3%	11.4%	5%	8%	46
Baltimore	20	33.1%	18.8%	8.2%	7.8%	10%	44.7
Kansas City	21	31.1%	12.8%	6.3%	2.7%	5%	44.1
Nashville	22	34.5%	13.7%	2%	4%	5.9%	43.5
St. Louis	22	33.3%	20.2%	5.4%	7.1%	8.8%	43.5
Sacramento	24	30.5%	7.3%	4.9%	4.5%	6%	40.4
Cincinnati	25	30.5%	11.1%	6.2%	3.9%	5.7%	40
Detroit	26	24.4%	8.7%	0.8%	1.9%	3.3%	39.2
Dallas-Fort Worth	27	24.4%	10.8%	8%	3.4%	5.8%	38.9
San Diego	28	15%	13.1%	5.8%	8.4%	8.9%	37
Indianapolis	29	23.9%	7.3%	5.5%	1.9%	3.5%	36.4
Tampa	30	21.1%	11.7%	5.1%	6.6%	7.4%	35.4
Virginia Beach	31	17.5%	6.3%	14.3%	2.6%	4.4%	34.5
Phoenix	32	17.9%	9.3%	3.8%	1.7%	3.2%	33.6
Orlando	33	19.8%	8.4%	6.3%	3.7%	5%	32.4
San Antonio	34	15.1%	5.5%	5.2%	2.3%	3.3%	29.4
Las Vegas	35	6.5%	4.4%	7.4%	1.4%	2.5%	27.5
WT. AVG		42.1%	30.4%	18.5%	11.7%	16.3%	22.6

Level 1: Highest Walkable Urbanism

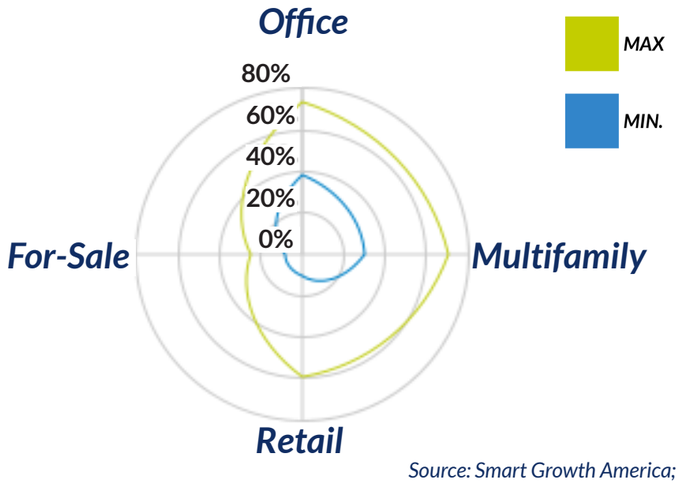
New York
Boston
Washington, DC
Seattle
Portland
San Francisco
Chicago
Los Angeles

Range for Walkable Urban Shares in Top 35 MSAs

As a percentage of the entire market

Office: 38-73%
Retail: 11-59%
Multifamily: 31-70%
For-Sale: 9-25%
Combined: 16-33%

The most walkable urban metros tend to be on the coasts, with the notable exception of metro Chicago. These are the largest concentrations of knowledge economy industries driving the U.S. economy, including technology, finance, tourism and professional services. Many metro areas at the top of this list have large, historic rail transit networks and a history of more compact urbanism that predates 1940, when the default mode of development was walkable urbanism. They also have relatively less late 20th century drivable sub-urban development. Boston, Washington, DC, Chicago, and San Francisco are consistently at the top of U.S. regions in terms of transit ridership which enables much of the walkable urbanism and transit-oriented development these regions have.



Source: Smart Growth America; Places Platform LLC

The New York City metro area is ranked first for current walkable urbanism, as it has been in all previous editions of Foot Traffic Ahead. New York has a reputation as a walkable urban metro; however, much of that reputation is based on the city's core, especially Manhattan. Much of the surrounding metro area is substantially less walkable in northern New Jersey, Long Island, and the southern Hudson Valley.

Washington, DC has a rail network that started being built in the late 1970s but continued to expand for the past 50 years, resulting in a dispersion of walkable urban places throughout the region. This resulted in the walkable urban transformation of the suburbs, including Tysons, VA, the prototypical drivable "Edge City" of the 1980s which now has Metrorail stations that are a catalyst for walkable urban building. This urbanization of the suburbs is also a key momentum trend for future walkable urbanism.

Among the top metros, transit emerges as a key thread. Metro Chicago shows walkable urbanism along its Metra and CTA network extending far past the center city. In metro Boston, the T transit system anchors walkable urbanism in both the city and urbanized suburbs, like Cambridge and Somerville, and commuter rail network links New England-style town centers throughout the region. The San Francisco Bay Area (which we include with San Jose), benefits from the BART, Caltrain, and MUNI rail systems with some notable non-transit town centers in urbanizing suburbs like Santana Row in San Jose.

Metro Portland and Seattle share a Northwestern environmental commitment that encourages walkable urbanism, which is generally understood to be a top approach to addressing climate change. This environmental consciousness also resulted in the only two "urban growth boundaries"[18] in the largest 35 metros, limiting drivable sub-urban sprawl and focusing on transit-oriented development (TOD).[19]

Lastly, Los Angeles ranks as number eight in our FTA Index. This may come as a surprise because it is often associated with freeways and car culture. However, it is the most densely populated metro in the U.S. and there is an understanding that they have reached the limit of freeway expansion as a part of their transportation system. However, the LA region had the longest rail transit system in the world in 1945, which was eliminated by 1962. The region has recently built, and continuing expansions to, a new regional transit system, investing $180 billion of locally-raised funds. Many walkable urban places like downtown Los Angeles, downtown Pasadena, Santa Monica, Burbank, Long Beach, and Riverside, were originally laid out as walkable urban places which are now the core of their new walkable urban development.

Metropolitan Rankings

Level 2: Upper-Middle Walkable Urbanism

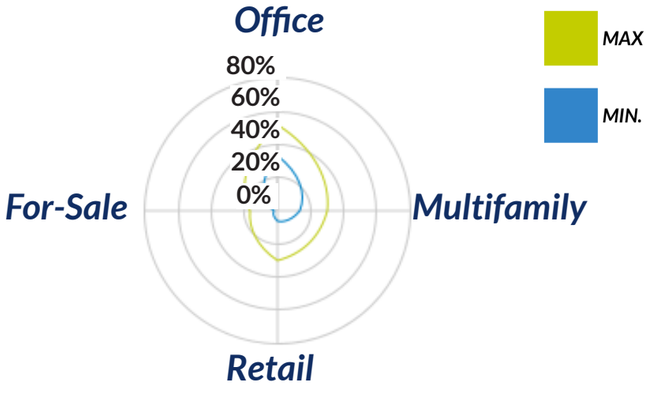
Pittsburgh
Philadelphia
Minneapolis-St. Paul
Miami
Charlotte
Austin
Atlanta
Denver
Cleveland
Houston

Range for Walkable Urban Shares in Top 35 MSAs

As a percentage of the entire market

Office: 33-51%
Retail: 6-30%
Multifamily: 13-30%
Single Family Housing: 2-16%
Combined share: 5-17%

The second grouping in our walkable urbanism rankings is one that is heavily based on the inclusion of Type II Walkable Neighborhoods, new in this year's Foot Traffic Ahead. The real estate and development markets have re-discovered early 20th century housing stock in the central city, which was built as walkable urban neighborhoods initially but reverted to Type IV drivable sub-urban districts as walkable retail left during the late 20th century. These areas re-emerged as walkable urban places due to the location of modern commercial amenities, many times occupying the very structures that were retail establishments 100 years ago. There has been a re-emergence of "walkable villages within a big city" throughout the country, especially in these Level 2 tier metros. Of course, we recognize that some of this revitalization led to gentrification, as well as class and social-based displacement; we explore this idea further, and lift up communities which have preserved affordability in the context of walkability, in our Social Equity section.



Source: Smart Growth America; Places Platform LLC

Many of these walkable neighborhoods saw significantly more foot traffic during the pandemic, as knowledge employees worked from home and began to regularly frequent local businesses for everyday needs on weekdays. As many office-based organizations now operate with a hybrid model requiring two-to-four days in-office per week, these walkable urban neighborhoods will see increased local-serving retail and increased viability for a wider variety of types of businesses, such as lunch-oriented restaurants, coffee shops or stores catering to home business needs.

Pittsburgh and Philadelphia are at a near tie, underscoring that these places have a combination of Type I WalkUPs, particularly urban universities (University of Pennsylvania and Temple in Philadelphia; and University of Pittsburgh and Carnegie-Mellon in Pittsburgh) and many Type II walkable neighborhoods from the late 19th and early 20th centuries. Denver and Minneapolis-St. Paul are very comparable metros that have recently built and expanded rail transit, and have had significant success in attracting a highly educated workforce in recent years.

Booming Sunbelt metros in this level include Miami, Charlotte, Austin and Atlanta, and Houston, all dominated by drivable sub-urban development for a half century, are now adding WalkUPs and walkable urban neighborhoods.

The Miami region, like Los Angeles, shares a history of an initial early 20th century boom around rail transit in urban towns such as West Palm Beach, Boca Raton, Fort Lauderdale, Coral Gables as well as downtown Miami. Atlanta stands out as a unique example in this tier as a booming drivable sub-urban Sunbelt metro area that is finally taking the advantage of its 1970s MARTA rail transit system. The success of transit-served Midtown and Buckhead was a precursor to transit-oriented redevelopment of Type I WalkUPs like the suburban perimeter. One of the most important models of infrastructure repurposing, comparable to New York City's High Line, is the BeltLine, a 22-mile multi-purpose trail that serves as an example of building walkable urbanism along alternative transportation corridors.

In Texas, Houston is usually thought of as a classic example of drivable sub-urbanism for 75 years, particularly since it is the energy capital of the world. However, downtown Houston has been slowly redeveloping while downtown-adjacent places (Midtown, 4th Ward, Museum Park), urban commercial (Montrose and Texas Medical Center) and urban university (University Place around Rice University) have exploded with recent development. Limited walkable urbanism outside of downtowns have been the centers of master planned communities,[20] especially Woodlands and Sugarland.

Austin has emerged as one of the top metro areas in the country for technology and entertainment, building on its previous foundational developments: the state capital and the University of Texas. The area has seen extraordinary growth and a surge in housing prices during and since the pandemic. Most of the walkable urban places are in the downtown or downtown-adjacent places other areas having only a few walkable places, such as the Mueller New Urbanism development on the site of the former airport, for example.

Finally, metro Cleveland ranks at the end of this tier, as it has generally only seen walkable urban development in the center city, focusing on downtown, downtown-adjacent places (The Flats), urban commercial places (Ohio City) and urban education places like University Circle, anchored by Case-Western Reserve, world class hospitals, and numerous museums. Cleveland has limited rail transit, which inhibits further walkable urban development, but its Bus Rapid Transit (BRT) HealthLine is an example of expanding opportunity through greater transit investment.

Level 3: Lower-Middle Walkable Urbanism

Columbus
Nashville
Baltimore
Kansas City
St. Louis
Sacramento
Cincinnati
Detroit
Dallas-Fort Worth

Range for Walkable Urban Shares in Top 35 MSAs

As a percentage of the entire market

Office: 24-37%
Retail: 1-11%
Multifamily: 7-20%
Single Family Housing: 2-8%
Combined share: 3-10%

Level 3 is divided between Midwest metros repositioning their historically industrial economies by redeveloping walkable urban places, and Sunbelt metros attempting to introduce walkable urbanism for the first time in generations. The post-industrial metros of Columbus, Baltimore, Kansas City, St. Louis, Cincinnati, and Detroit all have limited rail transit, so they do not have a transit catalyst for developing walkable urbanism. Metro Columbus is ranked the highest in this level due to its knowledge-based economy centered around the Ohio State University and the state capitol.

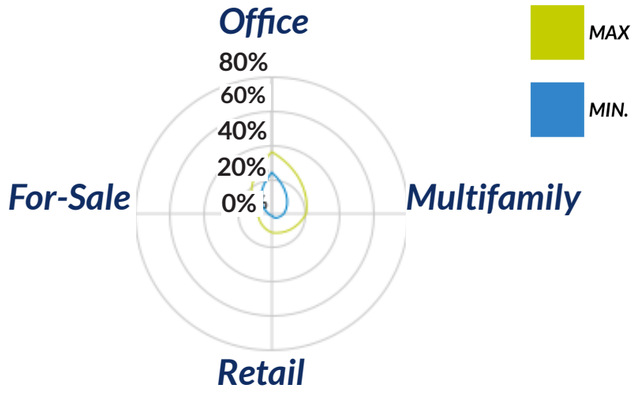
Baltimore continues the revitalization of its downtown-adjacent walkable areas like the Inner Harbor, Federal Hill, Fells Point, and Locust Point. There has been limited growth of walkable urban places outside of those areas, as more focus has been placed on downtown Columbia, Annapolis, and Towson. Metro St. Louis has a walkable urban downtown, downtown-adjacent places (Lafayette Park), and urban university (Cortex, a highly successful Innovation District, and West End), but has limited growth of walkable urban places, confined to a few places like University City, Kirkwood, and St. Charles. A competitive and similar metro, Kansas City, is revitalizing its downtown and downtown-adjacent walkable urban places, such as Crossroads (focused on the arts) and River Market, and highly successful urban commercial places, particularly Country Club Plaza, Old Westport, and Southmoreland.

Metro Cincinnati is similar to St. Louis and Kansas City with limited rail transit and most walkable urban places confined to downtown and exceptional downtown-adjacent walkable urban places (particularly Over-the-Rhine and downtown Covington, KY) and WalkUPs in University Heights. There are virtually no other walkable urban areas.

We see a resurgent economy in metro Detroit over the past decade, though starting at a low ebb, driven by remarkable downtown revitalization which further energized downtown-adjacent places (Mexicantown, Corktown, Lafayette Park) and urban university (Midtown) walkable places. The urbanization of the suburbs in Detroit had been limited to downtown Birmingham for decades but the emerging downtown Royal Oak and Ferndale are recent local suburban models.

In the Sunbelt, Dallas-Fort Worth, like Houston, is a longstanding example of drivable sub-urbanism over the past half century during its rapid expansion. However, there are many examples of WalkUPs and walkable urban neighborhoods in Dallas-Fort Worth that counter this image, driven in large part by extensive investment in rail transit. Both downtowns in this dual metropolitan area have had exceptional redevelopment over the past two decades, like Dallas' Uptown, the model public space Klyde Warren Park, Deep Ellum and Cedars. Metro San Diego, likewise, has invested in a new light rail system that has sparked significant walkable urban development. The downtown is still revitalizing, but it is surrounded by healthy downtown-adjacent places (Marina, East Village, Little Italy), limited urban commercial areas (Hillcrest, Old Town, North Park), and greenfield Liberty Station.

Metro Nashville is an economic boomtown which is driven by technology and entertainment much like Austin. Downtown revitalization has been underway for 20 years and has sparked downtown-adjacent redevelopment, such as East End, Edgefield, and The Gulch. Finally, metro Sacramento has also focused most of its walkable urban development in downtown and downtown-adjacent places, such as Midtown, Southside and Old Sacramento.



Source: Smart Growth America; Places Platform LLC

Metropolitan Rankings

Level 4: Lowest Walkable Urbanism

San Diego
Indianapolis
Tampa
Virginia Beach
Phoenix
Orlando
San Antonio
Las Vegas

Range for Walkable Urban Shares in Top 35 MSAs

As a percentage of the entire market

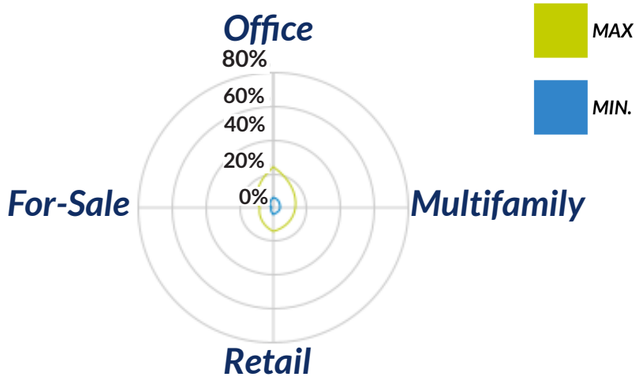
Office: 7-24%
Retail: 4-13%
Multifamily: 4-14%
Single Family Housing: 1-8%
Combined share: 3-9%

Our lowest tier, Level 4, consists of many Sunbelt metros with the exception of Indianapolis. That Midwestern metro has seen downtown revitalization along with downtown-adjacent places emerging (Near Northside and Near Southside) and some urban commercial areas (Broad Ripple). The surprise in this metro is the redevelopment of the suburban town center Carmel, a global model of an urbanizing suburb.

Metro Tampa (which includes St. Petersburg) and Orlando, are slowly following similar paths to walkable urbanism. The downtowns of both Orlando and St. Petersburg have been redeveloping, taking advantage of lake frontage and Bay frontage, respectively, particularly for residential and urban entertainment. Metro Virginia Beach (including Norfolk and Newport News) has been dominated by U.S. Navy developments for centuries, as it is host to one of the best harbors on the continent. This naval orientation has resulted in sprawling development along the miles and miles of waterfront property. However, downtown Norfolk has been slowly redeveloping, while urban commercial areas continue to grow like Park Place and urban university walkable urbanism in Highland Park, adjacent to Old Dominion University.

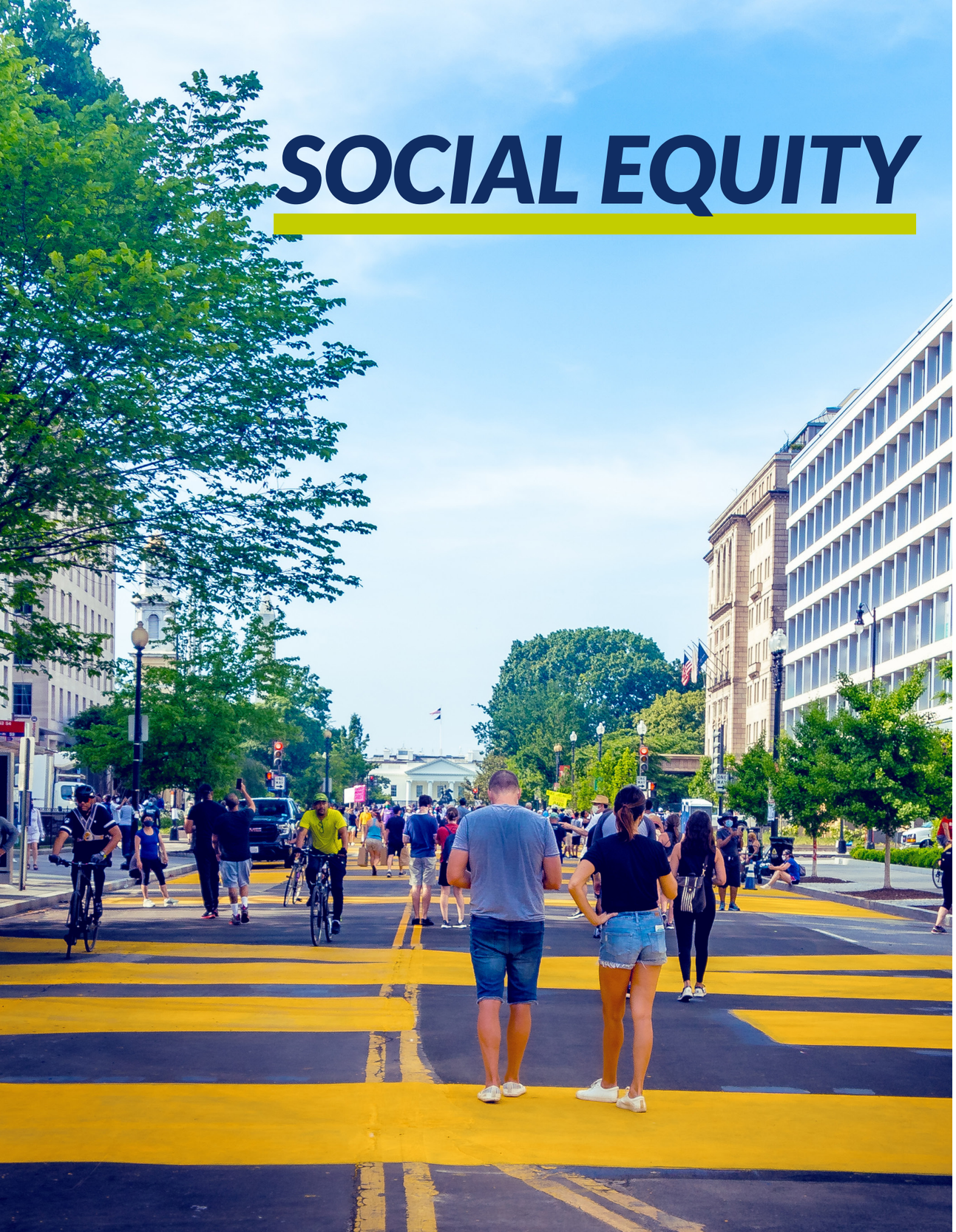
Out west, metro Phoenix has never been significantly walkable. However, there has been a unique downtown revitalization catalyst over the past decade, Arizona State University (ASU), which relocated its business school, law school, other programs, and over 5,000 dorms around a major public park in downtown Phoenix. The first Phoenix light rail line connects the downtown campus to the Tempe main campus and onwards to Mesa. There are limited walkable places outside of downtowns, led by ASU in downtown Tempe, downtown Scottsdale, and an emerging greenfield development in downtown Mesa. Metro San Antonio is best known for its Riverwalk, a globally-recognized walkable urban path on both sides of the San Antonio River in downtown. The spillover success of the River Walk is beginning to increase the vitality of downtown, adding to tourism around the Alamo.

Finally, there is no question that Las Vegas is a unique metro, falling at the bottom of our FTA Index. The only high density walkable urbanism in the metro is along The Strip. The Arts District and downtown are both reviving, supporting new developments like the Zappos headquarters, though this small amount of walkable urbanism doesn't extend outside the downtown.



Source: Smart Growth America; Places Platform LLC

Metropolitan Rankings



SOCIAL EQUITY

Walkability and Social Equity

Exclusionary zoning, lending, and land use policies that mandated drivable sub-urban land use have enforced and compounded segregation and decreased opportunities for wealth-building for communities of color across the U.S. While homeownership and the suburban American dream were drivers of wealth for white communities post-WWII, many Black households were denied loans or the opportunity to live and build equity in what, at the time, were considered the most desirable areas.[21] Decades later, as walkable development and downtown revitalization continue to regain mainstream market interest, many communities of color have been displaced from urban communities well-served by transit and amenities as property values rise.[22]

With today's housing access crisis, it is critical that policymakers seek solutions to protect and improve affordability in well-connected, mixed-use areas which are conducive to living without car ownership. For those who have cars, these areas offer households less need for car trips for daily or weekly needs. Land use policy change can help address this by reducing barriers to delivering affordable housing units, and by safeguarding affordability of existing housing and small businesses through tools such as community land trusts, property tax waivers, tenant-right-to-purchase policies, and more.

Foot Traffic Ahead's methodology looks at both the spatial and market trends associated with walkable development, identifying the price premiums generated by walkable development. Part of this thinking has been inspired by conversations from Smart Growth America's Equity Summit and the need to weigh concerns around many dimensions of equity.[23]

Since many Type I WalkUPs and Type II walkable neighborhoods have great amenities, living there can also come at a price premium. As we will describe later in our Future Momentum section, which discusses prices and market indicators, premiums for housing in walkable urbanism across the largest 35 metro areas average 34% for for-sale housing and 41% for multifamily rental apartments. The price for housing can be even more unattainable for many households when comparing those costs against regional median wages. While a price premium for walkability is encouraging from a market perspective, it is problematic from an equity perspective as many households, especially those which have been historically marginalized by land use policy, are further disadvantaged.

These premiums signify two sides of thriving walkable areas: on the one hand, the market is signaling continued pent-up demand and desire to live in these places, and on the other, they are increasingly unaffordable due to a lack of supply of, and in, walkability. The dense, mixed-use fabric of walkable urbanism means that walkable urban places provide greater access to job opportunities, services, and cheaper transportation than surrounding drivable sub-urban places. Walkable, well-connected neighborhoods are also more likely to support connectivity with local social networks that can support childcare and household needs. For low- and moderate-income households priced out of WalkUPs, loss of access to jobs, services, and other daily needs can compound already significant economic challenges.

Nearly every major metropolitan area in the U.S. is facing an affordable housing crisis and an overall cost of living crisis. Even areas with relatively affordable housing still have many individuals who cannot yet afford to live in the places that offer better amenities and opportunities.[24] For example, Charlotte has relatively affordable housing compared to much larger regions, but the premium to purchase a home in walkable urban places is 77% in that region. This is on top of current rising prices for household utilities, other housing maintenance costs, and the costs to own and operate an automobile for those who own one. Of course, the cost of living can be mitigated by quality transit which would reduce overall household costs. In fact, an unfortunate pattern is that many areas with affordable housing are often places where individuals have to spend on the costs of owning and maintaining an automobile.

The many tradeoffs in walkability, housing costs, transit access, and other dimensions led us to develop a Social Equity Index that can measure some important dimensions of social equity with respect to the concerns around walkability.

What We Mean by Social Equity

The concept of social equity can have different meanings, spanning issues like the wealth gap, educational attainment, policing, crime, health outcomes, social mobility, and many more. In this report, we confine our Index to topics most relevant to Foot Traffic Ahead's focus on walkability: housing costs, transit access, and the distance to walkability. Our Social Equity Index answers two essential questions: 1) How hard is it for someone to access walkable areas and the benefits located there, and 2) How do price premiums and lack of housing supply impact who can afford to live in and near these highly desirable areas?

With these concepts in mind we developed a Social Equity Index (SEI) based on three main concerns: 1) the rising cost of housing; 2) the rising cost of transportation and the need for quality transit access; and 3) proximity—who lives closest to walkable urbanism.

The SEI ranks metropolitan areas by the affordability of and access to well-located housing and services, including housing both within and close to walkable urban development. We believe affordability is essential for a thriving community and that the elements of walkable urbanism—which improve quality of life, reduce commuting time, and reduce emissions—should not be limited to those able to afford high-cost housing.

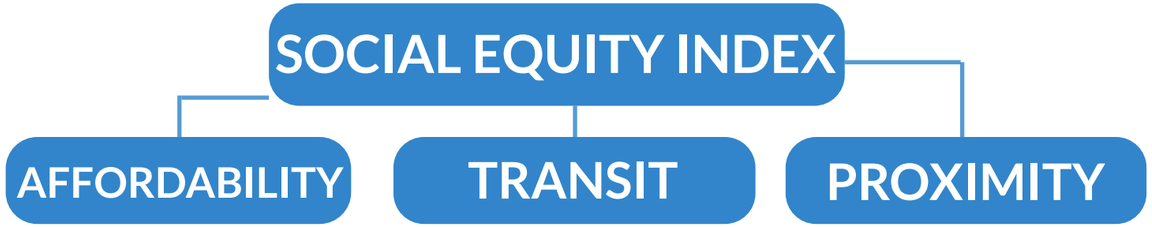
As discussed below, we find that many medium-sized regions, often with relatively affordable housing, rank closer to the top. Furthermore, some larger regions rank lower when considering proximity to walkability across socio-economic groups, suggesting that while walkability in a place like Portland (for example) may be high, the people closest to it tend to be whiter, higher-educated, and have higher incomes.

Our results did not indicate a strong overlap between the most walkable regions and equitable development patterns as measured by the SEI. The general correlation is slightly positive, but not so obvious as to suggest that walkability automatically is associated with increased social equity or vice versa.

Some of the cities which rank highly on the SEI have more affordable housing stock and greater access to walkable urbanism for communities of color and disadvantaged socioeconomic groups. Others have high-quality transit that bolsters their rankings. Those that rank lower on the SEI Index have particularly high housing costs, ranking them significantly lower than their Foot Traffic Ahead walkability rank, even with high-quality transit or good proximity to walkability.

Measuring Social Equity and Access to Walkability

We included one main question for each category, and then added several additional parameters that shaped the creation of the index, as follows: With each measure, we create an index score from 0 to 100 with a mean of 50.[25] Within each category, we take a simple average of the components. For the final Social Equity Index, we take an average of the Affordability, Transit, and Proximity categories.



How affordable is it to live in walkable urbanism?

- *The median rent burden in walkable urbanism (2020 U.S. Census ACS)*
- *The change in gross rents from 2017 through 2020 (2020 U.S. Census ACS)*
- *The average asking multifamily housing rent ($/sq. ft.) as a percentage of AMI, based on market data (Yardi Matrix)*
- *The average for-sale housing price ($/sq. ft.) as a percentage of AMI, based on market data (Rocktop Partners, LLC 2021)*

What is the quality of transit access to walkable urbanism so that people do not have to spend more money on cars and auto upkeep?

- *Distance from the population-weighted center of a CBG to the nearest transit stop (EPA Smart Location Database, 2021)*
- *Proportion of CBG employment within ¼ mile of a fixed-guideway transit stop (EPA Smart Location Database, 2021)*
- *Proportion of CBG employment within ½ mile of a fixed guideway transit stop (EPA Smart Location Database, 2021)*
- *Aggregate frequency of transit service within ¼ mile of the CBG boundary per hour during evening peak period (EPA Smart Location Database, 2021)*
- *Aggregate frequency of transit service per square mile (EPA Smart Location Database, 2021)*
- *Aggregate frequency of transit service per capita (EPA Smart Location Database, 2021)*
- *Percent of households in a CBG who own zero cars (EPA Smart Location Database, 2021)*
- *Percent of workers who commute to work via transit, walking, or bike (2020 U.S. Census ACS)*

How far does a person from different socioeconomic and racial groups have to travel to get to walkable urbanism?

- *The distance (in km) to walkable urbanism for the average person in the metro area (Smart Growth America; Places Platform PlacesLens™, 2021; 2020 U.S. Census ACS)*
- *The difference in distance to walkable urbanism for an average Non-Hispanic White person versus an average Person of Color (Smart Growth America; Places Platform PlacesLens™, 2021; 2020 U.S. Census ACS)*
- *The difference in distance to walkable urbanism for an average college educated person versus a non-college educated person (Smart Growth America; Places Platform; (Smart Growth America; Places Platform Places Lens™, 2021; 2020 U.S. Census ACS)*
- *The difference in distance to walkable urbanism for an average household making less than $30k per year versus an average household making over $150k per year. (Smart Growth America; Places Platform Places Lens™, 2021; 2020 U.S. Census ACS)*

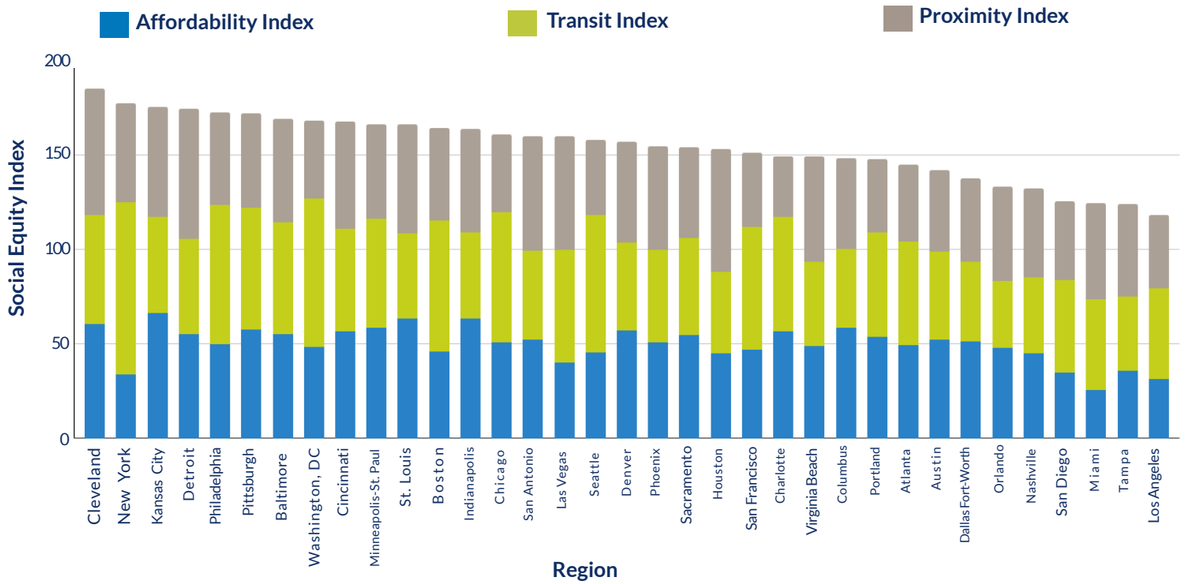
Social Equity Index Rankings

The Social Equity Index ranks metropolitan areas by the affordability of and access to well-located housing and services; transit quality; and distance to walkability for different socioeconomic groups. The SEI reveals some areas with a high Affordability Index that ranked lower on the Foot Traffic Ahead index: Cleveland, Kansas City, Detroit, Pittsburgh, and Baltimore ranked highly, meaning that their walkable areas are affordable or relatively easy to access without a car. The SEI of these cities is also bolstered by higher scores on the Proximity Index, meaning that the walkability that exists is not as segregated between socioeconomic and racial groups. This means that groups that have been historically marginalized by land use policy, including people of color or low-income individuals, don't have to travel as far, on average, to get to walkability in their region compared to others. Other regions which are comparatively more expensive but have well-connected and accessible transit systems rank highly on our SEI, such as New York, Philadelphia, and Washington, DC. Towards the bottom of the SEI, we see regions like Miami and Los Angeles that are less affordable in their Type I and Type II areas and do not offer well-connected transit systems, meaning that walkability is both expensive and difficult to access.

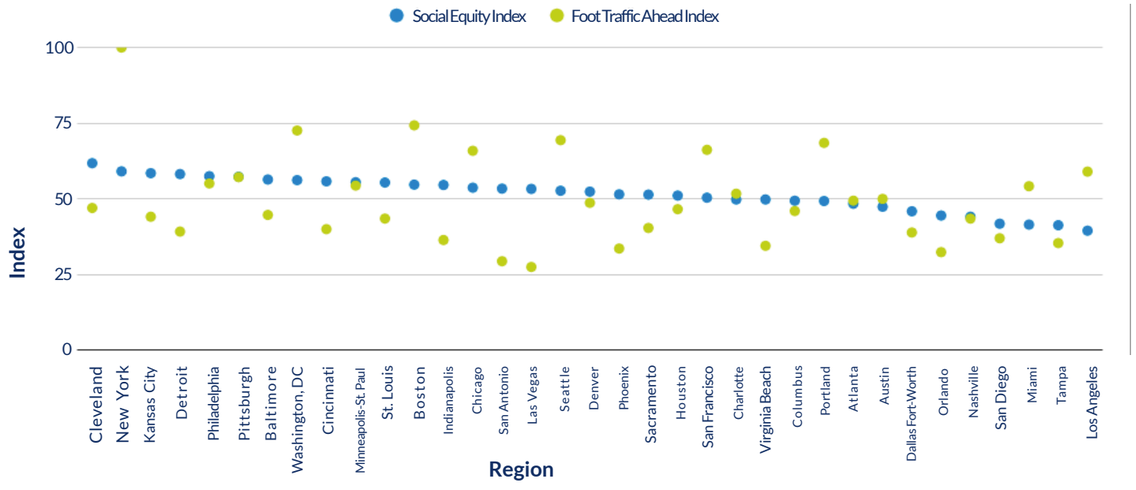
REGION	SEI RANK	AFFORDABILITY INDEX	TRANSIT INDEX	PROXIMITY INDEX	SOCIAL EQUITY INDEX (SEI)
Cleveland	1	61	57.6	67	61.8
New York	**2**	**34**	**91.1**	**52.1**	**59.1**
Kansas City	3	66	51.1	58.3	58.5
Detroit	4	55	50.5	68.6	58.2
Philadelphia	5	50	73.7	48.8	57.5
Pittsburgh	6	58	64.5	49.7	57.3
Baltimore	7	55	59.1	54.7	56.4
Washington, DC	**8**	**49**	**78.7**	**41.2**	**56.2**
Cincinnati	9	57	54.5	56.5	55.8
Minneapolis-St. Paul	10	58	57.9	50.1	55.5
St. Louis	11	63	45.2	57.6	55.4
Boston	**12**	**46**	**69.4**	**49**	**54.7**
Indianapolis	13	64	45.7	54.5	54.6
Chicago	**14**	**51**	**68.7**	**41.5**	**53.7**
San Antonio	15	52	47.2	60.7	53.4
Las Vegas	16	40	59.6	59.9	53.3
Seattle	**17**	**46**	**72.7**	**39.8**	**52.7**
Denver	18	57	46.4	53.4	52.4
Phoenix	19	51	48.7	54.7	51.5
Sacramento	20	55	51.7	47.9	51.4
Houston	21	45	43.3	65	51.1
San Francisco	**22**	**47**	**65.2**	**39.3**	**50.4**
Charlotte	23	57	60.8	32	49.8
Virginia Beach	23	49	44.5	55.8	49.8
Columbus	25	59	41.7	47.7	49.4
Portland	**26**	**54**	**55.1**	**38.9**	**49.3**
Atlanta	27	50	54.6	41	48.4
Austin	28	53	46.4	43.3	47.4
Dallas-Fort Worth	29	51	42.3	44.1	45.9
Orlando	30	48	35.5	50	44.5
Nashville	31	45	40.4	46.9	44.1
San Diego	32	35	48.8	41.6	41.8
Miami	33	26	48.4	50.7	41.5
Tampa	34	36	39.6	48.8	41.3
Los Angeles	**35**	**31**	**48**	**39**	**39.5**

Source: Smart Growth America
Note: Social Equity rankings in this report are focused with respect to walkability, and consist of affordability, transit, and proximity components.

Affordability Index, Transit Index, Proximity Index and Social Equity Index



Social Equity Index (SEI) and Foot Traffic Ahead Index



CASE STUDIES

This report creates three unique opportunities to evaluate the 35 largest metro areas and uses a series of indices to tell the stories of growing walkability, social equity, and future real estate trends.

The Social Equity Index (SEI) shows that there is a slight positive relationship between our Foot Traffic Ahead rankings and SEI rankings. While places like New York and Washington, DC can have a high Transit Index, they rank much lower in terms of Affordability. Some places, like New York, can rank highly on both walkability and SEI due to their diverse populations and widespread proximity to walkability. Other large regions with quality transit, like Seattle and San Francisco, do not rank as highly on SEI in large part due to a lack of housing affordability and/or supply.

The proximity index shows that some regions, like Houston or Detroit, have less variance in walkable urbanism distances across socioeconomic groups—the walkability they have is more equitably accessible by distance, or what we call proximity. By contrast, Portland, Los Angeles, and Chicago may all be in the top tier of walkability, but there are large discrepancies in proximity to walkability across socioeconomic categories. We also see a trend where the top half of SEI rankings include many medium-sized metros with relatively affordable housing in walkable places and are supported by established transit networks for their size.

By looking at how metropolitan areas rank on walkability in the Foot Traffic Ahead ranking, the SEI, and in terms of Future Momentum, we can see how different regions fare on the varying categories of social equity as relevant to benefiting from walkable urban places as well as gleaning insights into the future. For example, larger, more costly regions may need to focus on increasing the accessibility of their walkability by investing in more affordable housing, preserving affordability where it already exists, and adding additional walkable infrastructure where needed. Smaller cities may be benefiting from walkable areas while not yet facing a housing affordability crisis, but need to also safeguard affordability as they invest in more transit and institute policy changes such as zoning reform to improve walkability. **We urge policymakers to consider our recommendations which include advancing zoning reform, fostering non-auto travel, focusing on housing affordability, and planning for climate impacts.** These policies would likely improve SEI scores and would support housing affordability, improve transit, and bring walkable urban places to communities that currently have to travel far to benefit from these thriving areas and access the job, educational, and economic development opportunities located there.

CLEVELAND, *Ohio*

Cleveland is the most racially diverse city in Ohio being approximately 47% black, 39% white, 11% Hispanic, and 3% Asian.[26] Although the greater Cleveland region hosts a wide dispersion of demographic groups, the population in WalkUPs are similar in terms of income and race with the median household income hovering around $32,000 per year across all demographic groups.[27] Cleveland's transportation network also serves a range of demographic groups. Conversely, the affordability of the city extends from the center city to the outer rings of the surrounding sub-urban areas.[28] Although the Cleveland region does not rank in the Top Eight in our Foot Traffic Ahead Index, instead falling into the middle of the pack, the city ranks highest in our Social Equity Index due to its accessible walkable areas and well-connected bus network that serves a wide range of communities.

PORTLAND, *Oregon*

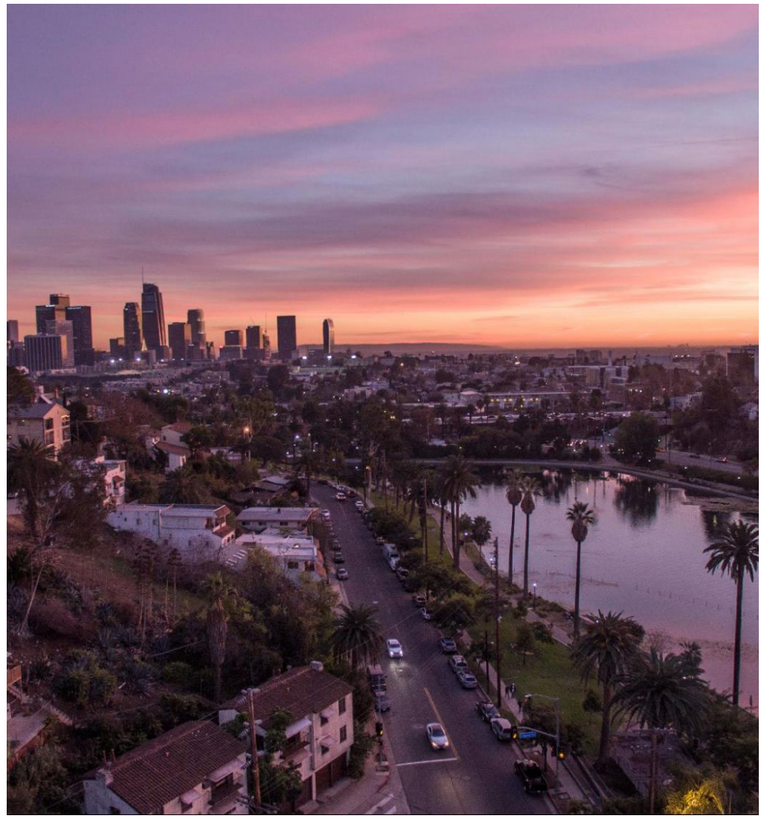
The Portland region is one of the most expensive places to live in the U.S., with the City of Portland having an average rent of $2,500 per month and an average home price of $430,000.[29] Portland's transit network is well-connected in the central city but does not serve the outer urban rings, which tend to include comparatively more affordable housing. Portland is also one of the least diverse cities in the U.S. with 75% of the population being white, 10% Hispanic, 6% Black, and 9% Asian.[30] The Portland region falls in the top tier in our Foot Traffic Ahead Index because of its extensive amount of walkable areas, even outside the inner urban core. The city ranks poorly in our Social Equity Index because this walkability is not proximate to and does not serve a wide range of demographic groups, catering mostly to largely white moderate and high-income households living close to the center city. People of color, low-income individuals, and people without a bachelor's degree tend to live further from walkable urbanism in this region.

Foot Traffic **AHEAD 2023**
CASE STUDY

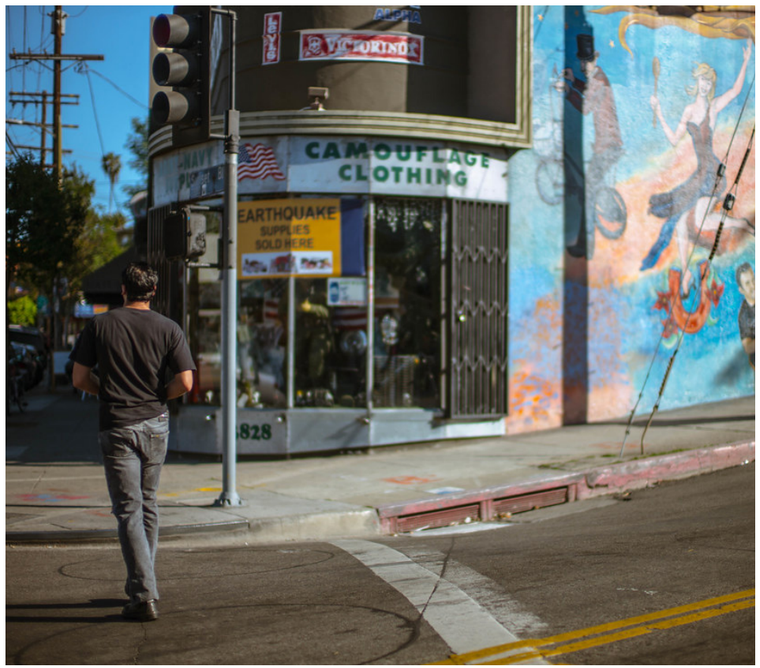
NEW YORK, *New York*

New York City has a cost of living 80.4% higher than the national average,[31] a median rent just over $3,000 per month, and an average home price of about $630,000.[32] The median household income in New York is approximately $67,000, hovering just below the national average of just over $70,000 per year.[33] If the cost of living is so high and the average income disproportionately low in New York, why did it rank so well in our Social Equity Index? The main reasons for New York's position are its far-reaching transit network and its accessible walkable areas. New York is an extremely diverse city with 41% of the population being white, 29% Hispanic, 24% Black, and 14% Asian.[34] The city's population, 56% of which uses New York's extensive public transit system every day, is well-served by 656 passenger miles, meaning that diverse communities can access the opportunities within walkable areas without relying on car ownership.[35] In many ways, New York is a special case: despite its overall high cost of living, the city outperforms many others in terms of connectivity and proximity to walkability for its diverse population.

LOS ANGELES, *California*



LA is an extremely diverse city with 49% of the population being white, 48% Hispanic, 12% Asian, and 9% Black.[36] The city also has a wide dispersion of walkable places, much of them connected via transit network comprising a metro, bus lines, and a plethora of scooter and bike-sharing services. For these reasons, LA ranked eighth in our Foot Traffic Ahead Index. Despite these characteristics, LA is one of the most inequitable metros in terms of income and affordability. The median cost of a home in the LA metro region is over $670,000, with an average monthly rent of around $1,500.[37] Discrepancies in income are observed between downtown LA and the surrounding metro region. Average household income in neighborhoods outside of the downtown core but still in proximity to walkability—places like South Pasadena and Beverly Crest—fall in the $80,000-$100,000 per year range. Neighborhoods in the center of downtown LA fall far below these income levels, with average median household income in places like West Lake and Florence hovering just above $25,000 per year.[38] These variances in income are highly correlated with race; the lower-income groups living in center-city neighborhoods fall into minority groups while higher-income groups along the outskirts of downtown LA are majority white. Given these patterns, LA falls last in our SEI rankings.



Foot Traffic **AHEAD 2023**
CASE STUDY

TAMPA, *Florida*

The Tampa metro region ranks near the bottom of both our Foot Traffic Ahead and SEI Indices but claims the number one spot in our Future Momentum Index. The city has a fairly interconnected walkable street network, especially along the waterfront and throughout downtown, but this network does not extend to the areas outside of the downtown core. Transit access in Tampa is limited, and routes do not extend outside downtown.[39] Although Tampa is not currently one of the most walkable metros, it has the potential to support increased walkable development. Between 2000 and 2017 Tampa's downtown population grew by 36%, outpacing the 17% average for other downtowns across the country. Additionally, the Tampa metro region is quite diverse, with a downtown population that is 50% white, 30% Black, and 20% Hispanic or Latino.[40] Mixed-use development in the Tampa metro region has had renewed interest from both city officials and investors as demand pushes the real estate market toward walkability.

MARKETS & FUTURE MOMENTUM

Walkable Urbanism Market Share

The change in walkable urbanism market share measure calculates the market share of walkable urbanism in 2021 as compared to 2017. We total all Type I and Type II walkable neighborhoods for office and multi-family products, resulting in a percentage ("share") of those products in the market for a given region. We do this for 2017 and 2021 and calculate the percent change.

In this calculation and others below, we exclude retail due to data limitations and on account of the pandemic's structural disruption to the market. In other words, retail follows different trends related to e-commerce and consumer shopping preferences, which are not captured in our data sets. We also exclude industrial because those trends focus more on exurban warehouse needs than trends in walkable urbanism.

The biggest percentage point change in walkable urbanism market share was Nashville, which added 2.9 percent points to its walkable urbanism for office and multifamily in 2021. Other top market share change leaders were Miami, Portland, Denver, and Charlotte. Overall, leaders were a mix of large and mid-size markets. In all 35 regions, walkable urbanism grew its market share relative to drivable sub-urban areas.

Indicators of Future Growth Momentum

Determining the momentum in walkable urbanism involves using forward-looking indicators, such as the Market Shift Share, leasing and absorption trends, and price premiums as described below. Our Future Growth Momentum Index uses this data to identify which markets are improving walkability and may be ready to further expand walkability. These regions are likely to be receptive to future mixed-use and walkable development given market trends, and often, current lack of supply. Policymakers should also take note to proactively safeguard affordability as growth occurs.

Regions that expand walkability can enhance social equity by providing diverse communities of people with more convenient and amenity-rich places to access opportunity and live healthy and thriving lives. With today's housing access crisis and the current inflationary environment, households across the U.S. are struggling more and more to afford daily needs. Living far away from jobs, basic services, and recreational interests is likely to not only erode quality of life but also increasingly impact household budgets given the cost of gas and car maintenance. Many local policymakers have recognized this dynamic and sought to improve the likelihood of housing units being delivered in infill locations through zoning reform, ADUs, and other mechanisms.

We look at three main questions when considering future momentum: 1) where has walkability increased its share of the market by square footage; 2) Where do we see increasing demand for walkability as indicated by price; and 3) Where do we see walkability more spread out across the region?

Measuring Future Momentum

For our Future Momentum Index, we rely on several of the measures and data we have mentioned throughout this report. The main data points fall into three buckets addressing the three questions above: 1) Market Share, 2) Price, and 3) Distribution of walkability, or distance. The table below shows the indicators that roll up into these three categories, and below we discuss the methods for each.

WALKABLE URBAN MARKET SHARE	PRICE PREMIUM	DISTANCE
% change in walkable market share ('17-"21)	Current commercial rent premium	Standard Distance Index for Type I
Net absorption as % of market size	% change in commercial rent premium	Standard Distance Index for Type II
Market shift share ('17-'21)	Current for-sale housing premium	
	% change in for-sale housing premium ('18-'21)	

Price Premium

To determine price premiums (or discounts) for walkable urban versus drivable sub-urban products, we first calculate combined rent premiums (weighted by square footage) for office and multifamily products in walkable urbanism compared to everywhere else in the region. We identify this number for 2021, as well as 2018, to identify the change in rent premiums from 2018 to 2021.

For current rent premiums, we report all product types for informational purposes in the markets for which we have data. For the Future Momentum Index, we focus on current premiums, and change in premiums, for the combined office and multifamily product types. We also add data on for-sale housing premiums as of 2021, and the change in those premiums since 2018. These two figures also are part of the Future Momentum Index.

As shown below, every region has a walkable price premium in its office and multifamily products, despite the fact that those commercial premiums have come down in 26 of the 35 markets since 2018. In for-sale housing, only six markets had walkable urban prices lower than in drivable sub-urban areas in 2021: Baltimore, Cincinnati, Cleveland, Detroit, Philadelphia, and St. Louis. Five of those six are so-called "post-industrial "cities that are still developing their housing markets in and near walkability. In the case of Philadelphia, its premium is effectively at par (-0.005%) having come down 1.4 percent points since 2019. Another reason for some of the negative changes in price premiums is the Covid-19 pandemic, especially for urban office space, a point we discuss further in the Pandemic Impact section of this report.

Current 2021 Walkable Urbanism Price Premiums by Product Type and Region, and % Point

	OFFICE		MULTIFAMILY		RETAIL		OFFICE & MULTIFAMILY (COMBINED)		FOR-SALE HOUSING	
REGION	**PREMIUM**	**CHANGE**	**PREMIUM**	**CHANGE**	**PREMIUM**	**CHANGE**	**PREMIUM**	**CHANGE**	**PREMIUM**	**CHANGE**
Atlanta	35%	6%	44%	-12%	125%	95%	53%	-7%	70%	-32%
Austin	35%	-8%	41%	-7%	-13%	-55%	47%	-5%	43%	-22%
Baltimore	25%	20%	26%	-7%	5%	-7%	28%	3%	-7%	-13%
Boston	**83%**	**-5%**	**40%**	**-9%**	**18%**	**-66%**	**65%**	**-7%**	**33%**	**5%**
Charlotte	31%	-7%	45%	-12%	31%	-3%	59%	-15%	77%	6%
Chicago	**56%**	**2%**	**65%**	**-10%**	**27%**	**-15%**	**60%**	**-4%**	**42%**	**-59%**
Cincinnati	4%	2%	42%	-11%	NA	NA	21%	-3%	-1%	-8%
Cleveland	10%	2%	32%	1%	-12%	-9%	26%	-2%	-16%	4%
Columbus	49%	21%	43%	-9%	46%	14%	45%	2%	24%	-18%
Dallas-Fort Worth	20%	3%	27%	-6%	-1%	-21%	29%	-4%	51%	-9%
Denver	20%	-3%	29%	-6%	151%	127%	25%	-6%	45%	-11%
Detroit	33%	-5%	47%	-5%	19%	-20%	46%	-11%	-5%	7%
Houston	30%	4%	36%	-7%	294%	271%	41%	-4%	90%	9%
Indianapolis	13%	-3%	33%	-13%	23%	1%	36%	-13%	35%	-4%
Kansas City	9%	5%	43%	-8%	104%	98%	34%	-2%	10%	-2%
Las Vegas	-3%	-16%	6%	-1%	130%	113%	6%	-10%	55%	-14%
Los Angeles	**37%**	**13%**	**24%**	**-11%**	**65%**	**40%**	**32%**	**0%**	**33%**	**10%**
Miami	77%	12%	25%	-4%	-26%	-91%	54%	-1%	41%	0%
Minneapolis-St. Paul	15%	-6%	34%	-9%	-23%	-43%	24%	-7%	4%	-3%
Nashville	31%	19%	75%	-11%	-18%	-34%	65%	3%	60%	6%
New York	**105%**	**-52%**	**80%**	**-22%**	**NA**	**NA**	**94%**	**-40%**	**12%**	**-4%**
Orlando	20%	19%	24%	0%	-7%	-6%	24%	5%	39%	0%
Philadelphia	22%	0%	37%	-7%	1%	-14%	32%	-4%	0%	-1%
Phoenix	20%	-4%	26%	-10%	99%	81%	28%	-14%	30%	-9%
Pittsburgh	30%	6%	50%	-4%	-37%	-46%	46%	1%	10%	26%
Portland	**9%**	**-15%**	**28%**	**-9%**	**-11%**	**-18%**	**24%**	**-14%**	**25%**	**0%**
Sacramento	73%	21%	22%	-4%	-3%	-51%	49%	-2%	27%	-5%
San Antonio	3%	-16%	35%	-5%	1%	-21%	27%	-15%	25%	10%
San Diego	26%	27%	28%	-4%	-3%	-1%	28%	12%	47%	2%
San Francisco	**36%**	**-7%**	**20%**	**-6%**	**41%**	**4%**	**32%**	**-6%**	**10%**	**10%**
Seattle	50%	-27%	41%	-16%	56%	-15%	46%	-23%	50%	-21%
St. Louis	7%	3%	35%	-8%	-25%	-35%	25%	-2%	-8%	-3%
Tampa	54%	18%	46%	-2%	-13%	-53%	55%	4%	56%	7%
Virginia Beach	20%	NA	34%	-2%	NA	NA	31%	NA	21%	2%
Washington, DC	**73%**	**3%**	**41%**	**-8%**	**107%**	**40%**	**69%**	**-4%**	**90%**	**-16%**
WT. AVG	**44%**	**-4%**	**41%**	**-10%**	**41%**	**14%**	**47%**	**-9%**	**34%**	**-5%**

Source: Smart Growth America; Yardi Matrix; REIS Moody's; Rocktop Partners LLC
Note: Price premiums are for combined Type I and Type II as compared to the rest of the region. Price premiums not available for certain regions in certain years, indicated as NA. Office, multifamily, retail, and industrial are reported based on $/sq. ft annual asking rents via the Yardi Matrix. For-sale prices are based on $/sq. ft. of estimated housing market value. Change in prices is the percent change in premium from 2018 to 2021. Year 2017 rents were not available.
Green shade indicates Top 8 (Level 1) regions in our Foot Traffic Ahead rankings.

Net Absorption as Percent of Market

Net absorption is a real estate measure of the square footage of office and multifamily real estate space that is leased subtracted from the square footage of move-outs (leases terminated or not renewed). For this measure, we total the net absorption from the end of 2017 through 2021.[41] We then divide net absorption by the size of the market for those products to produce a percent. For the same reason as above, we exclude retail and industrial space.

Market Shift Share

The Market Shift Share (MSS) measures how much absorption has shifted as compared to the base of the market share. It is similar to net absorption as percentage of the market, but it divides two shares to yield an index, similar to a "shift-share index." In the numerator is the walkable urban share of all absorption; and in the denominator is a baseline walkable urban market share as measured by inventory.

We use an inventory base year of 2017 for the denominator in this equation. If a market absorbed equal to its base market share, we would have an MSS equal to one. An MSS less than one indicates a measure of loss of market share, and an MSS greater than one indicates a gain in market share. For this measure, we exclude retail and industrial space for the same reasons as above.

When we look at the MSS, Las Vegas sticks out due to growth in its small amount of walkable urbanism (mostly in The Strip), and continued growth for multifamily in that area and Downtown. Importantly, we see that in almost every market, walkable urbanism grew far faster than its base market as indicated in the MSS. The only exception was New York: overall, New York had negative net absorption outside and inside its walkable urbanism. Walkability there gained mild market share only because drivable sub-urban development fared worse.

$$MSS = \frac{Walkable\ Urbanism\ Absorption\ /\ All\ Positive\ Absorption}{Walkable\ Urbanism\ Inventory\ /\ All\ Inventory}$$

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Walkable Urbanism Share, Net Absorption, and Market Shift Share (2017-2021)

REGION	NET ABSORPTION AS A % OF MARKET	MARKET SHIFT SHARE
Atlanta	2.7%	4.1
Austin	6.%	2.1
Baltimore	0.9%	3.4
Boston	**2.5%**	**1.3**
Charlotte	7.1%	3.1
Chicago	**0.4%**	**2.1**
Cincinnati	1.3%	3.1
Cleveland	1%	3.8
Columbus	3.7%	4.8
Dallas-Fort Worth	3.8%	3.9
Denver	3.6%	2.6
Detroit	0.9%	3.4
Houston	2.3%	3.3
Indianapolis	2.9%	6.3
Kansas City	3.4%	4.3
Las Vegas	5.7%	14.4
Los Angeles	**1.3%**	**2.5**
Miami	4.1%	1.9
Minneapolis-St. Paul	1.1%	1.8
Nashville	6.3%	3.2
New York	**-0.2%**	**0**
Orlando	8.3%	5.1
Philadelphia	1.5%	3.2
Phoenix	4.1%	4.6
Pittsburgh	0.8%	1
Portland	**1.4%**	**1.2**
Sacramento	1.7%	6.2
San Antonio	6.8%	8.3
San Diego	2.4%	6.5
San Francisco	**1.2%**	**0.8**
Seattle	**3.7%**	**0.8**
St. Louis	0.4%	2.7
Tampa	3.9%	3.3
Virginia Beach	3.3%	6.6
Washington, DC	**0.5%**	**1.2**
WT. AVG	**2.2%**	**2.8**

Source: Smart Growth America; Places Platform LLC, Yardi Matrix; REIS Moody's; Rocktop Partners LLC

Walkable urbanism includes Type I and Type II combined. Measures include office and multifamily products only.

Green shade indicates Top 8 (Level 1) regions in our Foot Traffic Ahead rankings.

Standard Distance Index

In prior reports, we focused on the percentage of walkable urbanism located in the "suburbs" (i.e. outside of the center city). New to this report, we add a measure called the "standard distance index" for walkability. We use this measure as an indicator of Future Momentum because we believe that bringing walkability to previously drivable sub-urban areas is a critical trend for the future of metropolitan regions, given the economic development potential as well as the potential for quality of life improvements, social cohesion, and emissions reductions. This trend has already been occurring in many markets across the U.S., especially suburban locations well-served by transit. With increased norms around hybrid work, mixed-use settings among or near residential development are likely to continue to gain popularity as those workers appreciate access to daily needs and conveniences when they are not commuting.

Further, this trend is indicative of the continual expansion of walkability further out from the urban core, which is necessary if more people are to be able to access these locations. Places that have more walkability spread throughout the region will have more momentum in building more walkable places, more options throughout the region, and less pressure to have most of the walkable urbanism confined to one location and therefore subject to even more price pressure.

A standard distance measure can indicate concentration or dispersion of a particular phenomenon, in this case, walkability. Utilizing GIS software, the calculation starts with the center of mass (density) of population and jobs for a region. From there, it creates an ellipse, expanding outward, until the algorithm contains about 95% of the population and jobs in the region that are walkable.[42] When walkable urbanism is distributed throughout the region, this ellipse is a larger share of the region's total area. When walkable urbanism is confined to a few pockets, especially in the core, that ellipse tends to make up a smaller portion of the region's size. In short, our standard distance index serves as an estimate of our concept of "urbanizing suburbs," or the presence of walkability throughout the region. We find benefits in dense, walkable places existing throughout a region rather than being concentrated in the region's core.

For this report, we developed The Standard Distance Index by calculating how large the ellipse of walkable areas is as a share of the region's total land mass. We identified standard distance ellipses for the Type I CBGs and the Type II CBGs separately.

To give an example, below is an image of the standard distance ellipse for Type II CBGs in the regions at the top, bottom, and middle by our Type II Standard Distance Index measure. Tampa ranks highest by this measure as its standard distance ellipse is about 75% of the size of the region's total area. By contrast, Las Vegas' Type II walkable urbanism is very isolated–most of it in the center of the region–so its ellipse only is about 1.3% of the size of the region's area. New York is notable in that it clearly has more Type II areas, a large reason why it is ranked first in our Foot Traffic Ahead Rankings. However, the Standard Distance Index tells us that walkability tends to be concentrated toward the urban core in the region.

When we compare the Standard Distance Index for various regions, there are large differences. In regions like Kansas City, Las Vegas, and Nashville, for example, most of the walkability is very centralized, taking up a small portion of the region's overall area, and potentially making it difficult to access. In other regions like Dallas-Fort Worth, Miami, and San Francisco, walkability tends to be distributed further throughout the region. New York is another good example: despite being at the top of our Foot Traffic Ahead Rankings, its walkable urbanism is geographically confined towards the core.

For Future Momentum, we find that a larger Standard Distance Index is desirable as it indicates greater development opportunities for walkability in places that were previously drivable sub-urban. Incidentally, it also has the potential to increase social equity in regions with more dispersed walkable urbanism as it creates more opportunities for people to access walkability; a person wouldn't have to travel as far to get to walkability. We explored a similar concept—the average distance to walkability—in our Social Equity Index.

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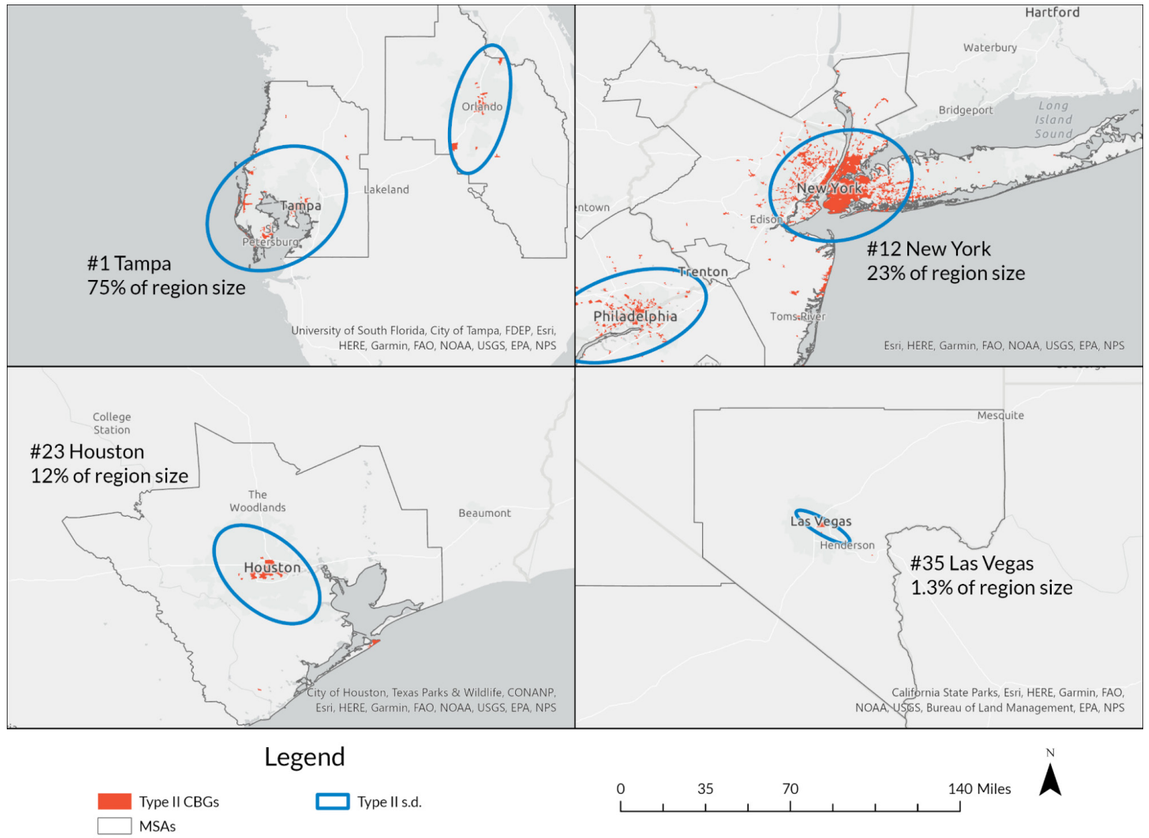
REGION	TYPE I STANDARD DISTANCE INDEX	TYPE II STANDARD DISTANCE INDEX
Atlanta	6%	29%
Austin	6%	6%
Baltimore	22%	38%
Boston	**9%**	**38%**
Charlotte	1%	9%
Chicago	**13%**	**17%**
Cincinnati	5%	14%
Cleveland	2%	33%
Columbus	4%	4%
Dallas-Fort Worth	31%	32%
Denver	2%	1%
Detroit	1%	20%
Houston	5%	12%
Indianapolis	0%	5%
Kansas City	0%	7%
Las Vegas	0%	1%
Los Angeles	**12%**	**11%**
Miami	24%	36%
Minneapolis - St. Paul	1%	4%
Nashville	0%	31%
New York	**6%**	**23%**
Orlando	1%	21%
Philadelphia	13%	30%
Phoenix	2%	4%
Pittsburgh	1%	12%
Portland	**1%**	**14%**
Sacramento	2%	55%
San Antonio	1%	10%
San Diego	9%	23%
San Francisco	**41%**	**47%**
Seattle	**9%**	**21%**
St. Louis	3%	14%
Tampa	14%	75%
Virginia Beach	25%	17%
Washington, DC	**9%**	**19%**

Example of Type II Standard Distance at Same Scale
Top, Bottom, and Middle Ranked Regions by Type II Standard Distance



Source: Smart Growth America; Places Platform, LLC

Future Growth Momentum Ranking

Walkable Urbanism of the 35 largest metropolitan areas

For the final index of the Future Growth Momentum Index, we synthesized the data from the three categories listed above. We then normalized all measures to range from 0 to 100 with a mean of 50. Within each category, we rolled up the indicators into an average for each, and then we averaged across the three categories equally to create the final Future Growth Momentum Index.

We notice a mix of geographical regions and regional size in the top of these rankings, but one concept emerges: many cities that are lower in our Foot Traffic Ahead Index (Current Index) tend to rank higher in the Future Momentum Index. This is partly because there is much more room for improvement when at the middle or bottom than at the top. Overall there is a slight negative relationship between the Current Index and our Future Index: cities with a higher current index tend to have a lower future index. This is because as cities mature in walkability, the market indicators for future growth we use tend to slow.

REGION	FUTURE MOMENTUM RANK	FUTURE MOMENTUM INDEX
Tampa	1	67.1
Nashville	2	61.2
Miami	3	60.8
San Francisco	**4**	**59.5**
San Diego	5	57.9
Dallas-Fort Worth	6	57.9
Atlanta	7	55.3
Orlando	8	55.2
Sacramento	9	55
San Antonio	10	54.9
Charlotte	11	54.1
Virginia Beach	12	54.1
Baltimore	13	53
Washington, DC	**14**	**50.8**
Boston	**15**	**50.6**
Austin	16	49.3
Columbus	17	48.4
Chicago	**18**	**48.4**
Houston	19	48.2
Philadelphia	20	48.2
Seattle	**21**	**47.7**
Las Vegas	22	47.1
Los Angeles	**23**	**46**
Denver	24	45.6
Phoenix	25	45.1
Cleveland	26	44.5
Kansas City	27	44.4
New York	**28**	**44.1**
Indianapolis	29	43.6
Detroit	30	42.9
Cincinnati	31	41.8
Portland	**32**	**40.9**
Pittsburgh	33	40.3
St. Louis	34	40.1
Minneapolis-St. Paul	35	37.6

Source: Smart Growth America
Green shade indicates Top 8 (Level 1) regions in our Foot Traffic Ahead rankings.

Comparing our Foot Traffic Ahead Index (Current Index) and the Future Momentum Index (Future Index) reveals four important groups of cities. These indices are structured where the average is 50. Values above 50 are above average and values below 50 are below average. Thus, we can group regions into four clusters of metros: Bold Growth, Mature Walkable, Future Vision, and Room for Growth.

Current Index

Future Index	BELOW AVERAGE	ABOVE AVERAGE
Below Average	***FUTURE VISION*** Atlanta (15, 7) Baltimore (20, 13) Nashville (22, 2) Sacramento (24, 9) Dallas-Fort Worth (27, 6) San Diego (28, 5) Tampa (30, 1) Virginia Beach (31, 12) Orlando (33, 8) San Antonio (34, 10)	***BOLD GROWTH*** Boston (2, 15) Washington, DC (3, 14) San Francisco (6, 4) Miami (12, 3) Charlotte (13, 11)
Above Average	***ROOM FOR GROWTH*** Denver (16, 24) Cleveland (17, 26) Houston (18, 19) Columbus (19, 17) Kansas City (21, 27) St. Louis (22, 34) Cincinnati (25, 31) Detroit (26, 30) Indianapolis (29, 29) Phoenix (32, 25) Las Vegas (35, 22)	***MATURE WALKABLE*** New York (1, 28) Seattle (4, 21) Portland (5, 32) Chicago (7, 18) Los Angeles (8, 23) Pittsburgh (9, 33) Philadelphia (10, 20) Minneapolis-St. Paul (11,35) Austin (14, 16)

(Current Rank, Future Rank)
Source: Smart Growth America

Bold Growth
There are five metros that have above average Current and Future indices: Boston, Washington, DC, San Francisco, Miami, and Charlotte. In the case of Miami, all of Florida had an increase in population in 2020 and 2021, and this has been especially true in South Florida. The additional development along areas like Brickell in Miami, and areas of Fort Lauderdale and Palm Beach in South Florida continue to drive future momentum. Charlotte has also been rapidly expanding as a region, and this reflects in its prices for the walkable places it has. In the case of San Francisco, the Bay Area as a whole has positive market indicators in terms of price and absorption for housing that drive future momentum, which is possibly a consequence of their housing shortage driving up prices. Boston and Washington, DC also have positive market growth indicators, but they are just above the line and are very close to the trends in our Mature Walkable regions.

Future Vision
Ten cities had a below-average Current Index while being above average in the Future Index. These cities, while not among the highest in walkability, are exhibiting momentum in this area. Many of them are in the Sunbelt region where there has been considerable U.S. population growth, such as Atlanta, Nashville, Dallas-Fort Worth, San Antonio, Tampa, and Orlando. The overall trend here is that these may not be places with as much walkable urbanism now, but what we see tends to be coming at

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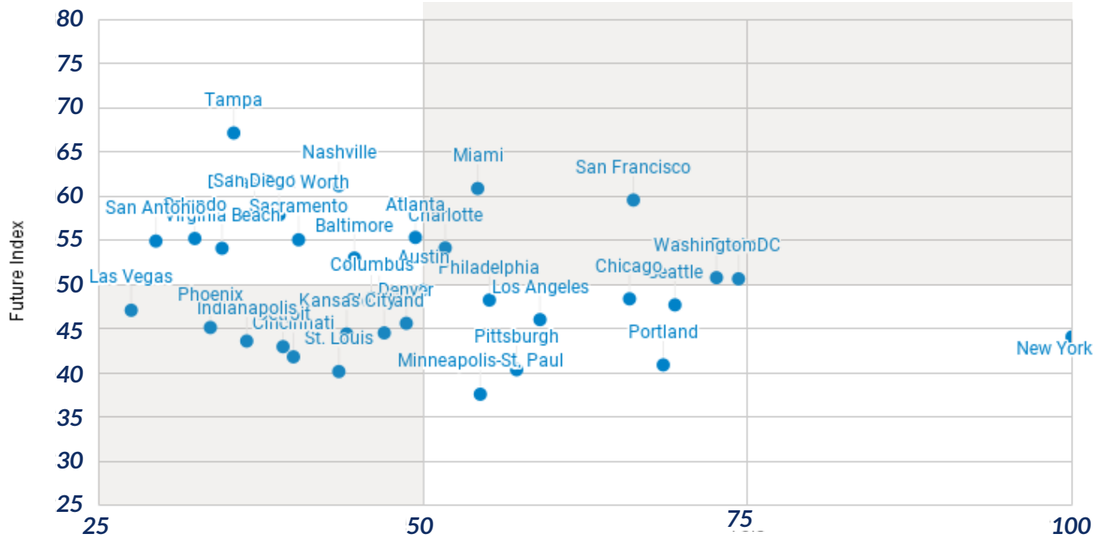
increasing premiums, and positive indicators of leasing activity and home prices. These are also areas where we tend to see more urbanization of previously drivable sub-urban areas.

Mature Walkable
Nine of the top fifteen cities in our Foot Traffic Ahead Current rankings are measured as below average in the Future Index. This could be for several reasons. First, the Covid-19 pandemic hurt many large metro areas that tended to have more expensive housing and commercial real estate costs as many people relocated from denser areas into more affordable locations to gain more household or outdoor space. Thus, larger walkable urbanism premiums began to level. Secondly, many larger regions, particularly those developed prior to World War II, have already achieved higher levels of walkability and have the capacity to make improvements where they can. They already have large transit systems, transit-oriented development (TOD) plans, and other infrastructure patterns that have led to them being walkable. These can be comparable to a "blue chip" stock: stable, reliable, but not as high growth potential.

Austin stands out here, and it is just on the line of the center, meaning its fate can possibly be in any of these quadrants depending on its choices to foster walkability. It has witnessed a large explosion in housing and population growth, with an extreme housing market surge during and since the pandemic. Austin is also expanding its light rail system as the region needs to accommodate its growing population—it grew 15% from 2017 through 2021. It is increasingly likely that its momentum ranking will elevate with an improved national economy, and its Current Index will likely increase if it continues to devote development along transit corridors.

Room for Growth
There were 11 metros that were below average based on both indices. Many of these cities have struggled with implementing walkability, such as Phoenix and Indianapolis. Many were former industrial cities in the Midwest like Minneapolis-St. Paul, Cleveland, Kansas City, St. Louis, and Cincinnati. Denver is distinct, however, as its indices are just slightly below average, and by the slightest change in momentum and current walkability, it could be a Bold Growth city. Its regional population hasn't grown as fast as Austin (closer to 2.8 percent growth from 2017 to 2021), but many pockets in Denver and its surrounding areas are rapidly developing toward walkable trends.



Pandemic Impact

From 2019 to 2021, before and during the ongoing recovery from the Covid-19 pandemic, walkability endures despite market disruptions due to the pandemic.

The COVID-19 pandemic brought substantial disruption to regions throughout the U.S., especially the largest metropolitan regions. As communities adapted to socially distancing, socializing outside, and minimizing unnecessary indoor, in-person interactions, many built environment and economic interventions supported these changes, such as the rise of drive-up and take-out retail, public space used for expanded outdoor dining, and fundamental changes to how we work. Many office workers now have an expectation of two to three days of work from home per week, which has deep implications for the office and housing markets. However, previous work by the authors of this report implies that the office market will generally endure as it can adapt to these changes and still retain broad historical trends in occupancy.[43] Even while there has been considerable flux within and across metropolitan regions, many migration decisions have been towards areas that are in or near walkable urbanism; sustained housing price premiums support this preference. The death of urban housing has also been greatly exaggerated.

Rent Trends

The Covid-19 pandemic's impact on commercial real estate can be shown in changes in rent premiums from 2019 through 2021 (for walkable urbanism as compared to drivable sub-urban product). Office product continues to favor walkable urban premiums, although they have come down in 21 of the 35 markets. These premiums have not been fully lost.

Retail has always been more specific to its particular market placement, and has followed different trends than office and multifamily (as discussed in our Future Momentum section). While retail premiums are somewhat scattered pre- and post-pandemic, we note that the change in retail premiums has been soft—only a drop of 1.8 percentage points—in the 17 markets where they went down. As a weighted average across all 35 markets, retail premiums have effectively not changed from about 41% in 2019.

Finally, multifamily rental products in walkable urbanism continue to have premiums in every market, as high as 80% in the New York region in 2021. While these asking rents did go down in almost every market, the overall trend is that the changes brought on by the Covid-19 pandemic appear to be temporary and that premiums will endure for multifamily housing.

Pandemic Impact: Rent Premiums, 2019 v. 2021

REGION	OFFICE			RETAIL			MULTIFAMILY		
	2019	*2021*	*Change*	*2019*	*2021*	*Change*	*2019*	*2021*	*Change*
Atlanta	37%	35%	-2%	125%	125%	1%	56%	44%	-12%
Austin	55%	35%	-20%	-12%	-13%	-1%	50%	41%	-9%
Baltimore	15%	25%	10%	4%	5%	0%	32%	26%	-6%
Boston	**92%**	**83%**	**-9%**	**19%**	**18%**	**-2%**	**48%**	**40%**	**-8%**
Charlotte	34%	31%	-3%	29%	31%	2%	55%	45%	-10%
Chicago	**52%**	**56%**	**4%**	**28%**	**27%**	**-1%**	**78%**	**65%**	**-13%**
Cincinnati	4%	4%	0%	NA	NA	NA	50%	42%	-8%
Cleveland	11%	10%	-1%	-10%	-12%	-2%	34%	32%	-2%
Columbus	25%	49%	24%	48%	46%	-2%	52%	43%	-9%
Dallas-Fort Worth	21%	20%	-1%	-1%	-1%	0%	33%	27%	-6%
Denver	25%	20%	-6%	149%	151%	3%	36%	29%	-7%
Detroit	42%	33%	-9%	19%	19%	0%	55%	47%	-8%
Houston	33%	30%	-3%	292%	294%	3%	42%	36%	-6%
Indianapolis	18%	13%	-5%	23%	23%	0%	41%	33%	-8%
Kansas City	3%	9%	6%	102%	104%	2%	50%	43%	-7%
Las Vegas	9%	-3%	-12%	136%	130%	-6%	6%	6%	0%
Los Angeles	**26%**	**37%**	**11%**	**63%**	**65%**	**2%**	**35%**	**24%**	**-11%**
Miami	66%	77%	11%	-27%	-26%	1%	30%	25%	-5%
Minneapolis-St. Paul	17%	15%	-2%	NA	NA	0%	40%	34%	-6%
Nashville	29%	31%	2%	-24%	-18%	6%	85%	75%	-10%
New York	**157%**	**105%**	**-51%**	**NA**	**NA**	**NA**	**102%**	**80%**	**-22%**
Orlando	10%	20%	10%	-8%	-7%	1%	23%	24%	1%
Philadelphia	19%	22%	4%	2%	1%	-1%	45%	37%	-8%
Phoenix	23%	20%	-3%	101%	99%	-2%	34%	26%	-8%
Pittsburgh	29%	30%	1%	-37%	-37%	1%	53%	50%	-3%
Portland	**27%**	**9%**	**-18%**	**-11%**	**-11%**	**0%**	**36%**	**28%**	**-8%**
Sacramento	50%	73%	24%	-1%	-3%	-3%	26%	22%	-4%
San Antonio	18%	3%	-15%	4%	1%	-3%	41%	35%	-6%
San Diego	0%	26%	26%	-1%	-3%	-2%	32%	28%	-4%
San Francisco	**45%**	**36%**	**-9%**	**40%**	**41%**	**1%**	**26%**	**20%**	**-6%**
Seattle	**66%**	**50%**	**-16%**	**58%**	**56%**	**-2%**	**55%**	**41%**	**-14%**
St. Louis	3%	7%	5%	-25%	-25%	0%	41%	35%	-6%
Tampa	63%	54%	-9%	-12%	-13%	-1%	48%	46%	-2%
Virginia Beach	22%	20%	-2%	NA	NA	NA	36%	34%	-2%
Washington, DC	**73%**	**73%**	**0%**	**110%**	**107%**	**-3%**	**50%**	**41%**	**-9%**
WT. AVG.	49.7%	44.2%	-5.6%	41%	41%	0.0%	50.3%	40.8%	-9.5%

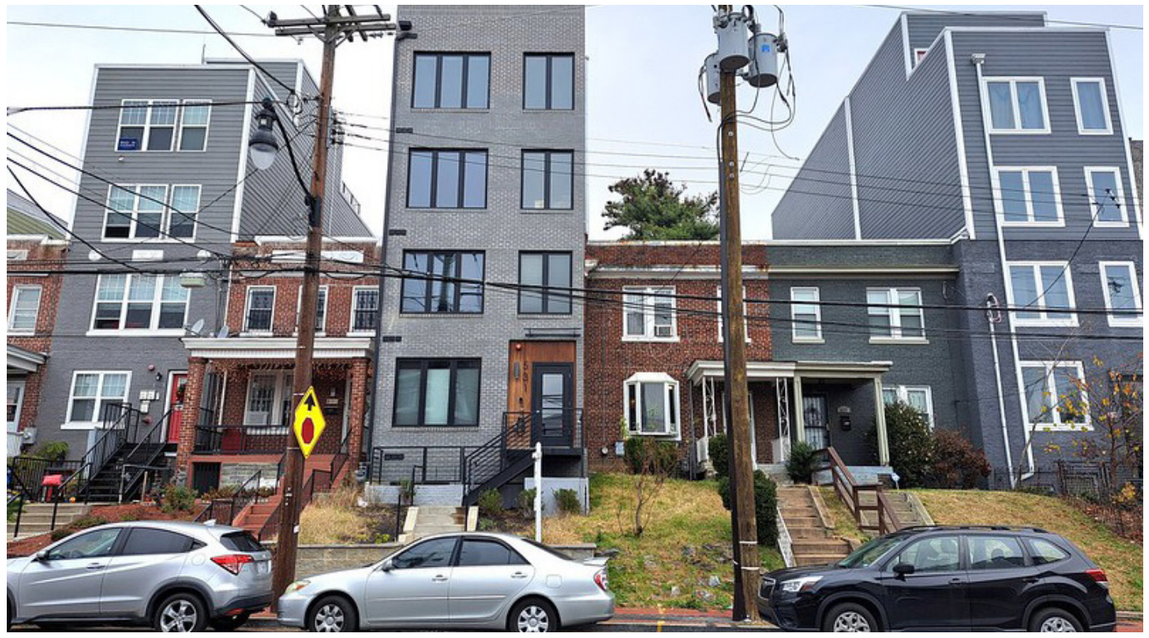
Source: Smart Growth America; Yardi Matrix; REIS Moody's
Premiums indicate prices for walkable urbanism as compared to drivable sub-urban product.
Green shade indicates Top 8 (Tier 1) regions in our Foot Traffic Ahead rankings.

Absorption Trends

Net absorption for commercial space reveals that the Covid-19 pandemic did hurt leasing trends in almost all markets for office spaces; mixed impacts for retail; and very little impact for multifamily rental housing. In the case of office spaces, the pandemic did not hurt walkable urbanism to a greater extent than drivable sub-urban areas. On the contrary: for most product types, and in most markets, walkable urbanism proved more resilient to the Covid-19 pandemic than drivable sub-urban. For example, in the Washington, DC region, office spaces in walkable urbanism lost 12 million sq. ft. of leasing, but drivable sub-urban offices fared worse and lost 16.8 million sq. ft. Across all 35 markets, drivable sub-urban areas lost 219 million sq. ft. of leasing compared to a loss of 114 million sq ft. in walkable urbanism.

Retail absorption is a bit more unique to the market following the trend in retail premiums. Retail absorption fared better in some walkable urbanism markets, and worse in others. No obvious patterns reveal themselves by region size or geography, showing that retail markets are unique and that product absorption continues to be driven by trends in e-commerce, experience, and changes in food and beverage establishments like fast-casual dining.

Multifamily trends show that the Covid-19 pandemic did not hurt multifamily leasing or cause a negative trend in the 35 metros. In fact, all of the regions have added multifamily leasing since 2019. Further, walkable urbanism had greater net absorption than drivable sub-urban areas in 30 of 35 markets. The only exceptions were Austin, Miami, Nashville, New York, and San Antonio. In the case of Austin, Miami, and New York, rental price pressures for walkable urban living may have led to some of that difference. Net multifamily absorption across the 35 markets totaled 333 million square feet in walkable urbanism, outpacing 241 million square feet in drivable sub-urban areas.



Pandemic Impact: Net Absorption (mil. sq. ft.), 2019 v. 2021

REGION	OFFICE		RETAIL		MULTIFAMILY	
	WALKABLE	DRIVABLE SUB-URBAN	WALKABLE	DRIVABLE SUB-URBAN	WALKABLE	DRIVABLE SUB-URBAN
Atlanta	-4.2	-15	0.1	-0.4	15.7	7
Austin	2	-3.1	-1.1	-0.5	10.8	17.5
Baltimore	-3.2	-6	0.3	0.2	4.6	1.6
Boston	**1.6**	**-3.9**	**-0.1**	**-0.2**	**6.6**	**6.1**
Charlotte	2.4	-4.1	-0.3	3.2	12	11.2
Chicago	**-6**	**-30.5**	**-0.6**	**-1.1**	**6.9**	**3.3**
Cincinnati	-2.5	-4.6	-0.2	2	3.9	2.6
Cleveland	-1.5	-2.4	0	-0.2	3	0.2
Columbus	-2.1	-6.7	0.1	1.8	7.8	5.8
Dallas-Fort Worth	-7	-14.6	-0.8	-1.2	31.8	22.5
Denver	-2.7	-7.3	0.1	-2.2	8.6	6
Detroit	-2.3	-4.3	0.1	0.7	5.1	0.9
Houston	-17.9	-13.7	-0.1	4.1	28.8	18.1
Indianapolis	-1	-3.2	-0.2	-0.4	6.1	4.1
Kansas City	-1.3	-3.1	-0.3	-0.2	6.8	4.2
Las Vegas	0.1	-1.8	0.2	1.6	8.7	6.5
Los Angeles	**-8**	**-12.9**	**-1.7**	**2.6**	**17.2**	**6.6**
Miami	-3.5	-4.3	0.7	0.1	15.2	16.3
Minneapolis-St. Paul	-5.7	-7.5	-0.6	-1.9	6	3.7
Nashville	2.6	-1.7	0.1	-0.5	5.5	6.4
New York	**-22.6**	**-24.2**	**NA**	**NA**	**8.3**	**8.7**
Orlando	-1.1	-1.1	-0.2	3.5	15.3	10.5
Philadelphia	-2.7	-15.6	-1.4	1.7	9.6	4
Phoenix	-0.3	-2.5	-0.2	0	12.8	11.1
Pittsburgh	-2.6	-3.7	0.2	-3	2.7	1
Portland	**-2.9**	**-0.6**	**-0.1**	**0.2**	**3.2**	**2.3**
Sacramento	-0.7	-6.2	0.3	2.7	3.1	0.1
San Antonio	1.1	-4.4	0.5	-0.1	11.4	12.4
San Diego	-1	-4.7	0	-1	5.9	4.1
San Francisco	**-6.5**	**4.1**	**-3.1**	**-2**	**8.5**	**5.6**
Seattle	**0.3**	**9.4**	**0**	**1.6**	**10.3**	**7.4**
St. Louis	-2.2	-3.9	-0.6	-2.2	2.8	1.9
Tampa	-0.8	3	-0.1	1	9.5	6.9
Virginia Beach	-0.1	-1.4	NA	NA	4.6	4.5
Washington, DC	**-12**	**-16.8**	**-0.9**	**-1.5**	**13.4**	**10.1**
TOTAL	**-114.4**	**-219.4**	**-9.7**	**8.5**	**332.6**	**241.1**

Source: Smart Growth America; Yardi Matrix; REIS Moody's
Premiums indicate prices for walkable urbanism as compared to drivable sub-urban product.
Green shade indicates Top 8 (Tier 1) regions in our Foot Traffic Ahead rankings.

For-Sale Housing Prices

As also shown in the Future Momentum section, for-sale housing has substantial premiums across the 35 metros we evaluated, but the Covid-19 pandemic appears to have modestly reduced the walkable urban price premium in walkable urbanism housing prices (as measured in price per sq. ft), but it still a substantial 33.5% higher than drivable sub-urban for-sale housing. In 2019, all 30 regions we studied had a walkable urban premium in for-sale housing, while 29 did in 2021. The 2021 premiums were as high as 90% for walkable urban housing in the Washington, DC region; and as modest as 4% in the Minneapolis-St. Paul region.

The largest decreases were in Las Vegas, Atlanta, Seattle, Minneapolis-St. Paul, and San Francisco. Some of these markets like Seattle and San Francisco were possibly on the verge of a housing price bubble. Of all 35 metros, walkable urban premiums of for-sale housing went from positive to negative, except in the Philadelphia region where it went from a 5% premium to par.

Housing prices, of course, are a double-edged sword. On the one hand, many regions are facing a housing crisis where homeownership is increasingly unattainable due to rising homeownership costs. On the other, home equity is an important part of middle-class wealth in the U.S. The Covid-19 pandemic did decrease home equity wealth in walkable urbanism relative to drivable sub-urban areas, but it also made walkable urban areas marginally more affordable to buy a home in by deflating some price pressures that were soaring pre-pandemic.

Markets & Future Momentum

Pandemic Impact: For-Sale Housing Premiums, 2019 v. 2021

REGION	PREMIUM 2019	PREMIUM 2021	CHANGE IN PREMIUM
Atlanta	85.2%	69.9%	-15.3%
Austin	50.2%	42.8%	-7.4%
Baltimore	-0.3%	-6.7%	-6.3%
Boston	**40.3%**	**32.9%**	**-7.4%**
Charlotte	83%	77.1%	-5.9%
Chicago	**46.3%**	**42.1%**	**-4.3%**
Cincinnati	-3.5%	-1.4%	2.1%
Cleveland	-15%	-16.2%	-1.2%
Columbus	25.4%	23.8%	-1.7%
Dallas-Fort Worth	57.5%	51.3%	-6.2%
Denver	51.4%	44.6%	-6.8%
Detroit	-9.9%	-5.1%	4.8%
Houston	96%	89.8%	-6.%
Indianapolis	34.7%	35%	0.4%
Kansas City	10.3%	10.2%	-0.1%
Las Vegas	73.2%	54.6%	-18.7%
Los Angeles	**39.4%**	**33.3%**	**-6.1%**
Miami	47.6%	41.1%	-6.5%
Minneapolis - St. Paul	13.7%	4.5%	-9.2%
Nashville	66.8%	60.3%	-6.5%
New York	**11.3%**	**12.5%**	**1.2%**
Orlando	38.3%	39.4%	1.2%
Philadelphia	5%	0%	-5%
Phoenix	28.8%	29.7%	0.9%
Pittsburgh	8.7%	10.1%	1.3%
Portland	**28.2%**	**25%**	**-3.2%**
Sacramento	29.2%	27.1%	-2%
San Antonio	25.5%	24.8%	-0.7%
San Diego	51.6%	46.9%	-4.7%
San Francisco	**18.4%**	**10.2%**	**-8.1%**
Seattle	**61%**	**49.6%**	**-11.3%**
St. Louis	-5.7%	-8.5%	-2.8%
Tampa	57.2%	56.4%	-0.8%
Virginia Beach	27.5%	21.5%	-6.1%
Washington, DC	**90.9%**	**89.9%**	**-1%**
WT. AVG.	**37.8%**	**33.%**	**-4.3%**

Source: Smart Growth America; Rocktop Partners LLC

Note: For-sale housing premiums measured based on price per square foot of housing, and are based on estimated housing values per AVM data.

Green shade indicates Top 8 (Level 1) regions in our Foot Traffic Ahead rankings.

CORRELATIONS AND FINDINGS

Metro GDP, Educational Attainment, and Walkable Urbanism

Our research shows that a higher level of walkable urbanism in a metro area is correlated with increased educational attainment and economic vitality.

A metro area's Foot Traffic Ahead Index, which measures walkable urbanism, is significantly correlated with the educational attainment of its workforce and its per capita gross domestic product (GDP). Metro areas that have a higher amount of their total office, retail, multi-family rental, and for-sale housing space in walkable urban places tend to have a population with higher levels of educational attainment and a higher per capita GDP.

In one sense, the so-called "creative class" of the knowledge economy has been drawn to amenity-rich areas for quite some time.[44] Further, the "agglomeration economy" forces that tend to draw higher-education creative people to concentrate in certain areas have tended to increase over the decades; that concentration continues to attract businesses, and then an upward spiral of growth ensues. Thus, in one sense there is a self-selection of higher-educated and higher-income people towards these areas, and the businesses that desire their talents. This is what urban economist Enrico Moretti calls "the great migration of achievers."[45]

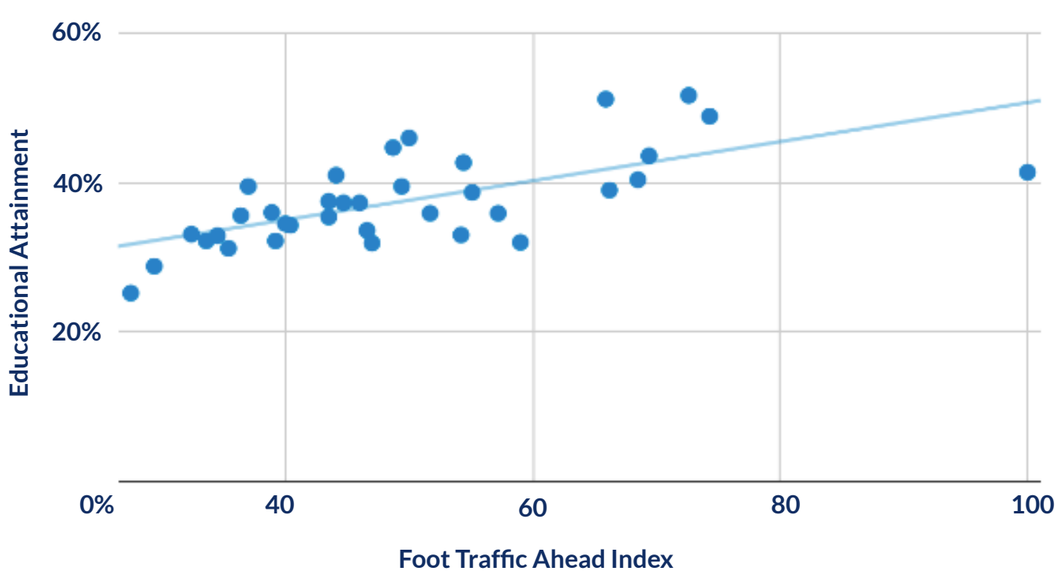
Additionally, many cities and regions have also invested in walkability as part of their economic development strategy.[46] This has often involved investments in transit, downtown revitalization around street grids, addressing zoning that fosters walkable environments, and many of the policy solutions we address later in our conclusions.
On the flip side, we recognize this poses an equity problem. Due to increasing housing costs, the previous few census years have shown continued net out-migration in large regions for those without bachelor's degrees and people who work in lower-wage service industry jobs. These individuals have been seeking lower housing costs and similarly-situated jobs as commute times and housing affordability for them have increased in higher-cost regions. This is partly exacerbated by the housing crisis and the lack of housing supply in many of these larger cities where walkability tends to be highest.

Walkable Urbanism and Educational Attainment

Research has demonstrated that in the past decade or so, many companies have been choosing to locate in vibrant, walkable neighborhoods in part because of the desire to attract talent.[47] For example, Amazon's decision to locate to Arlington in metro Washington, DC exemplifies the importance of a highly-skilled workforce when companies make choices about where to develop or invest in the future. Our research confirms that in the 35 metro areas considered in this study, walkability is correlated with the level of education in its workforce.

An analysis of the current percentage of the Foot Traffic Ahead Index and their level of educational attainment (as measured by the percentage of the population of 25 years old with a bachelor's degree or higher) shows that there is a strong positive correlation. This relationship is evident when examining the top and bottom tiers of walkable urbanism. The top eight regions in our current rankings have a population-weighted educational attainment of 42% with a bachelor's degree or higher, compared with 33% for the lowest eight ranked metros.

Educational Attainment vs. Foot Traffic Ahead Index

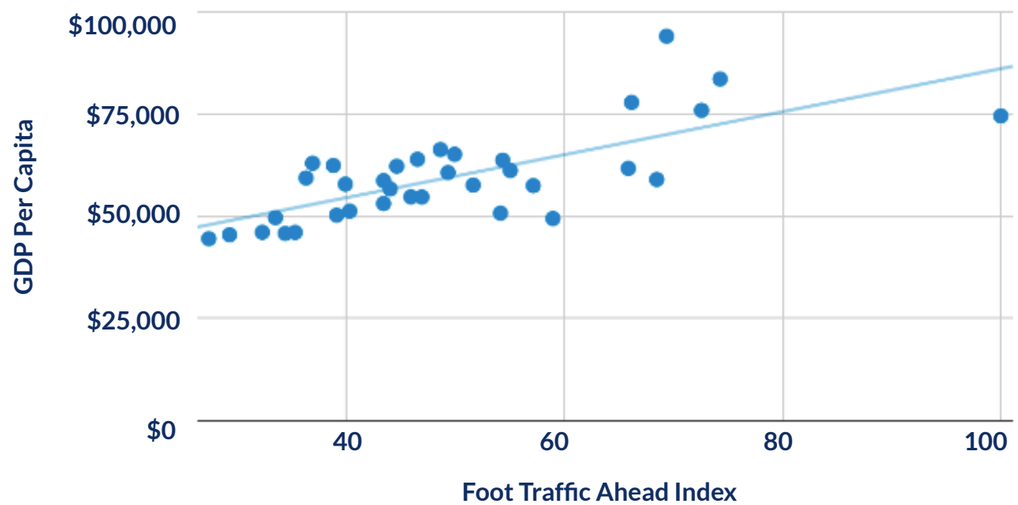


Walkable Urbanism and GDP

There is a well-researched relationship between the educational attainment of a metropolitan area's workforce and its GDP per capita: higher-educated individuals work in industries that tend to be more productive. The Federal Reserve Bank of New York found that in U.S. metro areas, "a one-percentage point increase in the proportion of residents with a college degree is associated with about a 2 percent increase in metropolitan area GDP per capita."[48]

Our scatterplot of the 35 largest U.S. metros shows this positive correlation. The eight highest-ranked metro areas by Foot Traffic Ahead Index have a population-weighted average per capita GDP of $68,285. This compares to the lowest eight metros for walkable urbanism which have a population-weighted average per capita GDP of $50,297. This is a 36% per capita GDP "premium" associated with walkable urban development, and it is larger than the per capita GDP gap between the UK and Italy.

GDP Per Capita vs. Foot Traffic Ahead Index



Correlation Summary

It is important to note that this research does not indicate that walkable urbanism causes higher education or whether a more highly-educated population spurs more walkable development in a metro area. Furthermore, it does not indicate whether walkable places increase the GDP per capita in a metro area or whether wealthier places are simply better able to invest in walkable development and transit. This study also acknowledges that a long-term longitudinal study of walkability and economic outcomes could help us better understand how these concepts are related. However, regardless of specific causality, the factors of walkability, economic activity, and educational attainment are positively associated with one another in the nation's largest 35 metro areas.

CONCLUSIONS AND POLICY RECOMMENDATIONS

Conclusions

Overall our findings show that across the 35 largest metropolitan regions in the U.S., that there is continued demand for walkable urban real estate, be it in major areas that we call Type I WalkUPs, or in Type II walkable urban neighborhoods. Commercial real estate in walkable urbanism still sees price premiums over 40%; and we also see 34% premiums in for-sale housing. Importantly, walkable urbanism was economically resilient to the real estate impacts of the Covid-19 pandemic as demonstrated by changes in premiums and leasing trends. The continued market interest in walkability should inspire the continued development of walkable places–as well as policy changes to reduce the current barriers to developing mixed-use, walkable places.

Unfortunately, the continued demand for walkable urbanism, and limited supply, have driven up costs and reduced affordability in many metropolitan areas, making these areas inaccessible to low- and moderate-income households. However, our research also found that some metropolitan areas have walkable areas with significant income and racial diversity, as well as well-connected transit systems that enable convenient access to the economic hubs that are walkable areas. Our Social Equity Index has also shown that walkable urbanism is not necessarily a trade-off with social equity considerations.

When considering where the momentum is for walkable urbanism, our Future Momentum rankings can give hope to regions that might not be there today. Places continue to evolve, and the set of walkable urbanism is not cast in stone; these places can still be created through sound planning, development, public input, policy, and design.

For real estate investors and developers, the implications of this report are that the market continues to orient itself towards walkable urbanism in the 21st century. Many forward-looking developers continue to focus on mixed-use and walkable development, and to harmonize with local transit, bike, and micro-mobility infrastructure. For investors, continued growth in walkable urbanism suggests these are areas to focus on rather than the declining 20th-century office parks and strip malls; and that even the declining areas can be revitalized with investment that reorients an area to walkability. Finally, our Future Momentum rankings, and the data supporting it, give both developers and investors an idea of which regions may likely see growth in walkable urbanism in the coming years.

Given how we measure walkable urbanism, what we know about the state of real estate markets, and our expertise in smart growth, we see several key categories of opportunity for metropolitan areas that are looking to increase walkability and equitable access to it.

Conclusions and Policy Recommendations

Advance zoning reform

Historically, zoning has increased racial and economic segregation in the U.S., dividing cities and fostering less diversity in the built environment by separating different types of uses, such as housing, retail, and office development as well as preventing minorities from accessing the "American Dream" which precludes upward social mobility. Zoning reform is critical to developing a wider range of housing typologies, including more affordable and "missing middle" housing, such as duplexes and small-scale apartment buildings as well as leading the way for increasing housing stock in general by allowing for the development of more units (which will naturally increase affordable housing). From implementing form-based codes, to supporting infill and dense development around established transit corridors, relaxing (or ideally eliminating) parking minimums, allowing for a mix of uses within traditional zones (a relatively easy policy lift while simultaneously allowing for cost savings by using existing infrastructure), encouraging housing development by adopting inclusionary zoning, and so on, regions would do well to expand what can be built. In addition to increasing housing options, this can also support small and local businesses. Addressing zoning constraints to building walkable urbanism is a first step, which then must be followed by new construction—a step that can take time especially when there are site constraints, or little knowledge of mixed-use, mixed-income development typologies in the local real estate community.

Foster non-auto travel

Walkable urbanism requires a system of transportation that allows people to get around without always having to use a car. These systems can comprise of public transportation networks that include multiple forms of transportation such as buses, light rail, heavy and commuter rail, biking, micro-mobility, and others. Expanding transit systems, and especially supporting transit-oriented development (TOD) along those corridors, would help bring housing and businesses to new transit investments while boosting a region's rankings. Investment in complete streets—which ensure that roads are designed for safe and comfortable travel by pedestrians, cyclists, and individuals outside of cars—is also critical. Well-connected, multi-modal transportation systems and infrastructure support broadening access to walkable areas, as well as deliver many quality of life, public health, and climate mitigation benefits.

Invest in new affordable housing and preserve existing affordability for homes and businesses

Walkable urbanism thrives when a mix of people from all walks of life enjoy the benefits of the amenities it affords. In many U.S. markets, it is challenging for low- and moderate-income households to access the benefits of walkability given the market premiums discussed. Local governments need to both prioritize investing in new affordable housing and preserving existing affordability through strategies such as community land banks, tenants' rights legislation, financing tools, and other supportive policies. Strategies to support and preserve affordability will be different and must account for local market dynamics. Such strategies may include a range of developer requirements for affordable units, public housing investment, and locally-tailored subsidies for workforce housing.

Plan for future climate impacts

The impacts of climate change are beginning to influence global real estate markets as investors gain an understanding of the financial impacts of climate risk including the costs of flooding, extreme heat, drought, and wildfire. These climate impacts are already harming communities across the country, with harm disproportionately felt by those historically marginalized by land use policy. Yet, growth continues at pace in many locations which are by nature more vulnerable to climate impacts on account of elevation, location in the floodplain, or Wildland Urban Interface (WUI): for example, counties with a large share of homes facing high heat risk had 4.7% population growth from 2016-2022 due to net migration.[49] To be better prepared for a future that will see increasingly frequent and severe climate events, metropolitan areas should plan for development in locations that are most prepared for these climate hazards, as well as update building and planning standards to recognize likely future conditions. WalkUPs and walkable neighborhoods need to be climate-prepared—whether through investment in climate adaptation infrastructure, or improved design standards for flood preparedness and other climate hazards. Future growth planning should also take climate factors into account, especially given the likelihood of increasingly severe conditions over the lifespan of new development.

While the current Foot Traffic Ahead rankings do not consider climate risk, this is a factor that will increasingly influence the level of investment, economic development potential, and affordability.

Conclusions and Policy Recommendations

Further Study

The Foot Traffic Ahead series has continued to evolve since we first introduced it in 2014. We hope to continue to improve methods, add additional data sources, and find other ways to interpret these measures and findings.

The first advancement we anticipate is continuous updating of our maps. Places Platform, LLC, and their forthcoming product, PlacesLens™, will enable continuous data feeds to update the typology of every CBG in the U.S. as fast as new datasets are available. This also will provide a time-series view of the U.S. and where we see changes.

Similarly, we are interested in advancing the Standard Distance Index as a time series. While this year we have identified a snapshot of this index for 2021, we anticipate updating our categorization of CBGs continuously as Places Platform, LLC advances its data set. This will enable us to see standard distance change over time, furthering our understanding of where we see momentum in urbanizing suburbs, and where the momentum in urbanizing suburbs is.

Third, we recognize that zoning and zoning reform is an important topic in the housing community, impacting housing prices and where regions can build affordability. Currently, much of medium-density mixed-use development is illegal in most of the country's metro areas: most developable land is zoned exclusively for single-family housing. As many cities throughout the U.S. make changes to their zoning, we can evaluate its impacts on walkability and market indicators.

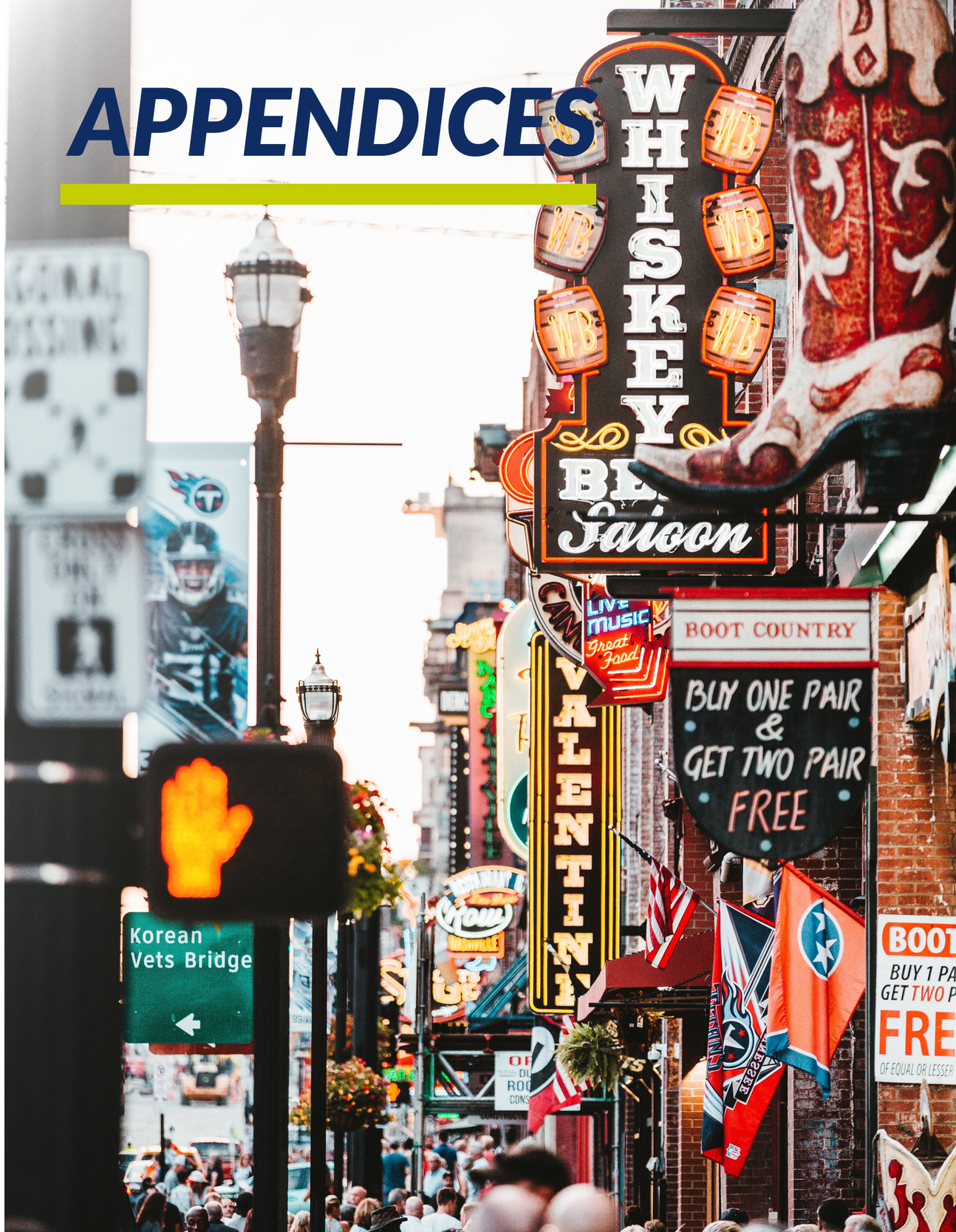
Climate risk and resilience are also of key importance. Communities across the country are experiencing increasingly frequent and severe climate impacts which are putting people at risk, disrupting businesses, and damaging property. For walkable, urban places to continue to be successful hubs for housing and economic development, these areas need to be prepared for future climate impacts. Cities should also seek to develop future high-density, mixed-use development areas in places that face fewer climate hazards—and preserve affordability in these areas, which otherwise might face "climate gentrification." SGA has worked with Norfolk, Virginia, to consider the fiscal impact of its recent climate-informed zoning. Future Foot Traffic Ahead analyses may fold in climate data, such as flood, extreme heat, and wildfire vulnerability.

Final Thoughts

Through the years the Foot Traffic Ahead series has rung a bell telling the public that walkable urbanism will become increasingly important for 21st-century cities and towns. In each edition, and this one coming with data through the full impact of Covid-19 (end of 2021), we continue to illustrate market trends telling us that individuals are clamoring for housing and commercial space in walkable urban places, and the transportation networks to access them. These places are the engines of regional economies, and in turn, the engines of the U.S. economy, and they afford great opportunities for economic mobility, health, and overall well-being for the people who can live in and near them. Unfortunately, there aren't enough of these places to go around and sound policy, development, and infrastructure decisions are needed to expand the ones we have and continue to add more throughout our metropolitan regions.

At Smart Growth America we envision a country where no matter where you live, or who you are, you can enjoy living in a place that is healthy, prosperous, and resilient. This report shows that walkable urban places are essential for meeting that vision, and a sound choice for developers and investors looking to partner with their communities to foster them. We hope that until our next update, there will be plenty of foot traffic ahead around all the regions that we call home.

APPENDICES



Rank Comparisons - Foot Traffic Ahead 2023

REGION	FOOT TRAFFIC AHEAD RANK	SOCIAL EQUITY RANK	FUTURE MOMENTUM RANK
New York	1	2	28
Boston	2	12	15
Washington, DC	3	8	14
Seattle	4	17	21
Portland	5	26	32
San Francisco	6	22	4
Chicago	7	14	18
Los Angeles	8	35	23
Pittsburgh	9	6	33
Philadelphia	10	5	20
Minneapolis-St. Paul	11	10	35
Miami	12	33	3
Charlotte	13	23	11
Austin	14	28	16
Atlanta	15	27	7
Denver	16	18	24
Cleveland	17	1	26
Houston	18	21	19

REGION	FOOT TRAFFIC AHEAD RANK	SOCIAL EQUITY RANK	FUTURE MOMENTUM RANK
Columbus	19	25	17
Baltimore	20	7	13
Kansas City	21	3	27
Nashville	22	31	2
St. Louis	22	11	34
Sacramento	24	20	9
Cincinnati	25	9	31
Detroit	26	4	30
Dallas-Fort Worth	27	29	6
San Diego	28	32	5
Indianapolis	29	13	29
Tampa	30	34	1
Virginia Beach	31	23	12
Phoenix	32	19	25
Orlando	33	30	8
San Antonio	34	15	10
Las Vegas	35	16	22

Rankings by Share of Real Estate in Type I

REGION	OFFICE %TYPE I	MULTIFAMILY RENTAL % TYPE I	RETAIL % TYPE I	FOR- SALE HOUSING % TYPE I	COMBINED %TYPE I
New York	62.8%	11.8%	21.2%	0.4%	11.5%
Chicago	46.8%	12.1%	3.6%	0.8%	4.5%
Washington, DC	50.1%	14.9%	9.3%	1.7%	7.8%
Seattle	49%	14.%	11.8%	1.2%	5.9%
Boston	37.8%	13.6%	5.8%	1.7%	5.9%
Pittsburgh	40.1%	8.9%	1.6%	1.3%	3.7%
Portland	41.2%	14.2%	10%	1%	4.6%
Cleveland	32.6%	8.3%	3.2%	0.3%	2.5%
San Francisco	30.2%	13.3%	15.2%	1.6%	6.5%
Minneapolis-St. Paul	28.8%	7.8%	1.3%	0.8%	3.3%
Houston	28.8%	3.4%	4.1%	0.3%	2.4%
Atlanta	34%	8.9%	8.5%	1%	3.8%
Charlotte	31.3%	5.8%	5.6%	0.7%	2.7%
Columbus	28.8%	3.5%	8.1%	0.5%	3.1%
Philadelphia	29%	7.8%	2.2%	1%	2.9%
St. Louis	29%	9.9%	3%	0.7%	2.7%
Detroit	20.8%	3.5%	0.3%	0.2%	1.4%
Sacramento	23.1%	2.7%	2.9%	0.3%	1.8%
Nashville	27%	7.5%	0.4%	0.7%	2.3%
Austin	28%	9.4%	17.6%	1.9%	5.5%
Cincinnati	24.6%	4.4%	5.2%	0.2%	2.1%
Los Angeles	28.9%	8.6%	6.1%	1.2%	3.4%
Denver	27.5%	10.1%	5.0%	1.4%	4.1%
Baltimore	24.2%	8.4%	3.2%	0.8%	2.8%
Indianapolis	19.9%	2.2%	2.6%	0.2%	1.3%
Kansas City	20.5%	5.3%	3.8%	0.4%	2.1%
Dallas-Fort Worth	20%	4.6%	4.5%	0.8%	2.7%
Miami	18.8%	7.2%	7.2%	1.3%	2.7%
Phoenix	14.4%	4.2%	2.2%	0.3%	1.4%
Virginia Beach	15.5%	3.4%	7.1%	0.6%	1.8%
Tampa	13.7%	2.6%	0.6%	0.4%	1%
San Diego	12.3%	8.6%	3.6%	1.2%	2.7%
San Antonio	11%	1.8%	4.3%	0.3%	1.2%
Orlando	12.7%	3.2%	5.2%	0.6%	1.8%
Las Vegas	3.8%	0.2%	6%	0.5%	1.2%
WT. AVG	33.6%	8.7%	7.6%	0.9%	4.6%

Appendices

Rankings by Share of Real Estate in Type II

REGION	OFFICE % TYPE II	MULTIFAMILY RENTAL % TYPE II	RETAIL % TYPE II	FOR- SALE HOUSING % TYPE II	COMBINED % TYPE II	FOOT TRAFFIC AHEAD INDEX TYPE II
New York	**10.4%**	**58.5%**	**38%**	**17.5%**	**23.6%**	**100**
Boston	**9.6%**	**30.8%**	**5.4%**	**22.9%**	**21.1%**	**83.7**
Portland	**13.2%**	**22.5%**	**16.8%**	**19.8%**	**19.5%**	**76**
San Francisco	**7.7%**	**22.2%**	**7.1%**	**19.6%**	**17.5%**	**74.1**
Los Angeles	**13.4%**	**21.8%**	**15.1%**	**16%**	**16.2%**	**68.2**
Chicago	**5.9%**	**32.7%**	**7.2%**	**14.4%**	**14.2%**	**67.5**
Philadelphia	10.7%	17.2%	5.6%	15.2%	14.3%	64.6
Miami	18.1%	17.5%	23.3%	13%	14%	63.4
Seattle	**11%**	**23.1%**	**7.6%**	**11.3%**	**12.1%**	**60.6**
Minneapolis-St. Paul	9%	22.1%	4.9%	9%	9.7%	55.9
Pittsburgh	11.2%	18.7%	5.1%	10.6%	10.6%	55.7
Washington, DC	**5.5%**	**19.1%**	**3.2%**	**6.9%**	**7.7%**	**52.3**
Denver	5.5%	12.9%	1.4%	9.2%	8.6%	51.6
Baltimore	8.9%	10.5%	5%	7%	7.2%	46.8
San Diego	2.7%	4.5%	2%	7.2%	6.2%	45.2
St. Louis	4.3%	10.3%	2%	6.3%	6.1%	44.5
Tampa	7.3%	9.2%	4%	6.2%	6.3%	44.5
Austin	5.7%	10.5%	4%	4.8%	5.5%	43.8
Houston	9.7%	10%	3.1%	4.7%	5.4%	43.7
Columbus	7.7%	7.8%	3.3%	4.5%	4.9%	41.6
Charlotte	8.6%	8.5%	5.4%	1.5%	2.7%	40.7
Kansas City	10.6%	7.5%	2.5%	2.3%	3.2%	40.3
Cleveland	4.8%	9.3%	2.8%	3.5%	3.9%	39.7
Sacramento	7.4%	4.6%	2%	4.1%	4.1%	39.5
Cincinnati	5.9%	6.7%	1%	3.6%	3.7%	38.8
Nashville	7.6%	6.2%	1.6%	3.3%	3.6%	38.7
Dallas-Fort Worth	4.4%	6.2%	3.5%	2.5%	3.2%	37.7
Orlando	7.1%	5.2%	1.2%	3.1%	3.2%	37.7
Virginia Beach	2%	2.9%	7.3%	2%	2.5%	37.2
Atlanta	3.6%	6.2%	1.9%	1.8%	2.3%	36.3
Indianapolis	4%	5.1%	2.9%	1.7%	2.2%	35.5
Detroit	3.5%	5.2%	0.5%	1.7%	2%	35
Phoenix	3.6%	5.1%	1.6%	1.4%	1.8%	34.8
San Antonio	4.1%	3.7%	0.9%	2%	2.2%	34.8
Las Vegas	2.7%	4.2%	1.4%	0.9%	1.3%	33.8
WT. AVG	**8.4%**	**21.7%**	**10.9%**	**10.8%**	**11.7%**	

Green shade indicates Top 8 (Level 1) regions in our Foot Traffic Ahead rankings.

Endnotes

1. Floor area ratio is a common metric to measure density used by governments all over the world. It is the ratio of floor area, over all floors, to the base lot area. When the ratio is high, it usually suggests either using more of the lot, building additional floors, or both.
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12. When data were only available at the CBG level in 2010 definitions, we imputed data to 2020 CBGs based on population weighting using Census Bureau crosswalks.
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14. U.S. Environmental Protection Agency (2021), *Smart Location Mapping*, Smart Location Database [GIS database], https://www.epa.gov/smartgrowth/smart-location-mapping#SLD

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15. American Enterprise Institute Housing Center (2021), *Walkable Oriented Development* [CSV data], https://www.aei.org/wod/
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SGA, together with Places Platform, LLC, present the fourth installment of our Foot Traffic Ahead series. Together with our research data partners Yardi Matrix and Rocktop Partners, LLC, we have assembled key data on the state of walkable urbanism. This series, which dates back to 2014, measures and ranks walkability in America's largest metros and shines light on the outsized economic outputs of these areas. Through the various Foot Traffic Ahead reports, we show that through time, walkable urbanism continues to be a critical part of the economy and that places all across the country face challenges in expanding walkability and ensuring that people can access it. As long as the market demand for well-connected, mixed-use neighborhoods continues to dramatically exceed supply, safeguarding affordability in walkable areas will continue to be a challenge that will require proactive engagement by policymakers, advocates, and triple-bottom-line oriented real estate developers.

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