AFIRE SUMMER 2020

SUMMIT

NEXT STEPS

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AFIRE

AFIRE IS THE ASSOCIATION FOR INTERNATIONAL REAL ESTATE INVESTORS FOCUSED ON COMMERCIAL PROPERTY IN THE UNITED STATES.

Established in 1988 as an essential forum for real estate investment thought leadership, AFIRE provides a forum for its senior executive, institutional investor, investment manager, and service provider members to help each other become **Better Investors, Better Leaders, and Better Global Citizens** through conversations, research, and analysis of real estate capital markets, cross-border issues, policy, economics, technology, and management. AFIRE has more than 200 member organizations from 24 countries representing approximately $3 trillion USD in assets under management.

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NOTE FROM THE EDITOR

When we published our most recent issue of Summit in May, the dangers and disquiet of COVID-19 were still being revealed. New investments were put on pause as we focused on near-term operating and asset management issues and wondered when there might be a return to “normal.”

Now, a few months down the line, the formerly abstruse scientific language of public health is commonplace. Many of us now speak of R-values and comorbidities as casually as we talk about the weather and last weekend’s football game. And meanwhile, the short- and long-term economic implications of the global pandemic, while still imprecise, are at least better understood than they were in March, when the World Health Organization first declared the disease had reached pandemic proportions.

And though COVID-19 has upended routines at all scales, it hasn’t changed the importance and necessity of long-term thinking for sound real estate investing. But it has certainly complicated our traditional methods of understanding. So the fundamental question we asked as our editorial team planned this special, summer issue of Summit was: how do we facilitate responsible thinking about tomorrow when many (people, organizations, cities, states, and countries) are still sailing through the longest night of their lives?

As it turns out, all we needed to do was ask. After issuing a general call for contributions for this issue of Summit, we received more submissions than ever before, and now have our largest issue to date. This not only reflects the quality of intelligence contained within AFIRE’s membership (and our other guest experts featured in this issue), but also underscores the philosophy of informed optimism that fundamentally defines our industry: we are realists, but our focus is on the future.

While each article in this issue focuses on a specific issue—infrastructure, mixed-use communities, logistics, retail, ethics, asset management, demographics, and so forth—you’ll find a common thread of futurism ties each article together to form a cohesive picture of where we are now, and where we might possibly lead our employees, investors, and communities tomorrow.

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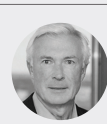

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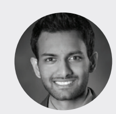

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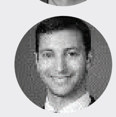

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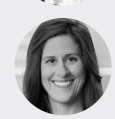

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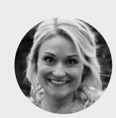

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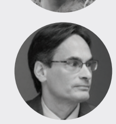

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A REAL ESTATE *RECKONING*

By Gunnar Branson
AFIRE

In his famous poem "The Second Coming," composed as the world faced the Great Influenza Pandemic of 1918, William Butler Yeats wrote:

TURNING AND TURNING
IN THE WIDENING GYRE
THE FALCON CANNOT
HEAR THE FALCONER;
THINGS FALL APART;
THE CENTRE CANNOT HOLD[1]

THOSE WORDS ARE ONCE AGAIN apt in the summer of COVID-19. Governments, economies, and regular people are struggling to hold things together as the assumptions and structures they relied on six months ago are falling apart.

Amid the pandemic, systemic inequity and injustice are now in high relief and can no longer be ignored or put aside, especially as those less fortunate endure the worst impacts of this crisis. The Black Lives Matter protests in the US, provoked in part by yet another incident of police brutality, has been a wake-up call characterized by strong language, painful stories, and uncomfortable truths.

Everyone now is paying attention. Difficult and sensitive conversations across the membership of AFIRE have returned again and again to the need for better understanding of this complicated issue. There is no easy way to talk about it—true emotional maturity, patience, and humility are required. The problems addressed by the protestors call for much more than another corporate diversity initiative. They ask for meaningful change while empathetic and supportive people everywhere ask, "what can we do?" It is a very difficult question to answer.

When problems are this big, the first instinct is to avoid them, which is completely understandable but not wise. Fortunately, leaders in real estate are accustomed to large, complicated, and uncertain problems that can take many years of trial, error, and humility to solve. No one has all the answers, no one is without flaws in their thinking, and no one succeeds without listening and learning. Real estate has asked this question many times before: is it possible to support a more sustainable and profitable future for everyone?

YES, IT IS.

But first, some uncomfortable truths must be faced: Racism is a very real and pernicious aspect of the US and other countries around the world. There are both conscious and unconscious obstacles to equity and inclusion built into institutional environments, practices, and policies. Everyone, no matter their politics, level of success, skin color, or social status, struggles with some level of unconscious bias and fears. This is a deep-rooted problem that will take a significant amount of time, listening, reflection, and methodical work by individuals and institutions to solve. On this point, it is inspiring to consider the words of playwright Bertolt Brecht: *"Weil die Dinge sind, wie sie sind, werden die Dinge nicht so bleiben wie sie sind"* (Because things are the way they are, things will not stay the way they are).

All levels of government and society need to learn and acknowledge how current practices stand in the way of true equity. Real estate has to do so as well. Intentionally or not, our industry has played a part in systemic racism. Most egregiously, and rightfully criticized by many, there are outlier examples in the present day of commercial property owners intentionally excluding minority tenants. And though institutional real estate is usually more careful and informed, no organization is without bias—but it may be less obvious.

The diversity of employees and leaders within real estate firms has been an issue focused on by many organizations for some time now, but there is a long way to go before the industry truly reflects the diversity of the overall population. Meanwhile, real estate lending and development has quietly supported the same tenets of inequity that lead to precisely the exclusivity and lack of diversity they otherwise denounce. Lending practices described by sociologist John McKnight in the 1960's as redlining—official or not—continue to deny minorities the same access to mortgages for homes even today. Inequitable development practices ranging from the construction of transit corridors to gentrified displacement of urban minority populations, can reinforce racial barriers even when they are not intended to do so. Racial deed restrictions and covenants were common practices well into the second half of the twentieth century.

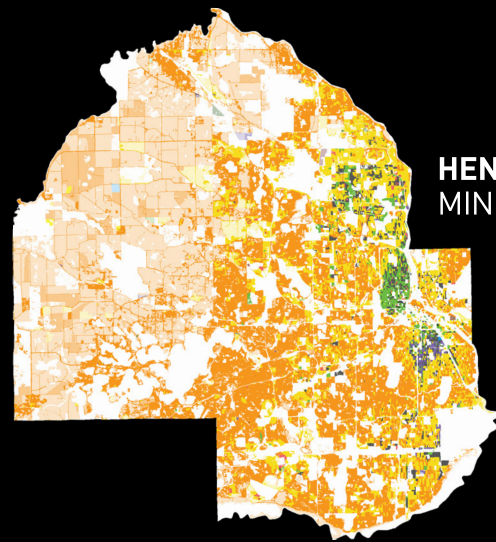
TODAY, the US is becoming more diverse, but slowly, and too many neighborhoods are still segregated. According to Maria Krysan and Kyle Crowder in their book, *Cycle of Segregation,* "segregation by race has become self-perpetuating, driving systems of economic stratification, shaping neighborhood perceptions, circumscribing social networks and systems of neighborhood knowledge by race and ethnicity, and creating patterns of mobility and immobility that differ sharply across racial and ethnic groups."[2] The divisiveness of US politics is a very tangible symptom of a society where location, socio-economic status, beliefs, and racial categories are inextricably linked. In the early 1900's, the term melting pot was popularized to describe the powerful fusion of cultures, ethnicities, and origins of the US population. Where people live and work today is keeping the US melting pot from working the way it should.

These and other practices are part of a status quo that real estate needs to understand, acknowledge, and ultimately change.

Most institutional investors do not wish to exclude or divide anyone, especially as they invest pension money and the savings of ordinary people from around the world—and have an implicit duty to invest for that diverse constituency. They have a particular fiduciary imperative to invest for the long term and therefore to understand, acknowledge, and act in a way that supports a more stable and just environment for the long-term success of investments as well as the users of real estate.

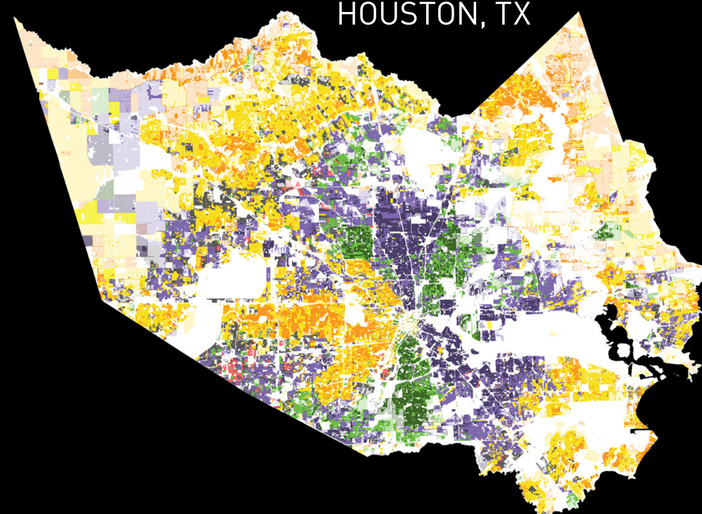
After a historically long economic recovery following the Great Financial Crisis, investors have complained of a limited amount of attractive investment opportunities. Of course, most prefer to focus on real estate that has financially secure and established tenancy in the best neighborhoods, and usually define those properties as "core" investments. Due to economic disparity, most of the non-White users of real estate end up in "non-core" buildings. Implicit in a core investment strategy is the idea that underdeveloped neighborhoods are not as attractive. Some investors, however, have already discovered that this is not necessarily true.

THE FORMER basketball star-turned-real estate investor Earvin "Magic" Johnson found outstanding returns in areas that have been historically overlooked. According to Johnson, "When you think about African Americans now—over $1 trillion spending power—Latinos, over $1 trillion spending power, and moving even higher—there was nobody really building businesses and going after their disposable income."[3]



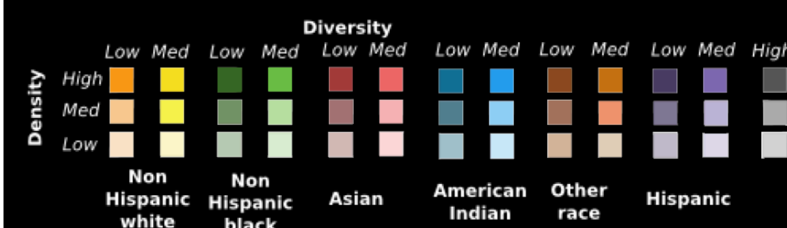
HENNEPIN COUNTY,
MINNEAPOLIS, MN

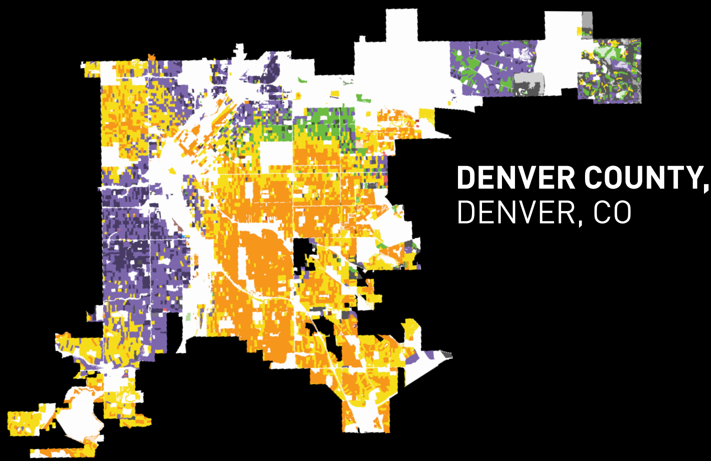
HARRIS COUNTY,
HOUSTON, TX

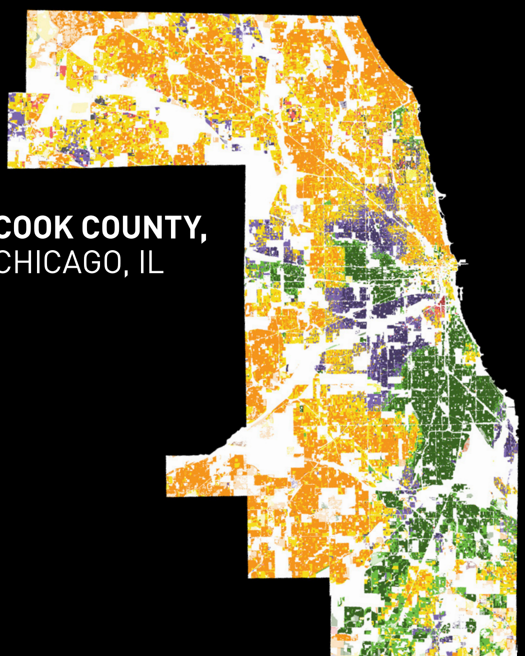


RACIAL GEOGRAPHY IN US CITIES

Visualizing demographic data from the most recent US census (2010) creates a stark image of "unofficial" segregation and the result of inherited, racially-motivated, legacy policy decisions in some of the most populous US counties. (Maps and data courtesy of the University of Cincinnati Space Informatics Lab.)







Official census classification of race/ethnicity has evolved over the past century. Because the data on this page is extracted for a decade-by-decade comparison of demographic changes, the maps draw on the five primary race/ethnicity categories recognized in the US census through 2010: Non-Hispanic Whites, Non-Hispanic Blacks, Non-Hispanic Asians (including also American Indians), Non-Hispanic Others, and Hispanic/Latino origin population.

For further exploration and visualization of demographic and population patterns in the US, visit the University of Cincinnati Space Informatics Lab at sil.uc.edu/cms.

Visualized data, entirely licensed under the Creative Commons Attribution 4.0 International License, includes patterns in high-resolution demographic grids covering the entire conterminous US. At present the site includes two demographic variables: population density and racial diversity. Currently, grids for 1990, 2000 and 2010 year are available.

Source: A. Dmowska and T.F. Stepinski, "High Resolution Dasymetric Model of US Demographics with Application to Spatial Distribution of Racial Diversity," Applied Geography 53: 417-26

Seeing this same "hidden" value, there are a few that are focused on investing in overlooked communities, including real estate developers and investor groups such as Direct Invest Development, Avanath Capital Management, Abode Communities, and others. They are attracting institutional capital to their community real estate approaches valuing communities that have been overlooked. It can be done, it should be done, and it is in the best interests of institutional capital's constituents to get it done.

As big and as uncomfortable as the issue of racial equity is, institutional investors are particularly well-equipped to examine practices and lead change. Over the last 20 years, this industry began to face one of the most complicated and existential threats to the social, economic, and environmental order: global climate change. Real estate became a significant leader with new sustainability practices, ESG investing metrics, and strategies. Unimaginable changes in the way the world constructs and manages buildings have become standard, because institutional capital decided that changes needed to be made. Of course, achieving true sustainability is something that will take a significant number of years to accomplish, and real estate is still early in the process—but as a group, institutional investors have examined the problem, acknowledged their part in it, and have begun to act towards a sustainable future, even as other industries have struggled to keep up.

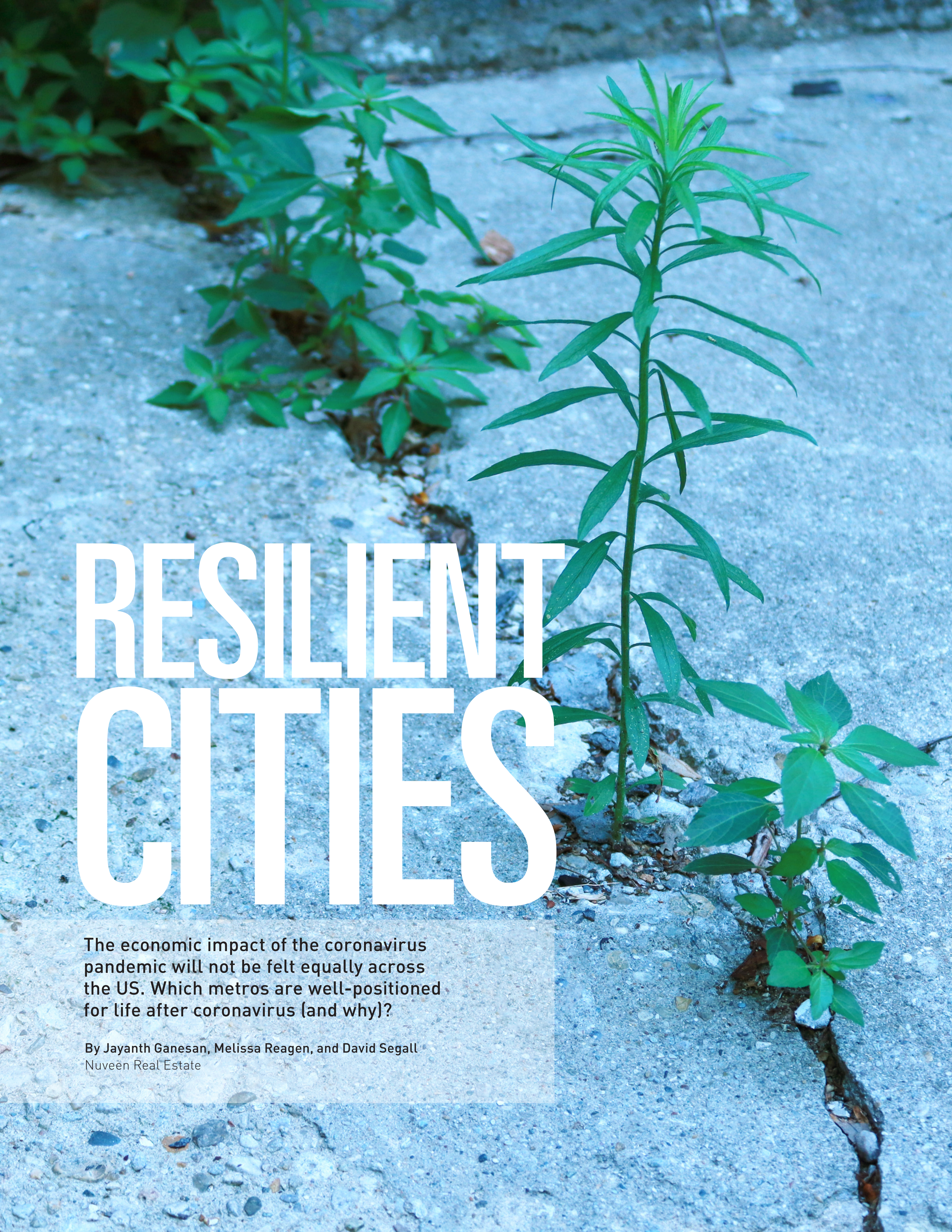
The same thing can be done with equity, inclusion, and diversity. This is hard, this is uncomfortable, this is big and complex, but it is an essential issue to address. There is an opportunity for our industry to lead, if we listen, honestly face the problems, and act with humility. On this point, American writer and civil rights thought leader James Baldwin said it best: "Not everything that is faced can be changed, but nothing can be changed until it is faced."

Notes

[1] William Butler Yeats, *The Collected Poems of W. B. Yeats*, Edited by Richard J. Finneran. New York: Macmillan, 1983.

[2] Maria Krysan and Kyle Crowder, *Cycle of Segregation: Social Processes and Residential Stratification*, New York: Russell Sage Foundation, 2017.

[3] Kathleen Elkins, "How Magic Johnson Convinced Howard Schultz to Partner with Him and Build more Starbucks Stores," CNBC.com (November 10, 2018): cnbc.com/2018/11/09/how-magic-johnson-got-starbucks-ceo-howard-schultz-to-partner-with-him.html



RESILIENT CITIES

The economic impact of the coronavirus pandemic will not be felt equally across the US. Which metros are well-positioned for life after coronavirus (and why)?

By Jayanth Ganesan, Melissa Reagen, and David Segall
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Historically, metro-level performance has not been solely determined by the metro's exposure to the root cause of an economic crisis, but rather whether or not the metro has a diverse economy and a well-positioned workforce when entering into a crisis.

With social and leisure events canceled, many stores and offices closed, and malls and airports well below capacity, the coronavirus pandemic may seem like a unique economic challenge that will fundamentally change how metro-level economies function. However, our analysis suggests cities with high exposure to non-cyclical industries based in science, technology, engineering, and mathematics (STEM), and strong demographic trends, will see a much less severe economic impact from the coronavirus pandemic than cities with high exposure to cyclical, overvalued, or undercapitalized industries, and weak macro drivers.

Historically, metro-level performance has not been solely determined by the metro's exposure to the root cause of an economic crisis, but rather whether or not the metro has a diverse economy and a well-positioned workforce when entering into a crisis. For example, the economic impact of the dot-com bubble was not limited to Silicon Valley. It also impacted Northern Virginia, given that its telecom sector was poorly capitalized. Similarly, while the global Great Financial Crisis did negatively impact New York City, the US financial capital, and Las Vegas, the epicenter of the housing boom, it had a more permanent negative impact on rust belt cities such as Detroit, Buffalo, and Cleveland, which had not adjusted to the new service-based US economy.

Recent history suggests a financial, economic, or pandemic crisis strikes the US economy nearly every decade. Real estate investors can learn from this history by positioning their portfolios for resilience, particularly at the market level. Going forward, it will be more important than ever for real estate investors to allocate towards well-positioned metros, given that location is a key component of determining real estate value.

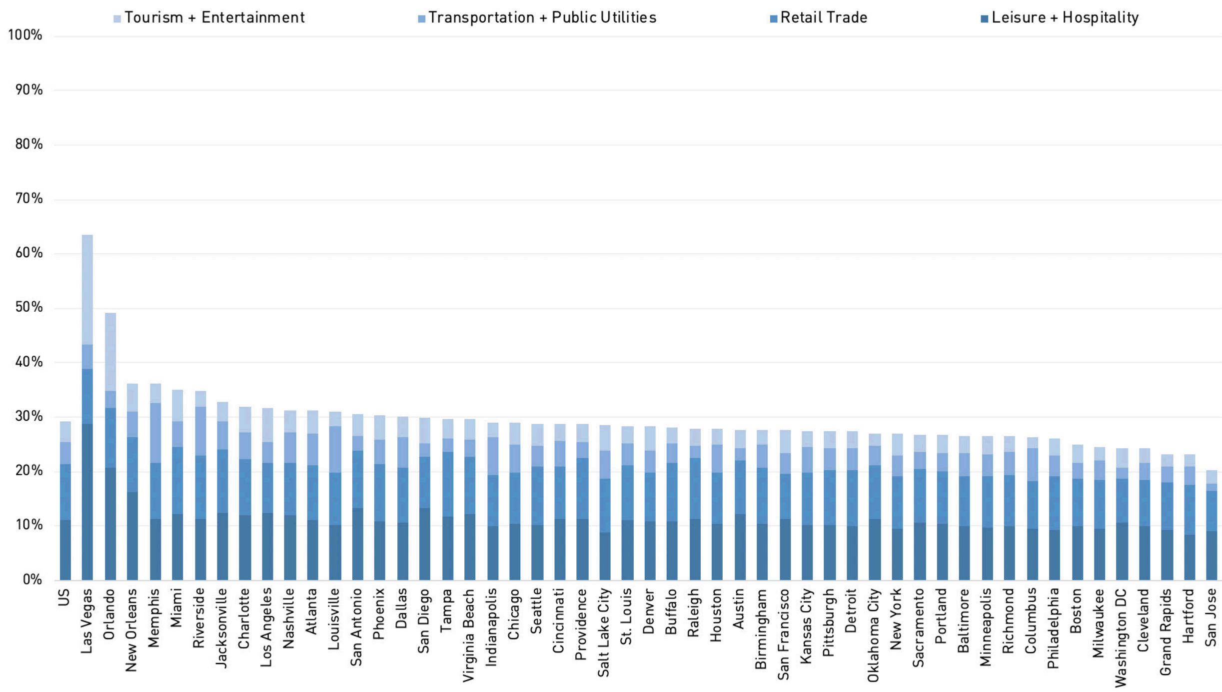
In this article, we explore the factors that can be used to evaluate the 50 largest US metropolitan statistical areas (MSAs) and rank their projected performance through the end of 2020.

THE FACTORS

For this research, the factors that determine projected MSA performance in 2020 include:

- Metro-level employment in industries most (e.g., retail, lodging, transportation, leisure) and least (e.g., technology, media, information, healthcare) affected by the pandemic
- Government employment in states or metros with weak fiscal health, as measured by projected budget shortfalls or proportion of fiscal revenue from "elastic" income sources
- Change in consumer spending year-over-year (or data measuring mobility to understand each city's reopening trajectories)
- Projected unemployment rate and projected gross metro product (GMP) growth
- Metro-level employment in indirectly affected industries (e.g., fossil fuels)
- Mortality rates from coronavirus and the population most at risk (65+)
- The proportion of a metro's workforce employed by small businesses
- The proportion of non-current commercial loans by metro

Exhibit 1: Concentration of employment in tourism and entertainment, transportation and public utilities, retail trade, and leisure and hospitality to total employment
(Top 50 metros as of December 2019)



KEY FINDINGS

Markets with large exposures to more stable industries, such as information technology (San Jose, California), life science (Boston), and defense (Washington, DC) are positioned to recover the fastest. Meanwhile, markets with large exposures to cyclical industries such as tourism (New Orleans), hospitality (Las Vegas), energy (Oklahoma City), and retail (Miami) are positioned to perform the worst.

The five most highly ranked MSAs in this analysis are Boston, Washington, DC, Nashville, Columbus, and San Jose. In contrast, the five lowest ranking are Chicago, New York, Buffalo, Miami, and New Orleans.

WORST POSITIONED METROS IN TERMS OF EMPLOYMENT

Similar to how the 2008 Global Financial Crisis disproportionately impacted markets with the greatest exposure to housing-related industries, the coronavirus pandemic will disproportionately affect cities with the greatest exposure to the leisure and hospitality; retail; transportation and public utilities; and tourism and entertainment. Such areas include Las Vegas, Orlando, New Orleans, and Miami.[1] High unemployment in these cities will negatively impact real estate values across sectors, including housing, office, and alternatives, as overall consumption and investment will be curbed.

Cities that have high exposure to some but not all of these sectors, such as Houston, San Antonio, and San Diego, may also be disproportionately impacted, but are better positioned due to more diversified employment bases.

WORST

BEST POSITIONED METROS IN TERMS OF EMPLOYMENT

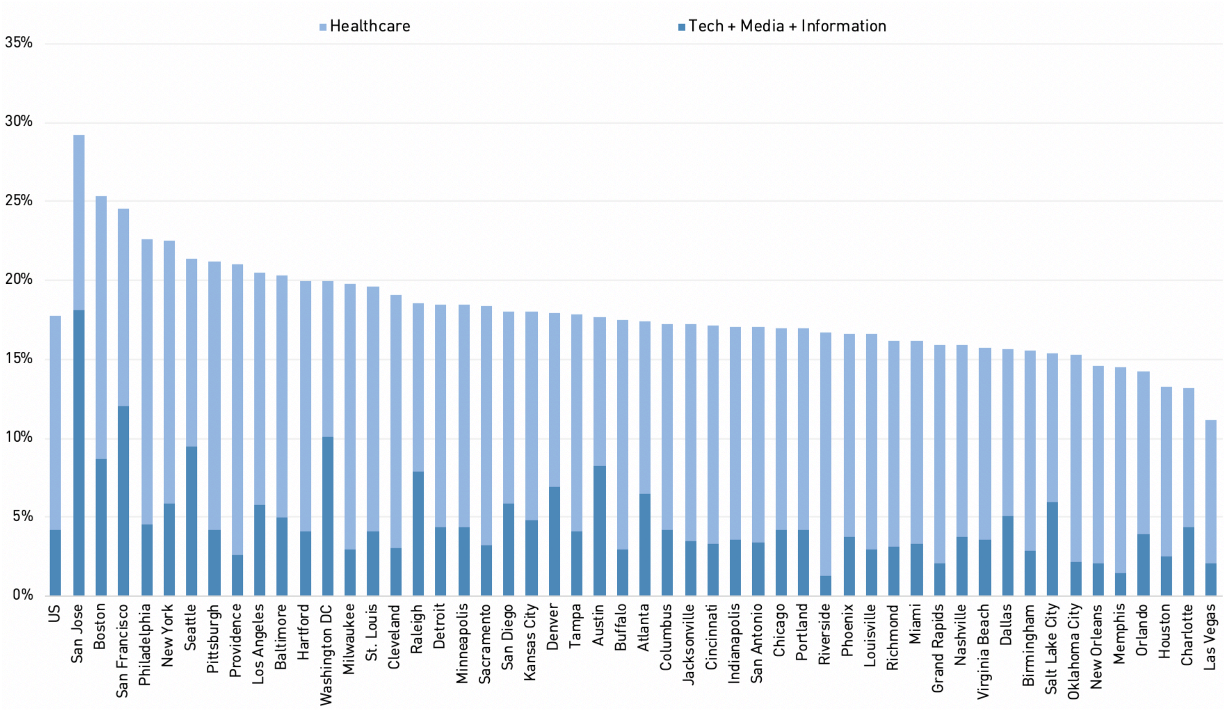
The technology and healthcare sectors are best positioned to weather the economic impact of the coronavirus pandemic. Cities with high exposure to these sectors appear positioned to outperform. The technology sector should benefit from both higher demand for digital products and online services, as well as a strong remote work infrastructure. The healthcare sector will benefit from higher demand for services and higher public investment in the sector. Cities with a greater amount of healthcare workers per capita will also be better positioned to combat the ongoing pandemic.

Cities with high exposures to these industries include San Jose, Boston, San Francisco, Philadelphia, and Seattle.[2] However, it is important to note that this outperformance may not extend to severely impacted sectors such as lodging and retail, which will be negatively impacted by social distancing policies, regardless of geography.

BEST

Exhibit 2: Concentration of employment in tech, media, information, and healthcare to total employment

(Top 50 metros as of December 2019)



FOSSIL FUEL EMPLOYMENT

The volatility of crude oil and other fossil fuel commodities could cause long-term harm to the fossil fuel industry. Companies that produce or generate energy tied to fossil fuels are generally not well capitalized and operate in a highly competitive cyclical industry. Additionally, these companies face long-term headwinds, such as competition from renewable sources, more prevalent energy-efficient technologies (e.g., electric cars), lower investment from institutional and sovereign wealth funds, and political opposition driven by climate change concerns. For this reason, metros with high exposure to fossil fuel employment (e.g., Houston) could be negatively impacted, especially metros with high exposures that lack employment diversification (e.g., New Orleans, Oklahoma City).[3]

Exhibit 3: Concentration of employment in fossil fuel to total employment

(Top 50 metros as of December 2019)

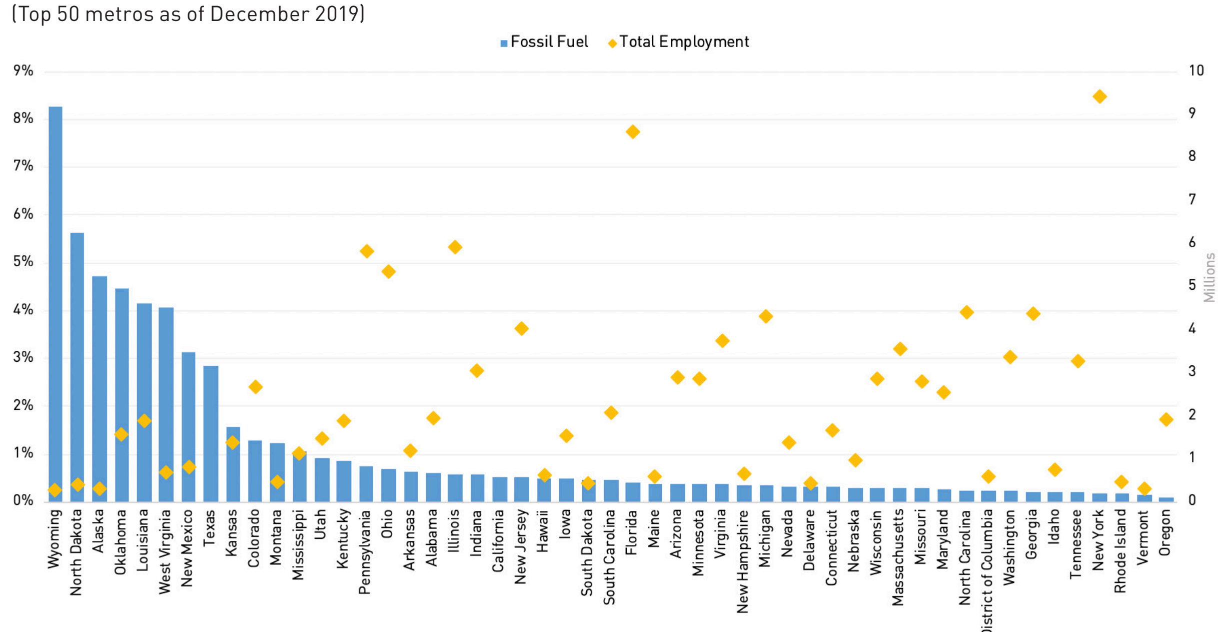
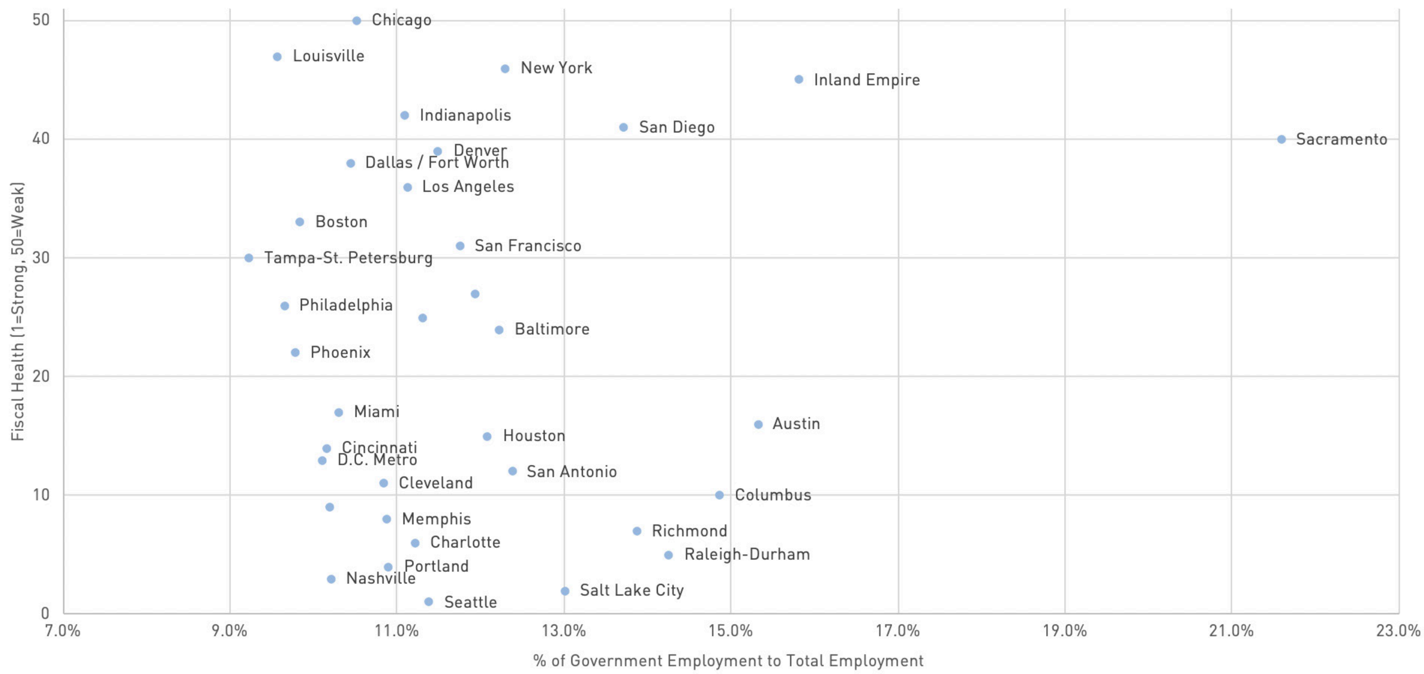


Exhibit 4: Fiscal health and government employment
(Top 50 metros as of December 2019)



FISCAL HEALTH AND GOVERNMENT EMPLOYMENT

The coronavirus pandemic will put a strain on state and local governments—particularly their fiscal budgets. Given that state and local governments need to maintain balanced budgets, they will almost certainly lay off government employees to cut expenses and maintain fiscal solvency.

State and local austerity measures can hurt the local economy, especially in areas where government employees make up a large portion of the workforce. Additionally, states and municipalities that rely on income and sales taxes from cyclical industries will be more likely to incur large deficits during this pandemic.

Cities with weak fiscal health and higher dependence on government employment (shown below in yellow) such as Sacramento, San Diego, Southern California's Inland Empire, New York, and Chicago, will likely see the most consequential fiscal impacts from the coronavirus pandemic.[4]

STATE-LOCAL

SMALL BUSINESS EMPLOYMENT

Small businesses are at risk during the pandemic given that many of them operate in the lodging, retail, and entertainment sectors, and most are not well-capitalized. In some jurisdictions, the economic shutdowns have occurred for three months or longer, which has put many small businesses at risk of closure if not given financial assistance.

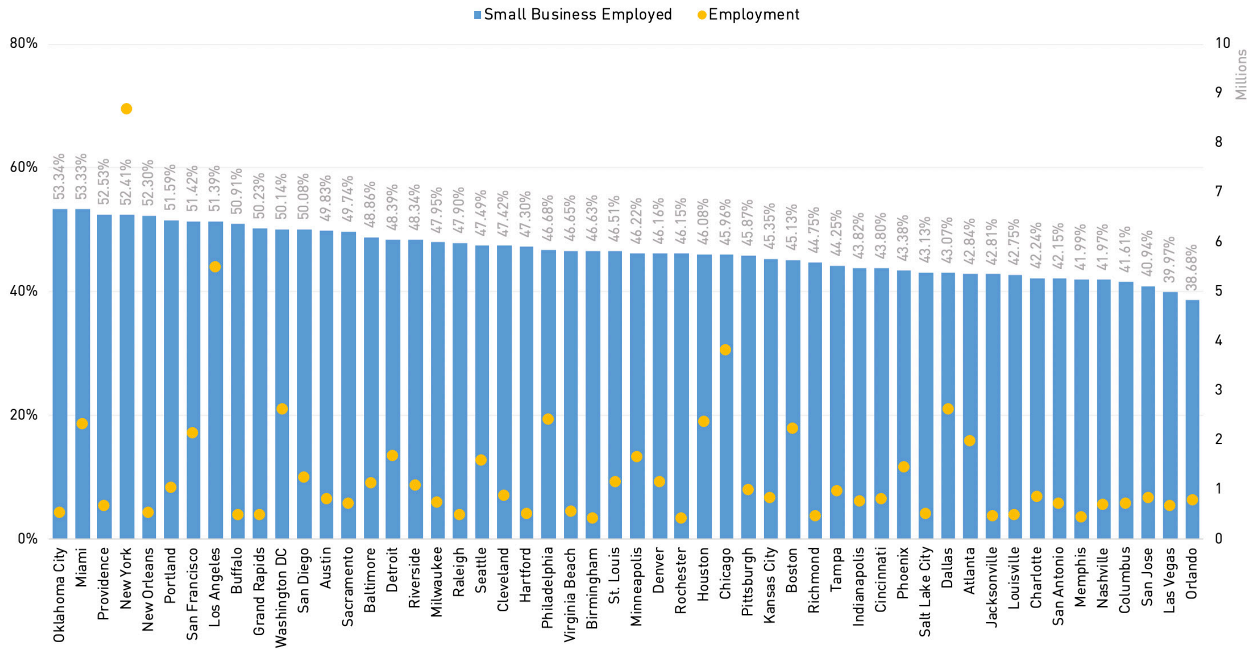
Both the federal government and Federal Reserve have implemented small business lending programs to try and combat this issue. The $2 trillion CARES Act, passed in March 2020, provides US$376 billion in funding for small businesses, though there is no guarantee that lending will be given to all businesses in need. These programs could put major strains on the banking sector and could be undone by bureaucracy.

Cities such as Oklahoma City, Miami, New York, and New Orleans have a high proportion of small business employment and will underperform if these programs do not succeed.[5]

SMALL BUSINESS

Exhibit 5: Concentration of workers employed through small businesses by metro

(Top 50 metros as of December 2019)



CORONAVIRUS

CORONAVIRUS SEVERITY BY METRO

The severity of the coronavirus pandemic in each metro will be a key determining factor in metro performance. During the first wave of the pandemic, cities with higher densities (e.g., New York, Chicago) or relatively high poverty rates (e.g., Detroit, New Orleans) have been most severely impacted by the pandemic, as measured by mortality rate.

A key risk factor that may determine the ultimate severity of coronavirus impact in a given metro is the proportion of residents that are 65 or older. Miami, Pittsburgh, Tampa, and Cleveland are all major metros with a significant share of seniors, at around 20%. In contrast, cities such as Austin and Salt Lake City, which have a low proportion of this at-risk demographic, may be in a better position to avoid a severe coronavirus impact.

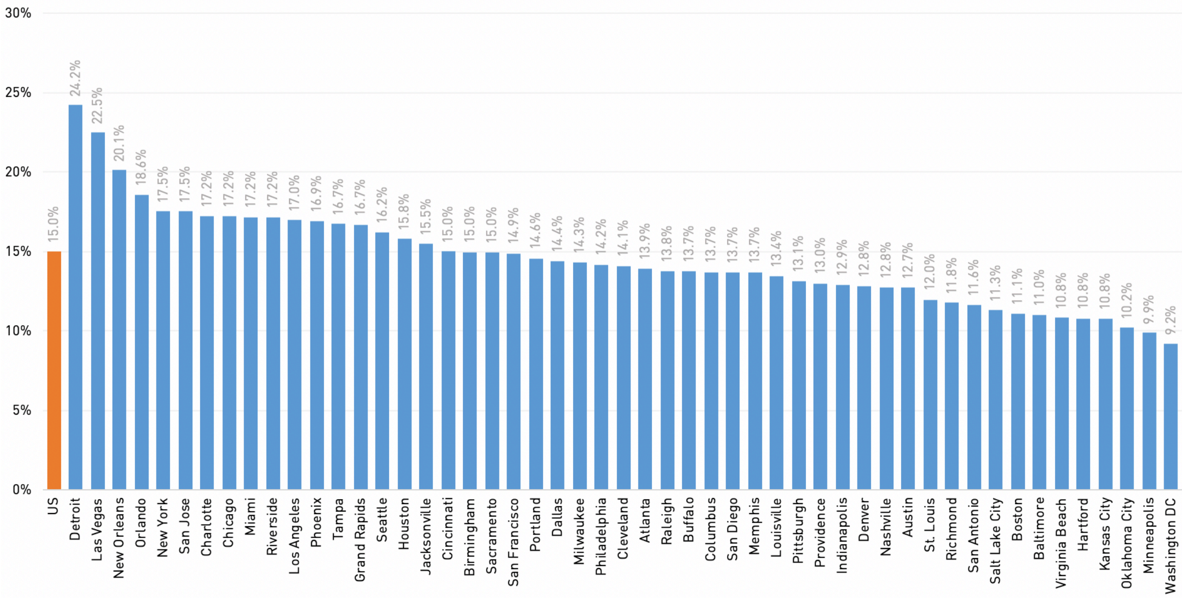
SENIORS

UNEMPLOYMENT AND GROSS METRO PRODUCT

Baseline unemployment rate and GMP growth projections provide references for forecasting metro-level economic performance. Projections are subject to the assumptions of the forecaster,[6] but metros with high exposure to cyclical and underperforming industries tend to have higher projected 2Q 2020 unemployment rates and lower 4Q 2020 GMP growth.

GROWTH

Exhibits 6a (below) and 6b (bottom right):
Q2 2020 projected unemployment rate by metro



PROPORTION OF NON-CURRENT COMMERCIAL LOANS

Over the past few months, a significant proportion of commercial mortgage sponsors, particularly those managing retail and lodging properties, have requested forbearance on loan payments. One can use non-agency CMBS loans as a proxy to graph the proportion of non-current commercial loans.[7] Specifically, this refers to loans that are classified as grace period/late, delinquent, in special servicing, REO, or foreclosed. Some metros have CMBS exposure to large retail loans (e.g., Mall of America in Minneapolis, Walden Galleria in Buffalo) which are non-current due to forbearance requests but are expected to perform. With that said, metros that have a higher proportion of non-current loans tend to have higher exposures to the retail and lodging sectors.

The speed of the economic recovery will be a key factor in determining whether non-current loans will be paid off in full. If the economic recovery is quick (exhibits a V-Shape), sponsors will be able to make differed interest-payments. If the economic recovery is slow (exhibits an L-Shape), sponsors are at risk of default or foreclosure.

MEASURING THE ECONOMIC RECOVERY

The speed of economic recovery will vary by metro depending on (1) how quickly stay-at-home orders were lifted in the area, and (2) the metro's exposure to high-performing industries that can recover quickly from the pandemic. Many small and large businesses are highly levered and will require a speedy economic recovery to remain afloat. We use consumer spending as a leading indicator to measure economic activity, given that it drives economic heath more directly than investment, government spending, or trade.

Some states, such as New York and California, have followed a gradual reopening process, which is one of the key reasons why metros in those states are showing large decreases in spending levels year-over-year. Metros that do not rely heavily on tourism, such as Pittsburgh or San Antonio, have seen strong population growth over the last year and will be in a better position for a quick economic recovery.[8]

TOP METROS

	Annualized GMP Growth		
Metro (Top 25)	**4Q20**	**4Q21**	**4Q22**
New York	-5.3%	0.7%	2.9%
Los Angeles	-3.2%	1.7%	3.4%
Chicago	-2.8%	1.6%	3.1%
Dallas	-1.8%	3.1%	4.9%
Washington DC	-1.5%	2.3%	3.7%
Houston	-2.3%	2.8%	4.7%
San Francisco	-3.8%	1.8%	3.9%
Boston	-3.1%	1.7%	3.5%
Philadelphia	-2.5%	1.8%	3.3%
Seattle	-4.4%	2.0%	4.2%
Atlanta	-1.8%	2.6%	4.2%
Miami	-4.9%	1.2%	3.4%
San Diego	-2.5%	2.1%	3.8%
San Jose	-3.5%	1.7%	3.6%
Phoenix	-0.7%	3.6%	5.2%
Minneapolis	-1.1%	2.9%	4.3%
Detroit	-3.1%	1.5%	3.0%
Denver	-2.2%	2.5%	4.3%
Riverside	-0.6%	3.2%	4.7%
Baltimore	-1.5%	2.0%	3.3%
Tampa	-3.6%	1.6%	3.5%
Portland	-1.9%	2.7%	4.4%
Pittsburgh	-1.8%	1.8%	3.1%
St. Louis	-1.9%	1.8%	3.0%
Sacramento	-1.9%	2.4%	3.9%

Exhibit 7: % of non-current CMBS loans

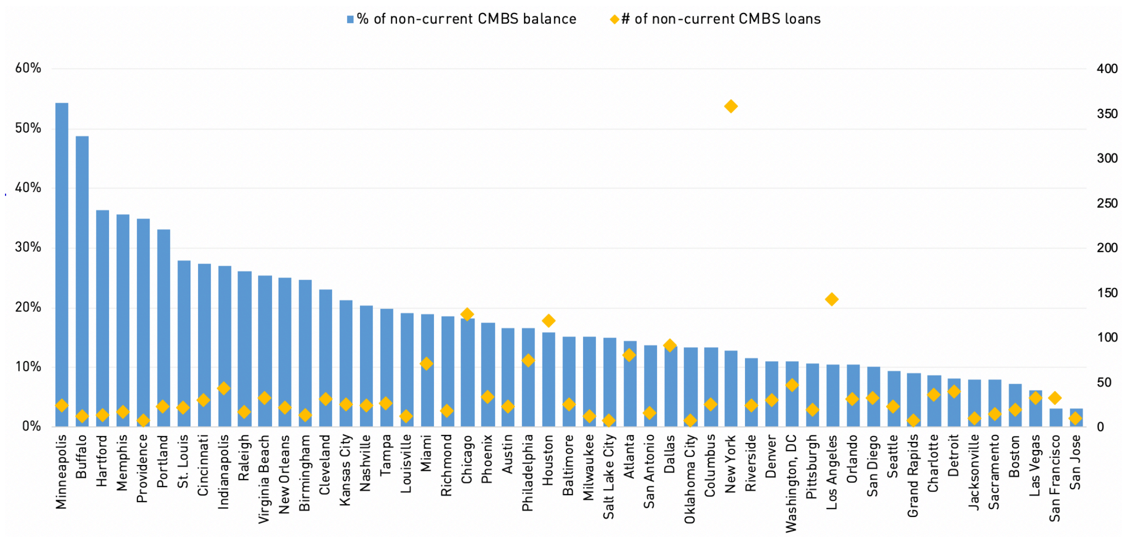
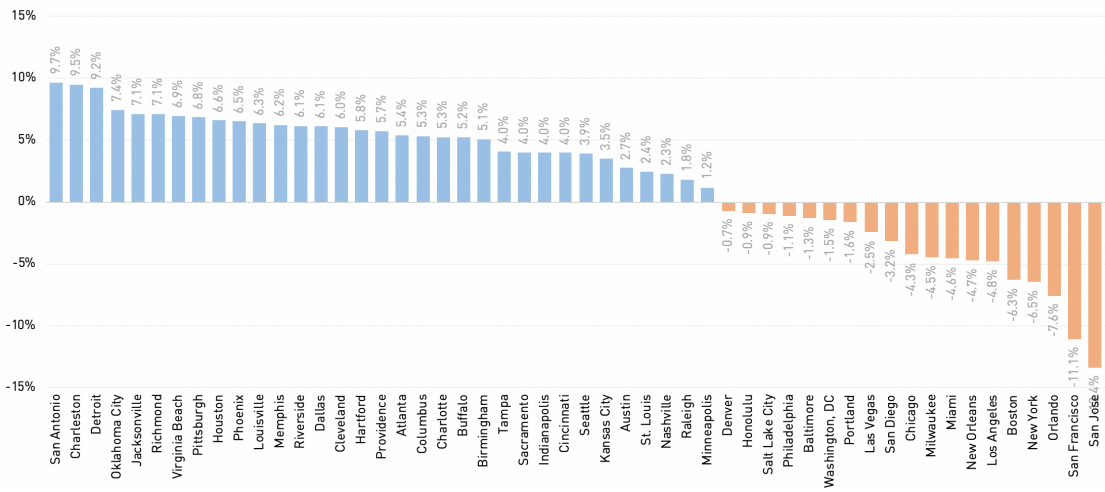


Exhibit 8: Change in consumer spending, year-over-year (%) (as of May 2020)



The factors highlighted here do not represent all the factors that can be examined for evaluating the economic impact of the coronavirus pandemic. Other factors can be considered, such as the pandemic's effect on immigration, gig workers, or other major sectors such as construction and manufacturing. Additionally, impact of the coronavirus pandemic could vary significantly based on (1) the severity and infectiousness of later virus waves, (2) how rapidly various sectors of the economy can recover from the shutdown, and (3) the possibility that the pandemic leads to trade issues or political unrest.

Finally, the impact on specific property types in a given metro can vary significantly from the metro economy as a whole, as sector performance is also driven by supply, demand, and valuation. However, this framework provides real estate investors with a way to assess the metro-level economic impact as well as the real estate impact of the coronavirus pandemic.

About the Authors

Jayanth Ganesan is a Research Analyst, Americas; David Segall is a Director, Americas; Melissa Reagen is Head of Research, Americas. Nuveen Real Estate is one of the largest investment managers in the world, with $127B as of 6/30/20 of assets under management. The latest insights from Nuveen Real Estate's market-leading global research team can be found at nuveen.com/global/thinking/real-estate.

Notes

1 Moody's Analytics, "Data Buffet," Moody's Analytics (May 2020), 2020, economy.com/databuffet

2 Moody's Analytics, "Data Buffet," Moody's Analytics (May 2020), 2020, economy.com/databuffet

3 Scott Goldman, "US Energy and Employment by State," US Department of Energy (2020)

4 Green Street Advisors (June 2020), greenstreetadvisors.com/atlas

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7 Bloomberg

8 Earnest Research

INSIDE VIEW:

Asset Management

The asset management function is always integral to long-term value creation in real estate, but the COVID-19 crisis has served as a fresh reminder of just how crucial this role is for navigating challenging conditions.

By John Kennedy,
Rob Little, and James Salmon
Barings Real Estate

During Crisis

THE SPREAD OF COVID-19 ACROSS THE GLOBE and the rippling effects across all geographies have left no segment of the economy untouched. Real estate markets are no exception. From deserted office buildings to shuttered storefronts and empty hotels, the impact has been more severe than many investors' downside scenario analyses would have predicted. Yet, global real estate markets still offer potentially attractive returns over the long term—across a wide variety of sectors and risk types—if investors can effectively navigate the current storm. Critical to this effort are the asset managers themselves—also known as the "eyes on the asset."

THE EYES ON THE ASSET

Even in "normal" times, the tasks performed by real estate asset managers (AMs) are broad-based. AMs develop, monitor, and drive the long-term value creation strategy for real estate properties, focusing on risk management at every stage.

Typically involved even before a property is acquired or a loan is originated, AMs are charged with understanding the latest trends across specific sectors (e.g., office, retail, logistics, etc.) as well as geographical nuances—from the country-level to the city block. They are also the driving force responsible for executing the strategic business plan for each individual property.

Depending on the nature of the asset, this may involve improving rent collection, optimizing a property's tenant mix, implementing value-creation plans that can range from minor improvements to ground-up construction, and ultimately managing the sale process to realize the greatest potential value for investors.

ENTER COVID-19

Managing this broad set of responsibilities presents its own set of challenges day-in and day-out during normal times, from managing tenant nuisances to clearing construction delays. But adding a global pandemic to the mix changes the equation markedly, and our teams at Barings have attempted to manage this transition from "business as usual" to "crisis mode" in a strategic, timely, and decisive fashion. So how do you manage through a global pandemic?

IDENTIFY THE PROBLEM

First, you need to understand the problem, which takes coordination and communication. For example, after monitoring the development of the COVID-19 crisis in Asia in late 2019 and into early 2020, and then closely analyzing its spread to the West in February and March, our teams set out to understand just how the properties that we owned or lent to would be impacted. It quickly became clear that retailers and hotels were obvious pain points. Fortunately, the grocery-anchored nature of many of our retail assets insulated them to a degree, and our relatively low number of owned hotels would turn out to be a positive in this case. But every sector looked set to be impacted.

Stay-at-home orders across the world introduced new—and potentially longer-term—challenges for commercial office space, and the apartment/multifamily segment seemed likely to take a hit.

At this stage, our goal was to make reasonable assumptions about the short- and long-term financial impacts of the disruption: What percentage of borrowers are likely to miss interest payments? Which tenants are likely to have difficulty paying their rent? Over what time period should we expect this disruption to play out?

Of course, the problem was broader than simply modeling expected rent collections and interest payments. With dozens of value-add projects in the works across the globe, we needed to understand how or if work could continue on projects ranging from the full-scale refit of an eighteenth-century building in central Paris to the ground-up construction of an apartment building in Miami. And, if so, how could it be done in a fashion that put worker and tenant safety first, and comply with local regulations around social distancing?

US EQUITY

Asset Management in Action: US Equity

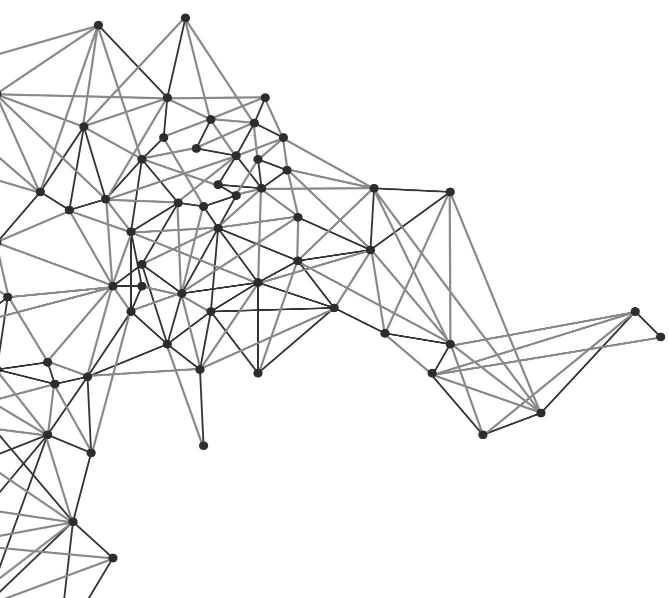
"We had a situation where a law firm requested three months of rent abatement in return for adding three months of term to their office lease. After discussion with our asset management team, they agreed to also give up a right to terminate. This effectively added five years of firm term to the lease. This was a "win-win" as the tenant received immediate rent relief and we eliminated the uncertainty of a termination option."

—John Kennedy, Head of Asset Management, US Real Estate Equity

Make a plan and take action; one size does not fit all

With the input of teams ranging from portfolio managers to engineers, to researchers and third parties (e.g., lenders and property managers), and tenants and borrowers, we were able to triangulate into what we believed to be reasonable assumptions as to the scope of the potential impact. We used these to set broad guidelines for our asset managers across sectors and geographies, and importantly, gave them the flexibility to work with tenants and borrowers one-on-one, especially when it came to difficult discussions around forbearances or rent relief.

The crisis had impacted our tenants and borrowers very differently, depending on their industry sector (e.g., retail, office, logistics, etc.), but geography played less of a role than expected, because similar lockdowns were in place everywhere from Berlin to Boston. For instance, in the US, as more than 500 requests for rent relief came across the desks of our asset managers' (home) offices, it wasn't terribly surprising to see that most (300+) came from retailers, while tenants in other sectors, such as logistics, fared much better.



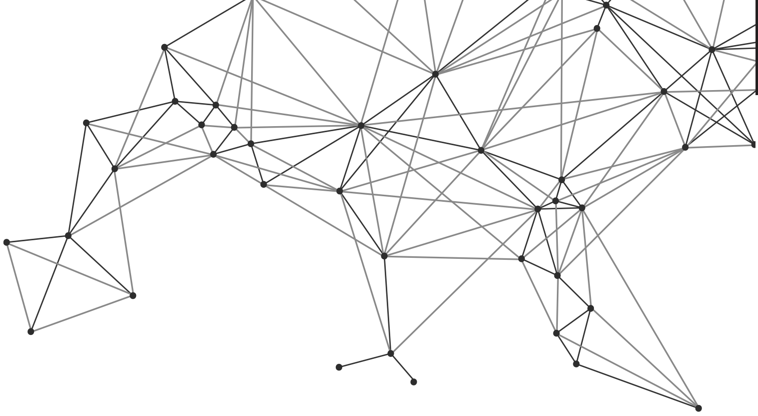
Our asset management strategy was consistent across the board, however:
(1) understand the tenant or borrower's unique challenges,
(2) underwrite their financial positions and ability to make interest or rent payments, and
(3) work with them where challenges existed.

Practically, this has involved the introduction of forbearance measures for certain borrowers and tenants. For instance, a borrower may have been granted the right to defer principal and interest payments for 90 days, but was then obligated to repay missed payments within 12 months. Similarly, tenants faced with short-term cash crunches may have been granted rent deferrals, but in a number of cases, they were willing to give something in exchange—for instance, removing a lease break from a contract, which effectively extends the lease years into the future.

Such a strategy of one-to-one negotiations is time- and labor-intensive and involves an incredible amount of communication—not only between the two parties, but also with banks, lawyers, and other stakeholders. The COVID-19 crisis has reinforced our philosophy that experienced, in-house asset management teams with sector-specific knowledge and local expertise are critical for real asset performance. In fact, it is the management of such complex negotiations in times of crisis where the validity of this philosophy becomes even more apparent.

Assess and pivot accordingly

Perhaps the most encouraging element of this crisis has been the resilience we have witnessed in the face of uncertainty—among our borrowers, tenants, service providers, and our own teams. Not only have leases and debt obligations been creatively renegotiated where needed, but construction projects have forged on—albeit with new social distancing and safety guidelines in place. Rent collections have also generally been better than the assumptions we made in our initial stress-testing, partly helped by government support programs like the Paycheck Protection Program (PPP) in the US, but also, we believe, as a direct consequence of the hands-on approach that our asset managers have taken with tenants.



EUROPEAN EQUITY

Asset Management in Action: **European Equity**

"Across the UK and Europe, we've handled lease negotiations on a tenant-by-tenant basis because of the uniqueness of each situation. What this has looked like in reality is literally hundreds of conversations with tenants across all major sectors, where we've focused on understanding their financial challenges and finding long-term solutions that work for all parties. For instance, we recently negotiated terms with a consumer goods tenant in the UK to provide three months rent-free in exchange for the surrender of a lease break in the contract. Beyond negotiations with existing tenants, and despite the challenges that COVID-19 has presented, we have continued to drive value through active asset management across Europe during this time—from upgrading the tenant mix in a retail property in Spain to signing a new tenant to a long-term lease on a large office property in Italy."

—James Salmon, Head of Asset Management,
European Real Estate Equity

US DEBT

Asset Management in Action: **US Debt**

"Government support programs have helped some borrowers manage their near-term cashflow positions, but in a number of cases, borrowers have needed additional flexibility when it comes to the timing of debt payments. For example, we worked with a borrower to defer loan payments on a seasonal hotel in Florida before they were awarded a PPP loan under the CARES Act. They have since been able to pay the principal and interest current, but we provided some flexibility for them to postpone the deferral if the PPP funds are depleted. It's this type of flexibility through changing circumstances that helps to maintain the relationship over the long term, and, we think, should ultimately benefit our investors."

— Rob Little, Head of Real Estate Debt Underwriting,
Servicing & Asset Management

The Long-term Impact

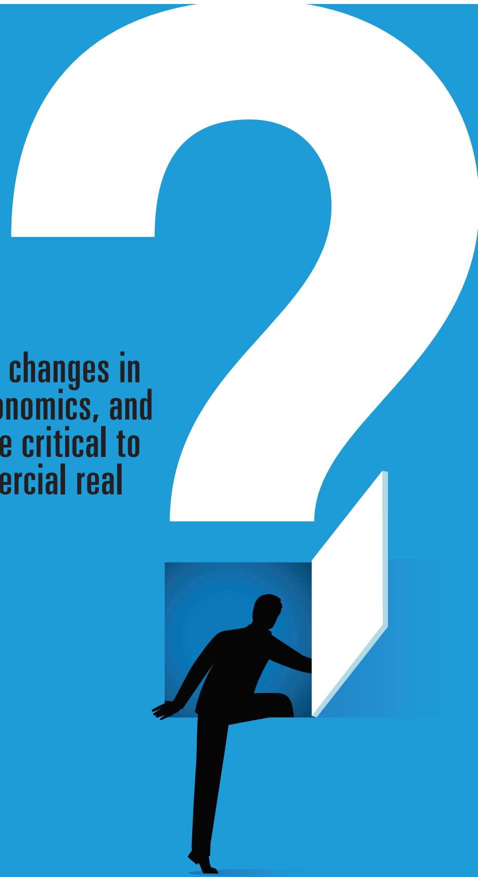
Challenges certainly remain. Re-opening properties safely with features such as touchless entry, social distancing in common areas, and additional cleaning measures will require much planning and coordination. The length and depth of the cyclical recession is also unknown and will almost certainly put additional pressure on tenants and borrowers. And of course, we are only beginning to scratch the surface of the impact that COVID-19 will have on long-term structural trends like urbanization, e-commerce, and the densification of office space.

But this crisis has reinforced our belief in the critical role of asset management as a long-term value driver for real estate investments. Understanding tenants and borrowers and communicating effectively during times of crisis to collectively solve problems doesn't seem like it will go out of style anytime soon.

About the authors

John Kennedy is Head of US Equity Real Estate Asset Management, James Salmon is Head of European Real Asset Management, and Rob Little is Head of Real Estate Debt Underwriting, Servicing and Asset Management for Barings Real Estate.

RIGHTSIZING CRE



Understanding new changes in tenant demand, economics, and public health will be critical to the future of commercial real estate investing.

By Martha Peyton, PhD, CRE,
Managing Director of Real Assets Applied Research
Aegon Asset Management

All real estate investors are focused on the potential paths for the global economy and commercial real estate (CRE) over the quarters ahead. Some are focusing on stressed tenants, shrinking rent collections, uncertain property values, and surviving through the distress. Others are examining their dry powder and trolling for investment opportunities. For both types of investors, weighing the potential paths forward requires addressing three challenges: (1) the coronavirus, (2) the economy, and (3) tenant demand.

In addressing each challenge, investors can begin to realign their strategies and rightsize their portfolios to respond to the "new normal."

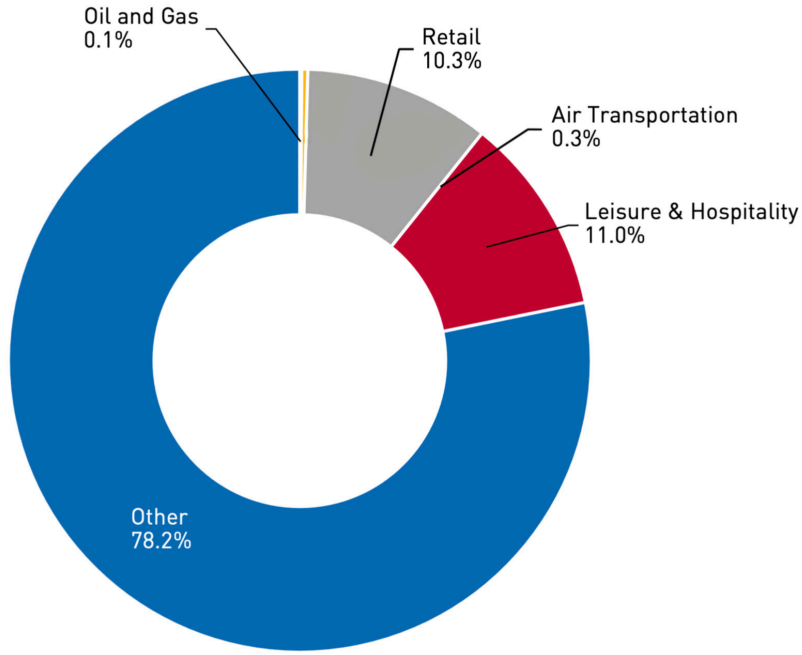
Challenge One: The Coronavirus

The first challenge in forming expectations is to make assumptions about future COVID-19 contagion. Despite the end of government-mandated lockdowns and some slowing in the pace of new cases, there is no evidence that the coronavirus would peter out quickly on its own. Some are hoping that warmer weather in the northern hemisphere will slow transmission but there is a risk of a new wave of cases in the fall. Ultimately, beating the virus may require effective vaccines alongside wide dissemination of those vaccines around the world. In the meantime, economies will need to adapt.

Optimistic investors might conclude that advanced economies will adapt quickly and effectively to allow economic recovery to take hold. In this view, social distancing, hand washing, and face masks will simply be embedded in everyday life with consumers paying less and less attention to the virus. Optimists will see investment opportunities emerge from recovery and the process of adaptation. Some property sectors will benefit more than others.

Pessimists might be skeptical of quick recovery and rapid adaptation. For pessimists, continuing flare-ups in the number of virus cases and associated stories of suffering will slow adaptation and stall economic recovery. Consumers will stay home even without lockdown requirements until the virus recedes from daily headlines. Some employees will be afraid to return to work, fearing that they might be exposed to the virus. Other employees will be unable to return to work because of childcare and eldercare needs. In this environment, pessimistic investors might look for opportunity in distressed assets when and if pricing drops enough to be attractive.

Exhibit 1: Share of US Employment



Source: US Bureau of Labor Statistics, as of February 7, 2020.

Challenge Two: The Economy

The second challenge in forming expectations is to make assumptions about economic growth prospects. The best case envisions a V-shaped recovery starting in the second half of 2020. This view interprets the COVID-19 crash as a short-lived disaster that ends as the shock effect dissipates and adaptation gets underway. Pent-up demand propels a rebound with most businesses reopening, most employees returning, and most consumers opening their wallets to spend. Relief from lockdowns encourages partying a la the Roaring Twenties. In this scenario, monetary and fiscal policy responses can be deemed successful. Consumers are hoping for a V-shape; 78% of April's 21 million newly unemployed people expect their woe to be temporary.[1]

Alternatively, a more sober case envisions a U-shaped recovery, where a rebound occurs only after a more prolonged period of recession. In this view, the COVID-19 shock produced damage to the economy that will take time to resolve. Hospitality, travel, entertainment, and restaurants will recover slowly, with some establishments gone for good and some sectors permanently reduced.

The debacle in oil-producing locations adds to the distress on top of global economic weakness. Damage to consumers, both lost income and wealth, as well as lost confidence in personal safety, will also take time to repair. In the interim, consumers will hold back. Further doses of fiscal policy could help to truncate the belly of the U-shape and speed a turnaround. As shown in *Exhibit 1,* the proportion of US employment in distressed sectors comprised 22% of total nonagricultural jobs at the end of 2019. These sectors include retail (15.7 million jobs); leisure and hospitality, including restaurants (16.8 million jobs); air transportation (508,000 jobs); and oil and gas extraction (158,000 jobs).[2] The negative short-term prospects of these sectors illustrate the magnitude of their drag on the economy.

Another view envisions a very pessimistic L-shape, wherein economic growth fails to rebound for a very prolonged period. Here, the 2020's will be a lost decade, with the COVID-19 shock marking the beginning of economic restructuring, and probable political restructuring, as well. In this scenario, consumers remain traumatized for a long time much like the frugal Depression generation of the 1920's and 1930's. Spending growth will be mediocre at best as households bulk up savings recognizing how little cushion they had going into the crisis. This lack of resources is shown in the most recent US Federal Reserve report *(Exhibit 2)* on household economic well-being surveyed late in 2019 and in the first week of April 2020 after the March COVID-19 crisis took hold.

The report shows that 63% of adults surveyed in 2019 could confidently cover an unexpected US$400 expense with cash or credit. But in the first week of April 2020, 13% of respondents had lost their jobs in March, and 6% had hours reduced. Of these respondents, only 46% could confidently cover an unexpected US$400 expense. With April delivering the loss of another 21 million jobs, financial precariousness most certainly mushroomed. Without a strong economic rebound, the political environment might well deteriorate into a raucous tug-of-war over the need to address the vulnerabilities revealed by the virus.[3]

The best investment opportunities should likely remain in more walkable locations, but not necessarily in the densest locations.

Exhibit 2: Financial Resiliency Measures

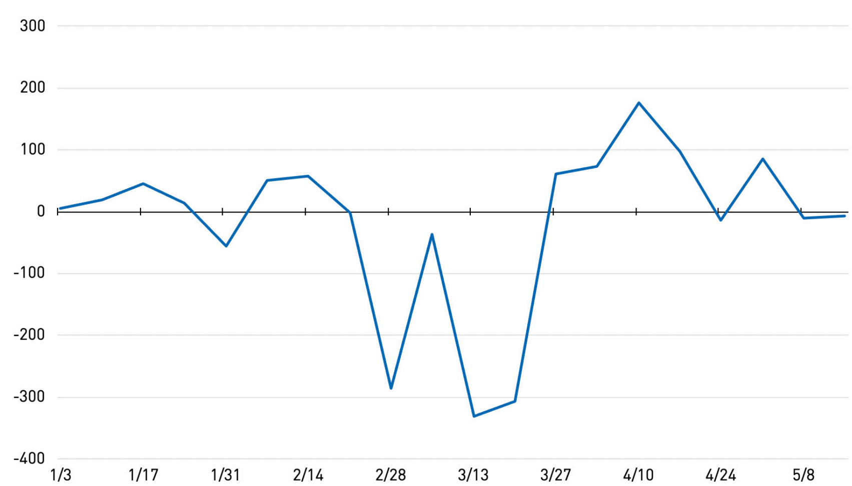
Source: Federal Reserve Board. As of May 14, 2020.

Survey Date	Respondent Category	Able to pay all bills (%)	Would pay $400 expense w/ cash or equivalent (%)
2019	**Overall**	**84**	**63**
April 2020	**Overall**	**81**	**64**
April 2020	Lost job or hours reduced	64	46
April 2020	No job loss or hours reduction	85	68

Finally, a W-shaped recovery scenario is another alternative. Here, economic growth will gyrate in response to flare-ups in the virus and ratchetting economic ups and downs. Some sectors will need to downsize through a process of trial and error as domestic and global demand may not return to pre-COVID-19 levels before financial resources are depleted. Employment will rebound but then recede as rightsizing is approached. Businesses will need to adapt to more employees working from home, more attention to employee childcare needs, and demands to provide better physical arrangement of office space, including improved ventilation. Some attention might be paid to addressing virus-related vulnerabilities, but generally positive economic growth expectations will discourage enthusiasm for political upheaval. The gyrations in the stock market since the beginning of 2020 (*Exhibit 3*) illustrate the market's mood swings, which portray somewhat of a W shape.[4]

Exhibit 3: S&P Index Weekly Changes

Source: Federal Reserve Bank of St. Louis. As of June 18, 2020.



Challenge Three: Tenant Demand

Under all scenarios—V, U, L, and W—tenant demand will evolve, leaving all sectors with the need to rightsize their stocks by repositioning, repurposing, or divesting excesses. The most challenged CRE sectors are hospitality and retail. Investment returns in these property sectors were already stressed before COVID-19 took hold (*Exhibit 4*).

THE HOSPITALITY SECTOR will be challenged to adapt to prolonged COVID-19 fears, even after the virus is vanquished. Higher standards of housekeeping will be required to reestablish customer confidence, and this will

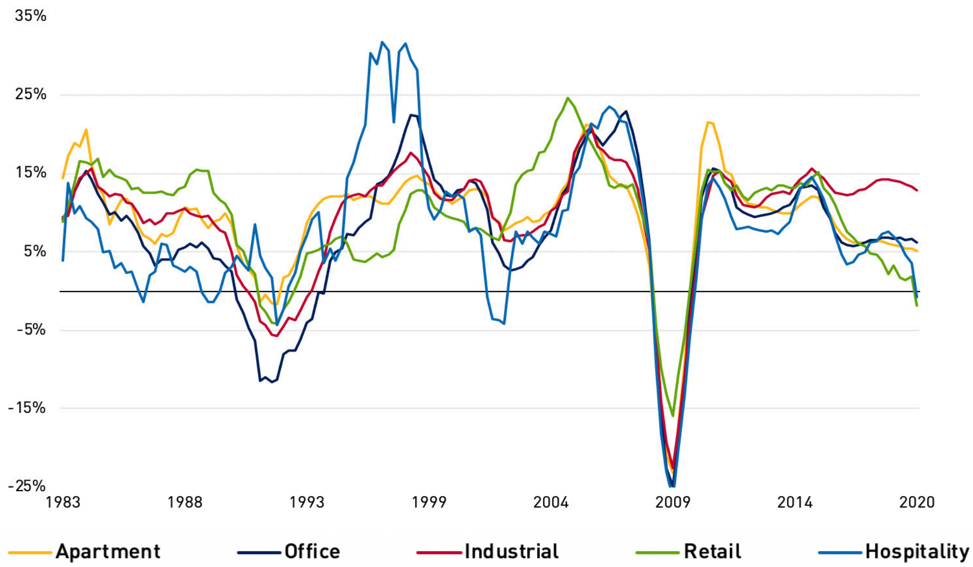


Exhibit 4: NCREIF Sector Returns: Trailing 4 Quarters

Source: NPI-NCREIF As of March 31, 2020. Past results are not indicative of future performance.

raise costs of operations. Additionally, the sector is ripe for rightsizing, as businesses will have learned from COVID-19 lockdowns that travel is less necessary than previously thought. The most attractive opportunities for the sector will likely be in high quality hotel locations with limited supply. Locations with very abundant supply will shed some excess, which might offer opportunity for repurposing perhaps to apartments.

THE NEED FOR THE RETAIL SECTOR to rightsize is enormous and has been understood long before COVID-19. The NCREIF Property Index (NPI), a US commercial real estate benchmark, reports negative appreciation return for retail properties for the last two to three calendar years depending on retail property type. In addition, total return for the retail sector has underperformed industrial, apartment, and office sectors for each of the last three calendar years.

The woes of retail reflect an accumulation of space that has become excess due to growing e-commerce sales and relocation of population leaving some trade areas over-supplied. The COVID-19 crisis has accelerated the negative impact of these structural forces on the retail sector. The strongest sub-sector of retail is the neighborhood center segment, which includes the grocery and pharmacy chains that serve local households. But even these centers are threatened by the possibility that more consumers will become attached to online purchases of these necessities, even after the lockdowns. Investors might consider looking for the best neighborhood centers and opportunity for repurposing failed centers of other types.

THE OFFICE SECTOR also faces challenges and will need to adapt to evolving tenant needs as social distancing prevents a return to pre-COVID-19 density of use. Additionally, the sector will need to rightsize to the needs of a smaller GDP that will take time to recover. In the near-term, more intense housekeeping will increase operational costs. Over time, space configuration and mechanical needs will evolve to provide safer spaces with better ventilation. Work-from-home experience will likely encourage more remote work and less need for office space. More space per employee, combined with fewer employees in the office, will offset each other, but to an unknowable degree. The best investment opportunities should likely remain in more walkable locations, but not necessarily in the densest locations.

THE INDUSTRIAL SECTOR appears to be a winner both through the lockdown and throughout the last decade. Loss in retail has translated into gain in industrial, as sales have shifted from brick-and-mortar space to e-commerce. Yet, after accumulated inventories of goods are absorbed, industrial space demand may ebb, reflecting the shrunken US economy and diminished trade. Over time, the economy will recover to its former size and industrial space demand will rebound, justifying investment in industrial properties as pricing allows.

THE APARTMENT SECTOR also appears to be a winner. While apartment construction has exceeded demand in selected metros over recent quarters, availability of more affordable units has remained very tight, and rent growth has been ample. Some erosion in occupancy and rent for more affordable units will likely accompany the COVID-19 recession, but it will be cushioned by very tight supply. New Class A construction will take some time to be absorbed and concessions will likely be material. Patient investors may find some distressed opportunities within the Class A universe. Opportunity in the more affordable universe will be difficult to source but probably more worthwhile.

About the Author

Martha Peyton, Ph.D, CRE, is Managing Director of Real Assets Applied Research for Aegon Asset Management Real Assets, the real assets investment center for Aegon Asset Management, a leading global investment manager with US$395 billion in assets under management/advisement as of December 31, 2019.

Notes

[1] US Bureau of Labor Statistics, "The Employment Situation," BLS (June 5, 2020). Note: Job losses peaked at 20.7 million in April followed by a gain of 2.5 million jobs in May.

[2] US Bureau of Labor Statistics, "The Employment Situation," BLS (February 7, 2020).

[3] US Federal Reserve Board, "Report on the Economic Well-Being of US Households in 2019," US Federal Reserve (May 14, 2020).

[4] Federal Reserve Bank of St. Louis (June 18, 2020).

THE FUTURE (OF) OFFICE

The global health pandemic has turned office use on its head– so what does this mean for the future of the sector?

By Stanley Iezman and Sabrina Unger
American Realty Advisors

The swift and sudden shutdowns resulting from the coronavirus pandemic have ushered in a new era of working for many office-based employees. With wide swaths of the US population working from home and no clear indication of when this period might pass, employees and employers alike have begun to question the necessity of the office for most critical business functions, with some companies, such as Twitter, making bold moves to embrace location-less/remote work styles.

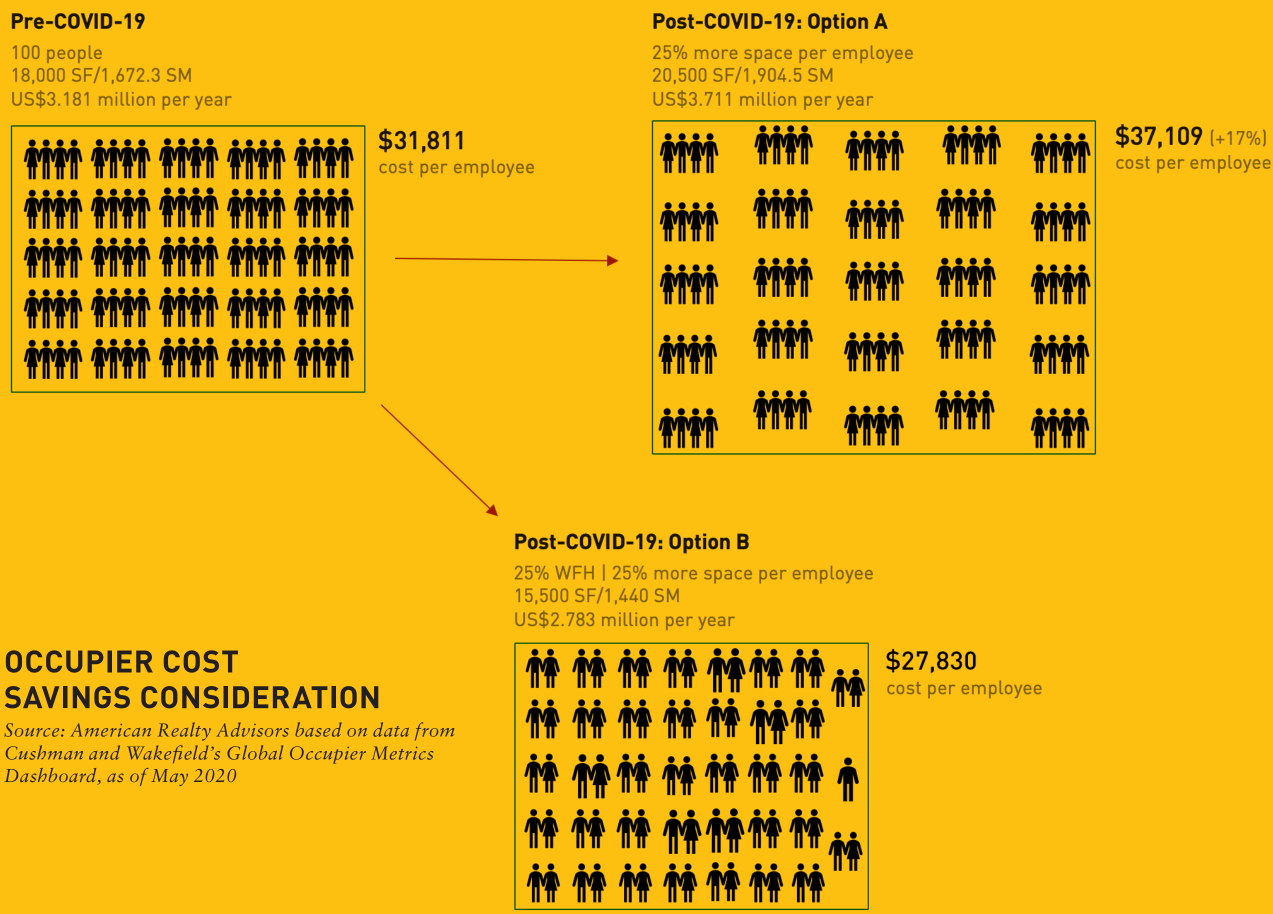
For owners of office space in the US, these changes present both short- and long-term challenges. While many highly qualified individuals are focused on solving the more imminent physical challenge of how to safely welcome back occupants into the office, there has been only broad speculation of what the future of the office might look like, but very limited speculation on how to position portfolios to embrace the disruption.

In the pre-COVID-19 era, remote workers were a fast-growing, though still-small slice, of the US labor force, totaling 3.4 million full-time workers. While companies had been gradually moving towards offering greater flexibility for their workers as one of many tools in their recruitment and retention arsenal, the office has remained the focal point of business activity for many firms—until earlier this year.

Amidst the elevated health risks, major occupiers of commercial office space around the country appear to be in no rush to have their employees return to the office. Companies such as Google and Facebook have signaled employees could stay home until 2021, and others, such as Nationwide Insurance, have opted to close all but four of its corporate offices and move towards a hybrid-remote workforce—roughly 4,000 employees strong. The perceived challenges that had for years circumvented a broader adoption of remote work (including concerns around productivity, infrastructure, communication, and collaboration) have been put to the test, to surprisingly effective results; US workers were 47% more productive in March and April than in the same two-month period in 2019.[1]

Against this backdrop, office tenants will be faced with these questions:

- **What measures do I need to undertake to ensure the health and safety of my employees when they return to the office?**
- **Do I need to allot for greater space per employee, and what will the cost of that be?**
- **Which roles might best lend themselves to being permanently remote? Or alternatively, which functions can only be conducted in the office?**
- **Are there benefits to decentralizing my office footprint into less expensive/secondary locations or markets?**



OCCUPIER COST SAVINGS CONSIDERATION

Source: American Realty Advisors based on data from Cushman and Wakefield's Global Occupier Metrics Dashboard, as of May 2020

While there will undoubtedly be those companies that move to a completely remote model, there will likely be many more who leverage a hybrid model. How firms balance this need for more space per employee and their bottom lines is poised to impact the office sector for years to come, and how investors navigate these countervailing forces will create the next cycle's winners and losers.

To better illustrate the impact of these choices, let us take a hypothetical company headquartered in a prime location in New York City. Let's assume that the lease pre-COVID-19 was executed with the notion that all 100 employees are in the office most days and there is relatively little remote mobility. With a space per dedicated desk of 125 SF/11.6 SM, the lease encompasses roughly 18,000 SF/1,672.3 SM and costs the tenant US$3.18 million annually, or US$31,811 per employee.

While this tenant and their landlord may employ superficial modifications in this interim co-COVID-19 period to gradually allow employees to return to the workplace (such as masks, temperature checks, and sanitizer stations in elevator banks, or fewer chairs in conference rooms), the return is likely to occur in phases, with at least a portion of their workforce remaining at home until the development of a vaccine or reliable therapy.

Assuming these modifications and phasing persist in some form until their lease expires, the tenant is faced with the prospect of either (A) a renewal that increases the amount of dedicated space per person by 25%, increasing the amount of space needed and annual costs by more than half a million dollars per year or (B) allocating a certain share of workers who are expected to permanently work from home to offset de-densification (*Exhibit 1*).

On the surface, these two scenarios seem to offer a modest win for office landlords at best, no change at a minimum. However, this example assumes that the company's cost-cutting efforts are contained to the initial one-time, 25% reduction in their office-based employee count. While this may be the initial measure companies take to mitigate infection risk, it may mark the first in a series of phased transitions that could leave office occupancy considerably weakened. And these scenarios ignore the very-real possibility that some firms, when faced with the very real dilemma of continuing to pay rent on a space they are unable to occupy, will put their space onto the sublease market, adding downward pressure to fundamentals.

And there is evidence to suggest firms would benefit from more fluid workforces than merely real estate cost savings. A survey of 1,200 US workers in 2019 found that employees who regularly work remotely are 22% happier than people who never work remotely, are 13% more inclined to stay in their current job for the next five years than on-site workers, and work over 40 hours per week 43% more than on-site workers do.[2] Reduced or eliminated commutes, improved work-life balance, and increased productivity are oft-cited intangible benefits to employees who are given the flexibility to work remotely. With companies focused on attracting and retaining top talent, a flexible policy that is geographically agnostic may be the new differentiator for recruitment and retention. And that says nothing to the potential benefits of a hiring strategy that can target the best candidates from anywhere, at localized (read: lower) pay rates. Given the myriad ways in which these scenarios might pan out, an investment approach that bifurcates near- and short-term risks and opportunities by severity and likelihood is perhaps the most appropriate.

Geographic exposure to the virus and companies' utilization and cost of space may provide some guidance. Densely populated, transit-reliant cities such as New York and San Francisco may exhibit a weakening in fundamentals first. Employers will not want to risk exposing their employees to contagion through long, crowded commutes, so may opt to extend their work-from-home periods until a vaccine is developed. The longer this dynamic exists, the more these same companies may struggle to justify paying high office rents for spaces that are not being used, which may lead to an uptick in sublease space and ultimately higher vacancy.

The employees who regularly work remotely are 22% happier than people who never work remotely.

There is also a scenario whereby other companies (who might have already been on the fence about business costs in higher-tax coastal states) consider a physical move to a lower-cost, car-friendly metro while allowing those who wish to stay behind to continue to work remotely. This may marginally benefit office markets in places such as Texas or Florida, though these moves are also likely to reflect downsizing. Other solutions may include greater leverage of co-working facilities in suburban locales that cater to firms' suburban employees, eliminating commute risks and lessening long-term lease commitments.

So, what can investors do today to prepare for the ensuing shift?

- **Follow the talent.** Companies inclined to relocate their physical operations are likely to go where those with the requisite skillsets want to live. This may mean warmer, more affordable markets in the Sun Belt with a highly educated workforce and attractive quality of life (e.g., Austin, Miami, Orlando, Tampa, Dallas, or Phoenix) may capture a greater share of office leasing. Local supply-demand dynamics need to be carefully underwritten.
- **Embrace flexibility.** Companies may be reluctant to commit to long-term leases when they themselves are faced with increased uncertainty. Buildings and landlords that can embrace occupiers' needs to flex into and out of space as needs dictate with shorter-term leases or in-house co-working suites may prevail.
- **Differentiate product.** With the possibility of firms taking less space overall in the future, the spaces they do occupy will likely serve as physical showrooms of their culture and values. This may mean that spaces that promote environmental and workforce wellness can command a price premium over more commodity product that may fall completely out of favor and be converted to higher and better uses.

It stands to reason that the office sector is poised to undergo a dramatic transformation in the years ahead. While we believe most companies will not forego office space entirely, the pandemic has created a permanent shift in the way companies view and support virtual work environments and just as critically, how they will use office space going forward.

Given the significant exposure to the office sector in most investors' core portfolios, anticipating how these shifts could progress from a slow drip yesterday to a steady stream today can help mitigate against downside surprises tomorrow.

About the Authors

Stanley Iezman is Chairman and CEO and Sabrina Unger is Managing Director, Head of Research and Strategy, for American Realty Advisors, one of the largest privately held real estate investment management firms in the US.

Notes

[1] Results based on analysis of 100 million data points from 30,000 Americans by Prodoscore, a leader in employee visibility software. See Prodoscore, "Prodoscore Research from March/April 2020: Productivity Has Increased, Led by Remote Workers," BusinessWire (May 19, 2020): businesswire.com/news/home/20200519005295/en/Prodoscore-Research-MarchApril-2020-Productivity-Increased-Led

[2] Owl Labs, "State of Remote Work 2019," Owl Labs (September 2019): owllabs.com/state-of-remote-work/2019

SUPPLY, DEMAND, STAY AT HOME

COVID-19 and logistics: What have we learned so far, and what will be the lasting impact on the sector as it faces a new stay-at-home economy?

By Melinda McLaughlin, Prologis

COVID-19 has put an end to the lengthy global economic expansion. Estimates of the magnitude and duration of the negative impact of the pandemic span a broad range.

On the demand side, economic activity has been suppressed as consumers are constrained by restrictions, fear, and/or job loss. On the supply side, disruption in the production and movement of goods (and people) around the world has tested complex supply chains. Logistics real estate users have had to handle both a shortage of goods and a subsequent replenishment surge. Demand for space will continue to evolve as consumer behaviors and supply chains shift.

To build an understanding of the impact of COVID-19 on logistics real estate, it helps to divide the timeline of the pandemic into three phases: the Stay-at-Home Economy, the Recovery, and the New Normal. In each phase, there are key trends that could lead to either increased or decreased demand for logistics real estate. With this methodology applied to Prologis' global portfolio, which includes approximately 1 billion SF/92.9 million SM of logistics space, alongside data derived from the company's diverse customer base, where no single industry accounts for more than 15% of base rent, we can extrapolate an understanding of how COVID-19 has impacted both logistics real estate and global supply chains—and what these impacts could mean for the future of the sector.

SUPPLY AND DEMAND IN THE STAY-AT-HOME ECONOMY

When countries around the world issued stay-at-home orders earlier in 2020, a sudden shift took place that resulted in a demand surge across certain industries. This shift emphasized the crucial role that logistics real estate plays in everyday life.

New sources of demand were driven by:

Stockpiling. Consumers rushed to stock up on grocery and consumer products. (They purchased these items at retailers that collectively represent more than 24% of the Prologis customer base.[1]) In March, US grocery sales jumped by nearly 30%.[2] Rapid replenishment operations restocked store shelves, while grocery deliveries from stores to homes skyrocketed.

Medical support. Demand for medical supplies, pharmaceuticals, and personal protective equipment spiked. Shifting COVID-19 hot spots in various states and countries also highlighted the need for responsive supply chains.

Inventory building. Volatility caused by China's work stoppages led to shipments doubling at a time when many customers had no store shelves to fill. This drove increased need for short-term space across a range of industries, with a sharp increase in demand from logistics companies that specialize in supply chain management. Within the Prologis global portfolio, short-term leases rose 40% year-over-year in the 30 days through April 17, 2020.

Office and school closures. Almost overnight, households around the world went from transporting family members to work and school and attending social events to concentrating all of these activities at home. Retail sales of select products within the diversified retail category and electronics/appliances (each of which represents roughly 8% of the Prologis customer base), increased sharply (e.g., school supplies, computers, monitors, desks, and chairs).

Limited mobility. Estimates suggest e-commerce sales rose by around 50% in April and May 2020 (versus the recent trend of approximately 15%)[3], including outsized gains in previously under-penetrated categories such as grocery. E-fulfilment operations accounted for nearly 40% of new leasing in March and April within the Prologis portfolio. In addition, at 11% and 5% of the Prologis customer base, respectively, many transportation/distribution and packaging/paper customers are encountering increased parcel volumes.

March retail sales highlight the resilience and outperformance of the logistics sector. US retail sales revealed a sharp bifurcation of industry growth during the Stay-at-Home phase. The following table lists retail sales changes (along with share of the logistics real estate customer base) as of March 31, 2020.[4] Approximately 60% of these customers experienced growth, while 40% saw revenues decline. In total, logistics real estate-weighted industries outperformed the national average by 730 BPS, with a decline of 1.4% versus -8.7% for all of retail.

Exhibit 1: Industry performance during COVID-19 (%)

	Share of customer base	Growth (March 2020)	Weighted growth rate
Total Retail Sales		**-8.7**	
Logistics Weighted Average		**-1.4**	
Food and Beverage	10.9	+25.6	+2.8
Diversified Retail	8.5	+12.2	+1.0
Consumer Products**	9.0	+10.8	+1.0
Packaging and Paper**	5.6	+10.8	+0.6
Healthcare	4.8	+4.3	+0.2
Transport and Distribution Services*	13.1	+1.9	+0.2
Cosntruction and Home Improvement	7.8	+1.3	+0.1
Industrial and Machinery***	7.2	-5.4	-0.4
Auto Parts	7.0	-6.2	-0.4
Electronics and Appliances	9.8	-15.1	+1.5
Department Stores	0.6	-19.7	-0.1
Sporting Goods	3.9	-23.3	-0.9
Restaurants	1.2	-26.5	-0.3
Home Goods	6.3	-26.8	-1.7
Auto Sales	0.3	-27.1	-0.1
Apparel	3.9	-50.5	-2.0
Growing Industries	**59.7**	**10.0**	
Shrinking Industries	**40.3**	**-18.4**	

Source: Prologis

Note: Customer base excludes logistics providers with multiple customers and those classified as office/other, implying growth rate on par with total

* *retails sales (exc. Auto/gas/food services) growth as a proxy*

** *weighted average of general merchandise/grocery/health and personal care/nonstore sales as a proxy*

*** *March industrial production growth as a proxy*

New behaviors symptomatic of the stay-at-home phase have created significant challenges in some industries. In total, direct logistics real estate exposure to the most hard-hit industries is small (e.g., 3-4% of the Prologis customer base). Those hit hardest include auto sales, travel/tourism/conventions/entertainment, restaurants, department stores, and aerospace/oil and gas. Particular segments of these industries will likely also face challenges, including small- to mid-sized businesses that, irrespective of government support, don't have the operational flexibility to handle a pandemic. Industries with a notable concentration of these affected segments include transportation/distribution, food and beverage, and apparel/sporting goods.

RE-TOOLING SUPPLY CHAINS FROM EFFICIENCY TO RESILIENCY

The pandemic has exposed the trade-offs supply chains have made in tuning for efficiency. Several customer groups stand out for having very lean supply chains at present, including food and beverage, electronics/appliances, healthcare, and diversified retail. Going forward, many businesses are likely to build higher inventory levels to ensure resilient supply chains.

Each 100 BPS of growth in inventories is estimated to require an additional 57 million SF/5.3 million SM of US logistics demand. In addition, carrying costs will remain low given record-low interest rates. In our own research, we modeled 5-10% inventory growth, which would produce additional space needs of 285-570 million SF/26.5-53 million SM in the US. This shift could lead to broad-based logistics real estate demand growth, with an emphasis on large consumer populations, access to transportation, and modern facilities.

Accelerated e-commerce adoption and higher inventory levels have the potential to generate 400 million SF/37.1 million or more of additional US logistics real estate demand, or 150-200 million 13.9-18.6 million SM per year for two to three years. Re-tooling supply chains for increased e-fulfilment should create incremental net demand of 140-185 million SF/13-17.2 million in total.[5] E-fulfilment demand should be highest in locations near end consumers. Inventories could increase by 5-10% in a bid for resiliency, producing 285-570 million SF/26.5-53 million SM of aggregate incremental demand.[6] New demand from inventory growth could be spread more evenly throughout distribution networks.

Grocery, healthcare, consumer products, and diversified retail are among the top segments poised for lasting e-commerce impact and/or inventory re-assessment. (Accounting for approximately one-third of the Prologis portfolio, these customer groups already represent an overweight portion of the logistics real estate customer base, relative to the overall economy, and should be well-positioned for outperformance throughout the recovery period.) As a result, adjustments to supply chains could happen quickly as uncertainty abates.

The lessons learned from the pandemic will also add demand tailwinds to logistics real estate.

Exhibit 2: Inventories-to-sales ratio, retailers (1992-2020)

Source: US Census Bureau

IMPACT OF ACCELERATED E-COMMERCE ADOPTION ON SUPPLY CHAINS AND LOGISTICS REAL ESTATE

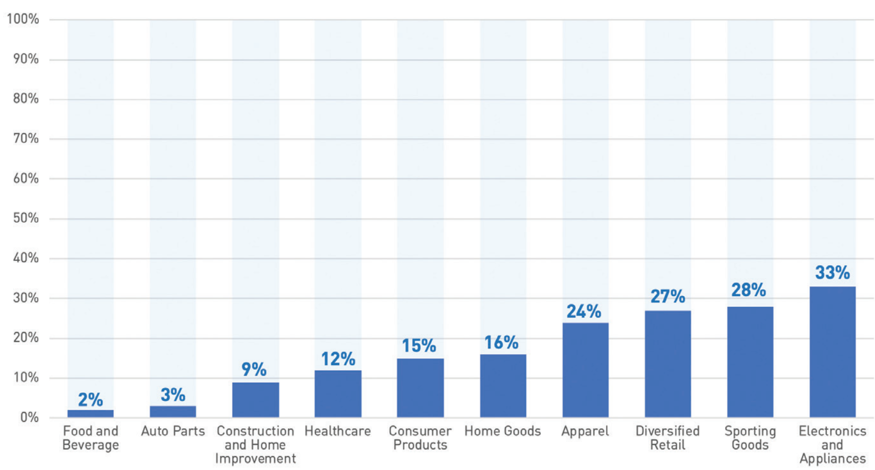
Faster e-commerce adoption should require greater supply chain investments from low-penetration industries such as grocery. Grocers have recently announced 3-4x year-on-year increases in online sales. Several industries are still in the early phases of e-commerce adoption, including food/beverage and construction/home improvement. With the caveat that this growth may not be permanent, much of it could in fact become permanent as new adopters become familiar with the benefits of e-commerce.

Growth in these categories will reinforce same- and next-day service requirements. Legacy 3- to 5-day delivery times were a barrier to adoption for these categories, where consumers typically have short planning horizons. These categories have relatively small e-fulfilment operations, and re-tooling supply chains will require substantial real estate investments. Third-party logistics specialists could benefit from this shift.

Each 100 BPS of share shift from traditional brick-and-mortar to e-commerce translates to 46 million SF/4.27 million SM of net demand in the US. With the penetration rate already rising by 100-150 BPS annually,[7] March through mid-April's e-commerce growth of more than 30%[8] suggests the rate could rise by 300-400 BPS in 2020, generating an incremental 140-185 million SF/13-17.2 million SM of net demand (accounting for cannibalization of brick-and-mortar).

Some of this demand has already surfaced in the race to respond to the coronavirus pandemic, but the reality of implementing this expansion in distribution capabilities may take more than a year to complete. In addition to growing retailer demand, parcel delivery and paper/packaging businesses should benefit from increased direct-to-consumer shipments. Service requirements and the need to optimize transportation costs will likely increase demand for distribution facilities in urban areas near end consumers.

Exhibit 3: E-commerce share of retail sales (as of 2019)



Source: Euromonitor, US Census Bureau

WHAT'S NEXT FOR LOGISTICS?

The logistics real estate customer base comprises companies that are both benefiting from and being challenged by sudden shifts in behavior, with net outperformance in . . .

- **. . . the Stay-at-Home economy.** Demand is surging in large customer industries such as food and beverage, diversified retail, consumer products, and transportation/distribution. Retail sales data indicate that 60% of industries within logistics real estate are growing, while 40% are shrinking.
- **. . . the Recovery stage.** Businesses that were able to adapt to new patterns of consumer behavior should increasingly focus on optimizing their supply chains for the "new normal," including a re-assessment of ideal inventory-to-sales ratios. Businesses that serve essential and basic daily needs historically have outperformed in terms of retail sales growth during recessions.

The lessons learned from the pandemic will also add demand tailwinds to logistics real estate. For example, as we look at the future, Prologis Research estimates that 400 million SF/37.1 million SM or more of total additional US logistics real estate demand will be created in the next two to three years as companies adjust to greater e-commerce volumes and higher inventory levels.

About the Author

Melinda McLaughlin is Vice President of Research for Prologis, the global leader in logistics real estate with a focus on high-barrier, high-growth markets.

Notes

1 Prologis global portfolio as of April 15, 2020.

2 US Census Bureau, Advance Retail Sales report (March 2020).

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4 Prologis portfolio, by base rent

5 Based on US$5.5T 2019 retail sales, of which 100 bps is US$55 billion in retail sales. Intensity of use as follows: 1.168 million SF per billion for online and 328,000 SF per billion in-store (840,000 SF net per billion). revenue; market rent growth weighted by PLD NOI is ~8%

6 Based on coefficients from a two-factor OLS regression of real retailer inventories and real retail sales on U.S. logistics real estate demand growth, spanning from 1992 to 2019.

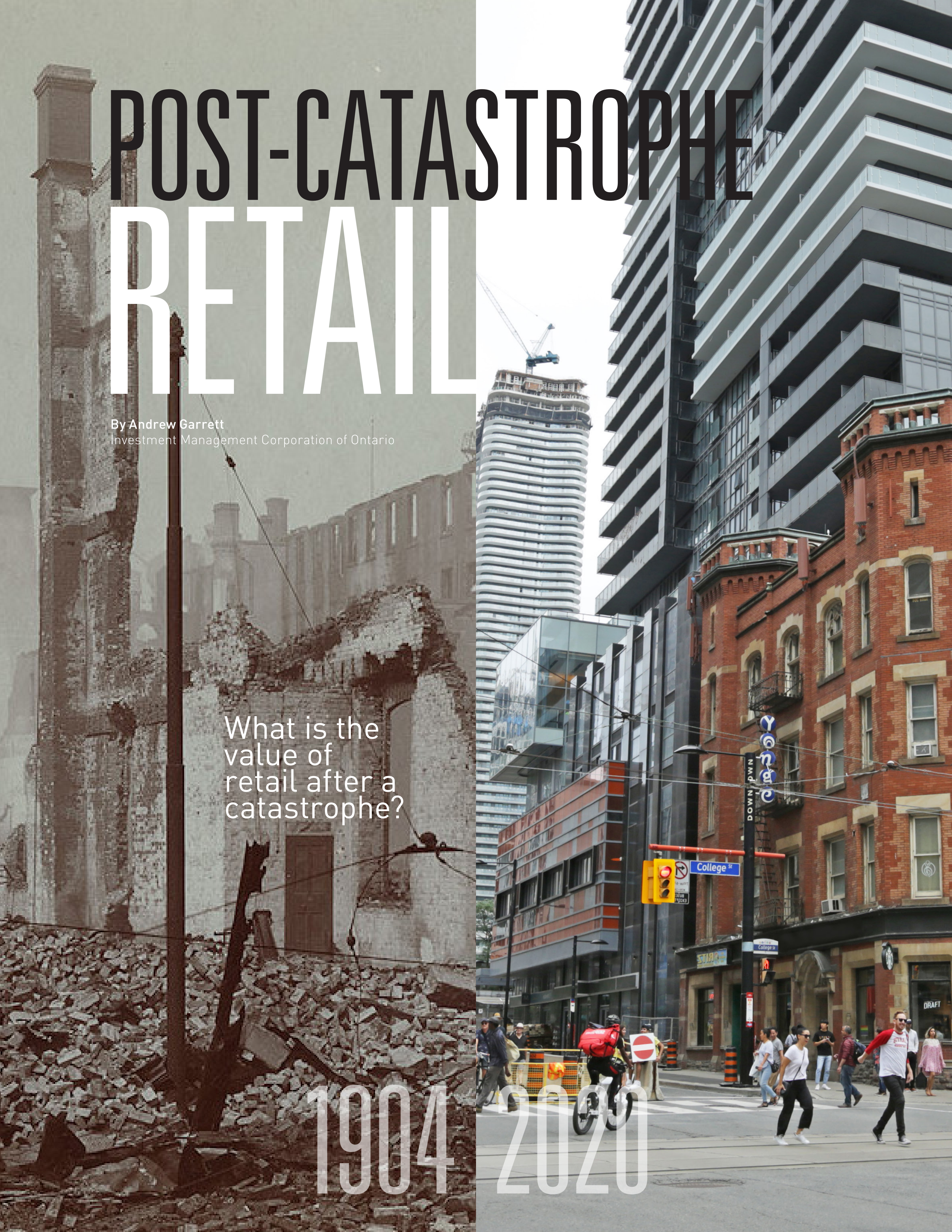
7 US Census Bureau Quarterly E-commerce Report

8 Rakuten Intelligence

POST-CATASTROPHE RETAIL

By Andrew Garrett
Investment Management Corporation of Ontario

What is the value of retail after a catastrophe?



While COVID-19 has conjured visions of “the end” for some, history shows that catastrophes in the human story always lead to reinvention in culture and the built environment.

On December 12, 1287, the Netherlands were forever changed because of the St. Lucia Flood. It was one of the deadliest floods in history, destroying all the villages between the sea and Amsterdam.

When the water retreated and the community rebuilt itself, Amsterdam began its transformation into the great coastal city we know today.

There is no question that catastrophic events, such as floods, fires, and pandemics, create a real danger for humanity and impact how people live. Catastrophic events always have an economic impact, and the impact on commercial retail real estate during the current pandemic is unprecedented. It is hard to imagine what elements of our collective behaviors will permanently change after a catastrophic event. However, as humans adapt, so does real estate.

History points towards patterns of how retail adapts to crisis. Retail fulfills the primary roles of providing a foundation to rebuild communities, as well as providing long-term value appreciation to institutional investors—not to mention the benefit of its low correlation to equities.

In retail, catastrophe accelerates pre-existing consumer trends and stimulates higher long-term valuation as rebuilding efforts unlock trapped value.

Past Pandemic Fears and Retail Trends

When the SARS pandemic hit Toronto and Hong Kong, hospitality, tourism, and retail industries were impacted severely in the near term. A study by the Chinese University of Hong Kong indicated that after SARS, consumer attitudes in Hong Kong accelerated industry wellness and social bonding trends. By June 2003 at the early ending phase of the pandemic, researchers noted, “SARS has brought some positive impacts on social/family support, mental health awareness, and lifestyle changes.”[1]

H1N1, another viral pandemic, also known as the Swine Flu, was estimated to be associated with 151,700 to 575,400 deaths worldwide during the first year it circulated in 2009, according to the US Centers for Disease Control.[2] This H1N1 virus impact was pre-empted earlier than COVID-19, but H1N1 has continued to circulate seasonally to this day, more than 10 years later.

One of the key attributes that separates viral pandemics from other natural disasters, such as floods and fires, is that they create a fear of being around other people. The invisibility of a virus also adds to alternating feelings of “fear, anxiety, and calm,” according to University of Massachusetts brain sciences professor Susan Krauss Whitbourne.[3]

Events such H1N1 and SARS have also shown that pandemics accelerated consumer awareness and priorities towards health, wellness, and family bonding. Retail adapted to meet our psychological needs and desires. Toronto and Hong Kong have since economically rebounded from both pandemics, and still have world-class shopping centers serving their communities.

If we step back from the purely transactional focus of retail, the sector by its nature is highly valued because it serves our intersectional cultural identities. Using Gary Weaver’s Cultural Iceberg metaphor, retail speaks to more than just our surface level “fashion and food” needs and wants.

Exhibit 1: Iceberg analogy of culture

Retail is constantly reshaped by our deep cultural beliefs, based on our attitudes towards elders, adolescents, authority, and status. Retail responds to concepts of beauty, family ties, and friendship.

Consider the Envision 2020 plan presented by the International Council of Shopping Centers (ICSC). At the time it was introduced around 2015, Envision 2020 highlighted key trends shaping the retail industry *(Exhibit 2)*.

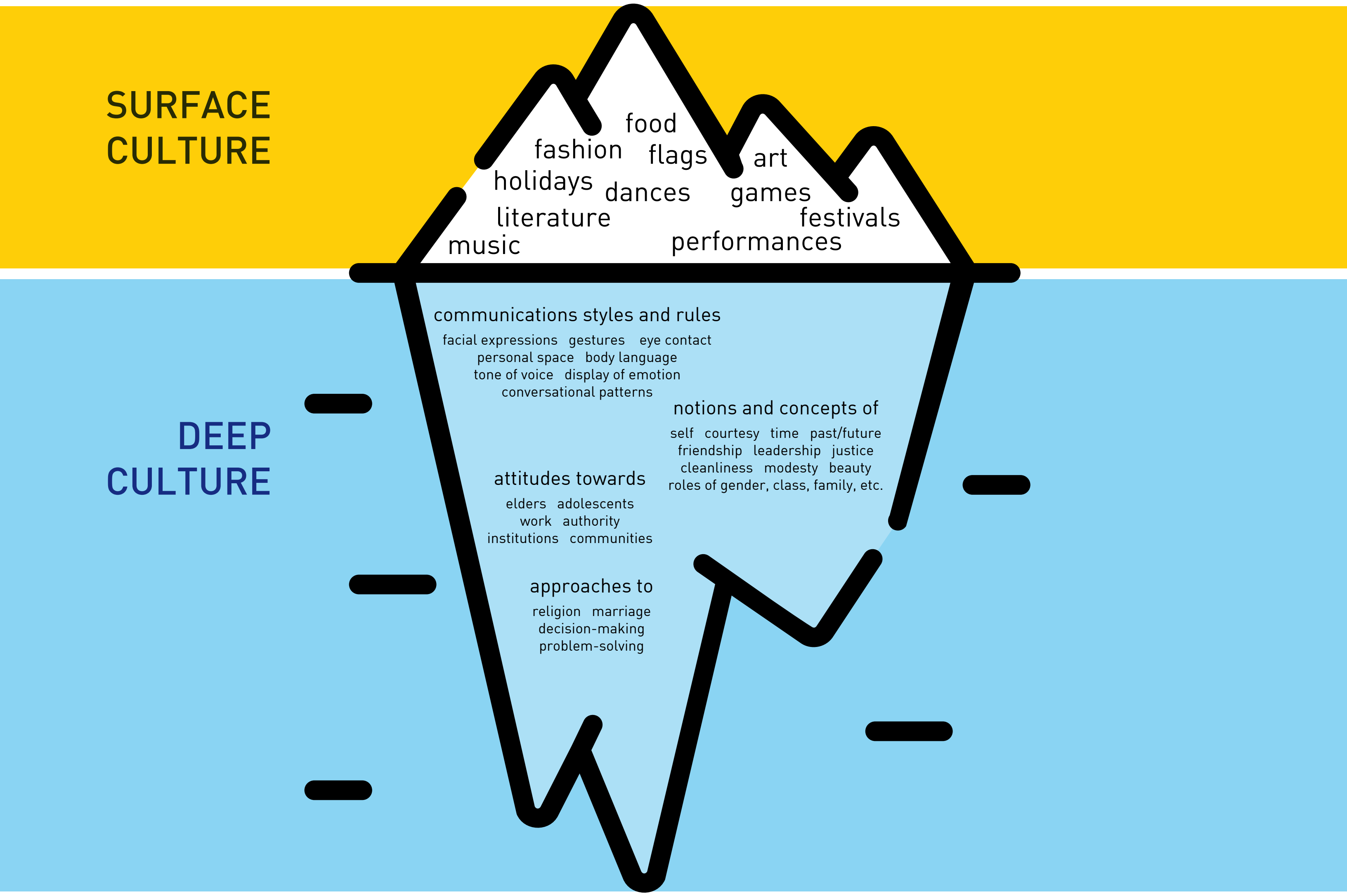


Exhibit 2: From 2015: Bold statements for the future of retail

BOLD STATEMENT #1	unification of brick-and-mortar and online retail
BOLD STATEMENT #2	unprecedented intimacy with the consumer
BOLD STATEMENT #3	conversion of shopping centers into communities
BOLD STATEMENT #4	mall environments that engage millennials
BOLD STATEMENT #5	incorporating distribution into shopping centers
BOLD STATEMENT #6	accelerated developer/retailer collaboration
BOLD STATEMENT #7	emergence of a new blended rental model
BOLD STATEMENT #8	arrival of a retail-friendly investment outlook

Source: ICSC Envision 2020

Over time, there is an opportunity for retail to be better built to meet those deep cultural needs that consumers are seeking.

Ultimately, consumers desired more intimacy with lifestyle brands and experiential environments, requiring accelerated developer-retailer collaboration, which we witnessed in multiple ways from 2015 to 2020.

So does COVID-19 permanently change any of these trends?

Imagining Retail After Catastrophe

In the 1900's, before the Great Toronto Fire, the Eaton Company, an iconic Canadian retailer based in Toronto, connected their main store and off-price retail stores through a small underground path. Four years after that connection was built, on a night of freezing temperatures in Toronto, a police constable saw flames coming from a downtown Toronto building. By the time the fire spread and was eventually extinguished nine hours later, more than a hundred buildings in the city's core were ashes.

Believing fire might have been associated with faulty wiring, the city pushed more infrastructure (electricity, telephone, water pipes) underground, taking a cue from the Eaton Company. However, unlike most cities, this infrastructure relocation continued for decades. Initially the underground path connected north/south retail buildings to transit in the late 1920's, then grew east/west in the 1970's. Today, more than 120 years later, Toronto's Underground PATH holds a Guinness World Record for being the largest underground shopping complex in the world. The 18.6-mile/30-kilomoter maze of underground paths, with more than 3.9 million SF/371,000 SM of retail space, generates CA$1.7 billion (US$1.25 billion) in sales and more than 4,600 jobs, according to the City of Toronto.[4]

The success of the PATH system illustrates how adversity plants a seed to adapt vastly underutilized spaces. It also demonstrates how new building codes and safety requirements create an ecosystem for building more resilient, flexible, and durable spaces, which appreciate considerably for owners over the long term.

Over time, there is an opportunity for retail to be better built to meet those deep cultural needs that consumers are seeking. Forced by crisis to make more technological investments, retailers will seek to expand their margins by not having to stock excess or undesired inventories at their stores. This will force companies to find innovative ways to harvest the mountains of big data that they sit on, allowing them to be more responsive to their customers.

Where does online retailing fit into this picture? Online retailing strategically focuses more on lower-value or basic consumable products, which create frequent repurchase or refill behavior. This leaves significant room for high-margin, experiential, high-value purchases of greater quality and durability from physical store locations. Not to mention added convenience for personal service, upselling, and returns. Retailers are cautious about accelerating fulfillment costs created by online sales and the potential negative impact they have on profitability.

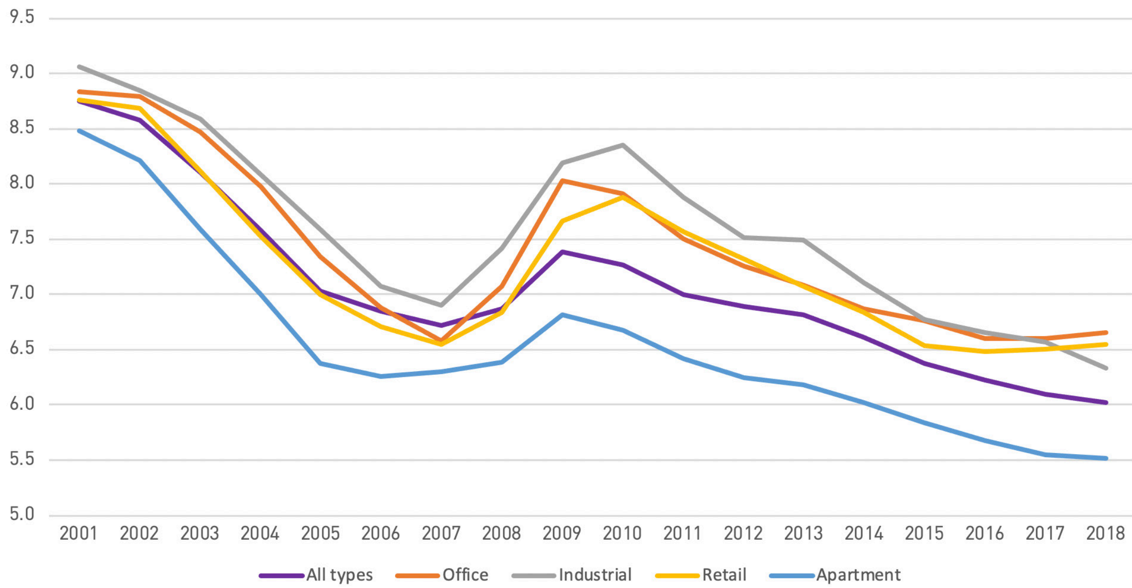
Retailers who built productive omnichannel businesses (interconnected productive online and productive in-store platforms) are continuing to be in high demand with retail investors and developers. More variable rent structure leases are increasingly aligning landlords with tenant success, which is heightening retailer and developer collaborations.

Exhibit 3: Aftermath of the Great Toronto Fire (1904)

Source: City of Toronto Archives

Retailers who built productive omnichannel businesses (interconnected productive online and productive in-store platforms) are continuing to be in high demand with retail investors and developers.

**Exhibit 4: Capitalization Rates:
US core properties over US$2.5 million**



Source: Real Capital Analytics

Retail's Resilient, Long-Term Valuation

It would be fair to say that US retail been out of favor with many institutional investors the last several years. The US is also the most over-supplied country in the world, with more than 23 million SF/2.1 million SM of retail per capita in 2018.

However, despite those headwinds, US core retail property returns have remained resilient post-dot-com bubble, 9/11 attacks, H1N1 pandemic, and increasing retailer bankruptcies. Global valuations support a similar trend of resilience historically. Investors with long-term horizons, historically have managed strong, risk-adjusted returns in retail real estate with less than 30% correlation to overall S&P 500 after major market declines.

These valuations often exclude the benefit captured by owners who have backfilled closing tenants and centers with non-retail uses. Abandoned retail spaces can be reborn as places of worship, apartments, hotels, car showrooms, coworking, and much more, due to their high visibility and flexible zoning designations.

As Vista Equity Partners CEO, Robert Smith has often said, "The fourth industrial revolution is real, and it is global. It relies on the ability to harness the data that is captured from real-time interactions that are taking place within the networks of their customers."[5]

Retail transformation is aligned with this revolution, with consumers desiring more intimacy with lifestyle brands, experiential environments, and health and wellness attributes. Throughout modern history, floods, fires, and pandemics have forced the evolution of retail real estate. However, the arc of retail transformation still bends towards the technological imperative of a robust omnichannel connection with consumers. After COVID-19, owners and developers, in collaboration with retailers, will transform retail as much as nature's fury has transformed Amsterdam.

About the Author

Andrew Garrett is Executive Director, Real Estate, for the Investment Management Corporation of Ontario (IMCO), which manages more than CA$70 billion of assets with a focus on providing comprehensive and value-added investment management and advisory solutions to public-sector clients in Ontario.

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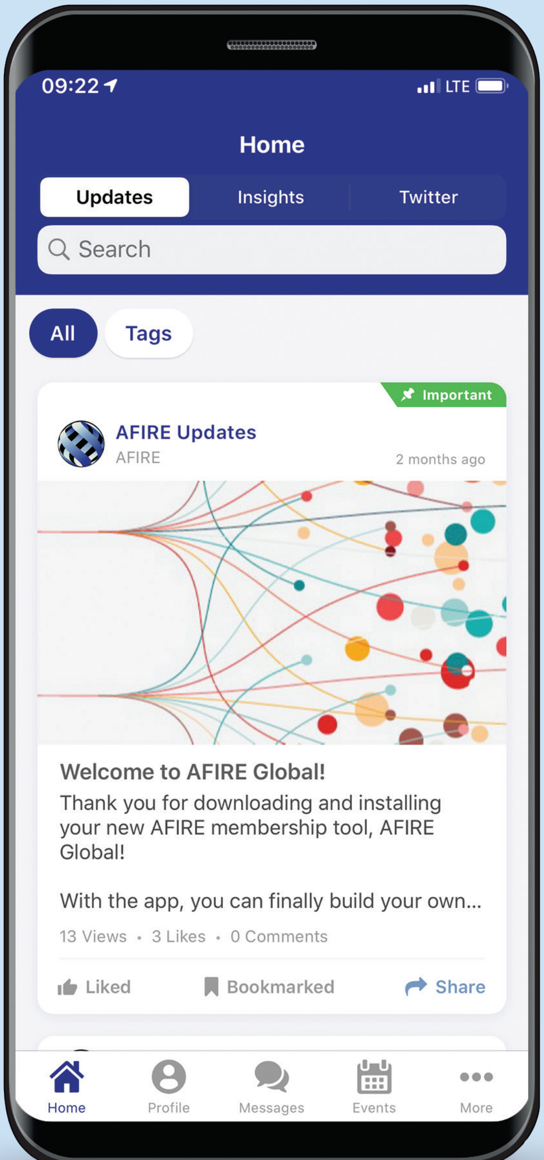

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MIXED USE RE-MIXED

Though mixed-use developments aren't immune to COVID-19-related disruptions, demand is likely to grow as the crisis subsides.

By Bryan Sanchez and Hans Nordby
Lionstone Investments

1908—NOW

It may seem counterintuitive, but to identify attractive real estate investment opportunities, a great place to look is the past—1908, to be exact.

That's the year Henry Ford introduced his Model T automobile, the first mass-produced vehicle affordable to the average American, which almost single-handedly determined the layout of the United States. In the century since then, automobiles have been a central factor in the places people choose to live and work, and the lifestyles they lead. Until now.

The digital era has significantly altered the lifestyles and housing preferences of the average American. Those changes have dramatically shifted the real estate investments best positioned for success. From economic shifts that have normalized dual-income families, to cultural changes that have created a society focused on convenience, multiple factors have driven a return to urban living. As a result, mixed-use communities (MUCs) that integrate residential and commercial space have become extremely popular. And in the wake of COVID-19, demand is only expected to increase.

CHANGING ATTITUDES TOWARDS MIXED-USE

MUCs are among the most promising real estate investments available today, offering the potential for higher returns coupled with lower risk than many other real estate ventures. Office space within MUCs has been more resilient, according to research conducted by Lionstone, having weathered the 2008 Global Financial Crisis significantly better than single-use properties. And, though MUCs are not immune from many of the logistical and economic challenges introduced by COVID-19, society's enhanced focus on physical and mental health in the wake of the pandemic is only likely to enhance demand for such facilities once the crisis has passed.

MUCs consist of a blend of uses within a concentrated geographic area that meet the needs of workers, residents, shoppers, visitors, and even students. Unlike office buildings in central business districts where individuals are densely packed into small areas, however, MUCs provide a more spacious blend of apartments or condos with office space, retail space, and public areas that gather people for a wide range of events. By allowing people to blend their personal and professional lives into a small geographic area, MUCs ultimately simplify many aspects of day-to-day living and can increase an individual's quality of life.

In many ways, MUCs also offer a return to the past. Prior to the introduction of Ford's Model T, transportation options were limited, forcing people to live and work within small geographic areas. But the advent of an affordable automobile changed everything. With automobiles, people ventured farther away from major cities to suburbs promising larger, private living spaces and yards of their own. With major businesses and companies seeking out inexpensive facilities, and in many cases, the privacy and secrecy that corporate campuses provided for research and development efforts, jobs followed. The resulting landscape became a quilt of decentralized, single-use districts connected by the interstate highway system. This paradigm has dominated the US real estate industry for more than 70 years. But that's changing.

Single-income families that were once the norm are now few and far between. Today, two income families comprise more than half of the country, representing 63% of married couples with children in 2018, according to data from the US Bureau of Labor Statistics. A population explosion over the past several decades has also nearly doubled the number of people living in the US since the mid-1950s. Roughly 327 million people resided in the United States as of the end of 2018, compared with only 169 million in 1956, according to data from the US Census Bureau. Meanwhile, technology has chipped away at the once-standard 9-to-5 workday and many employees are now expected to be accessible almost around the clock. As people have become increasingly busy, they have learned to socialize more through digital media.

Age is a factor for the success of MUCs, as well. Younger generations, such as millennials, are less interested in the accumulation of material goods and are instead focused on shared experiences. They are drawn to the environmentally friendly aspects of being able to walk or use public transportation to get to work (a factor likely to become increasingly important, as social distancing highlights the dramatic environmental effect a major reduction of vehicles can have in just a short amount of time). Meanwhile, baby boomers are downsizing and returning to cities, attracted by downsized homes and greater accessibility to goods, services, and social opportunities. MUCs are able to meet these diverse needs for various generations, while stimulating in-person socialization and collaboration.

70%

(53 out of 76 properties) of office occupancy rates in MUCs were higher than non-MUCs over a 10-year period.

MUCs were the predominant form of development before World War II, and there are even examples in the post-war era. Over the following decades, however, interest in such projects fell flat as people gravitated to a suburban lifestyle. Since then, real estate developers and financiers have generally become increasingly specialized in particular product types, such as office, apartments, or retail centers. Yet, despite a shift that has seen the benefits and conveniences of an urban core lifestyle, the real estate industry has been slow to change course. Single-use focus remains the industry's predominant mentality, even though it is based on the philosophies of a previous era. The same holds true on the financing side.

While the coronavirus has many people looking at real estate through a new lens—including alterations in office space design, increased ventilation, and convenient and hygienic vertical transportation—MUCs are actually well positioned to weather the downturn. MUC office space isn't immune from market cyclicality or downturns, yet it has historically weathered such economic periods far better than single-use office properties. Still, timing is important, and investors need to be aware of how overall economic and market conditions can impact a MUC.

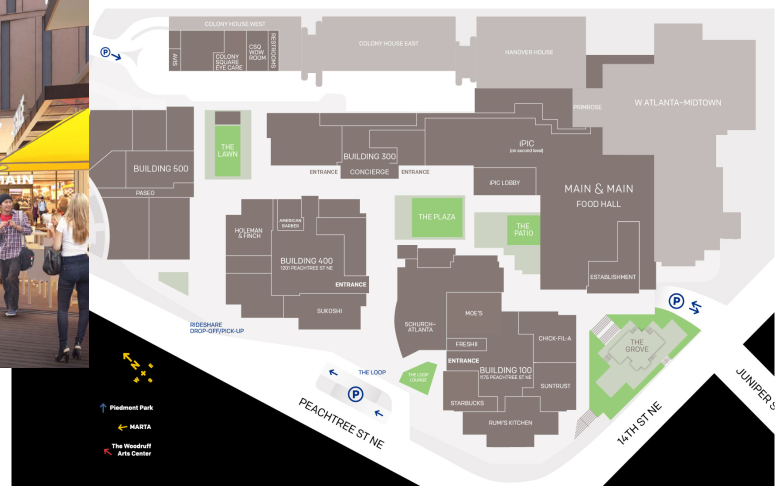
WHERE IS THE OPPORTUNITY?

In 2019, Lionstone's analytics team compared the performance of 106 MUCs across the US against comparable properties located within a two-mile radius of an MUC. The research found both office space and residential property within MUCs generated significantly higher occupancy rates, rent premiums, and rent growth. Over a 10-year period, 70% (53 out of 76 properties) of office occupancy rates in MUCs were higher than non-MUCs, while rent premiums were substantially higher than both non-mixed-use office space and residences not located in MUCs.

The ideal MUC is located in a major metropolitan area that is successfully attracting talent for the digital era and accommodates a multitude of transportation options. But the 2008 credit crisis made clear that many places in the country had fallen behind and are not positioned to catch up. Talent-rich cities such as Manhattan and Houston were quick to rebound from the financial crisis, while cities with less talent, jobs, or public transportation continue to struggle—a gap that continues to widen.

Lionstone's research also identified specific locations within 17 US cities (see map below) that are well positioned to thrive in the digital economy. These flourishing innovation-driven ecosystems boast a concentration of highly skilled talent, research universities, and forward-looking governments that are actively investing in environments that can sustain rapid growth and evolution. In aggregate, Lionstone has identified 500 square miles most conducive to attracting the people and companies thriving in the digital economy.

Universities have long been a benefit to their surrounding communities, and they have become even more important in the digital era, where collaboration among multiple organizations is a key factor in many companies' success. Of course, just as all cities are not the same, neither are all universities. Those with a high caliber of experts and research located near key cities and businesses can be a huge benefit to MUCs. In some cases, the confluence of world-class research facilities and talent able to generate commercially viable ideas, coupled with nearby entrepreneurs (such as venture capitalists), can foster the equivalent of microeconomic ecosystems able to produce a wide variety of goods. Locations such as Kendall Square in



Cambridge, Massachusetts, which benefits from its proximity to the Massachusetts Institute of Technology and Harvard University, have become vibrant economic ecosystems, especially within life sciences, technology, and other areas of innovation at the vanguard of the US economy.

Project size is also a factor for MUC success. Larger MUCs tend to do better because of their ability to both create and foster larger social networks, and to benefit from greater economies of scale. Other critical factors include an appealing and welcoming ground floor with a wide variety of retail options. In an era where online shopping is the norm, MUCs need to favor local, independent restaurants and one-of-a-kind retailers. Parking must be easily accessible, hidden from view, and able to accommodate mixed usage among residents, employees, and customers. And walkability and safe, clean, public gathering spaces with active event programming are essential.

DEVELOPMENT VS. REDEVELOPMENT

While investors must choose between new construction projects, or retrofitting and upgrading existing structures, there are benefits to both. Consider Colony Square in midtown Atlanta, an MUC developed in the early 1970s. After people migrated to popular suburbs in the early ’70s, interest in Atlanta’s urban core waned. But the Colony Square’s proximity to the heart of Atlanta and the Georgia Institute of Technology make it incredibly appealing for residential and corporate tenants in a digitally driven economy reliant on a highly skilled workforce. These highlights and the resiliency of MUCs have informed Lionstone’s investment of US$150 million into a renovation project to upgrade Colony Square development, which includes refurbishing its ground floor into an all-inclusive destination featuring restaurants, a movie theater, and outdoor recreational areas.

As we enter a new decade and eventually move beyond the current pandemic, it is more important than ever to employ an analytically driven knowledge of long-term secular trends to determine how to best invest capital in this rapidly changing environment. Well-designed MUCs in cities that are favorably positioned in the digital economy are in limited supply due to the prevailing development trends of the past 70 years. But, in a post-COVID-19 environment, we fully expect demand for these projects to remain strong as more people look for a sustainable lifestyle in which they can live comfortably, work productively in the digital era, and easily engage in social activities with friends and colleagues.

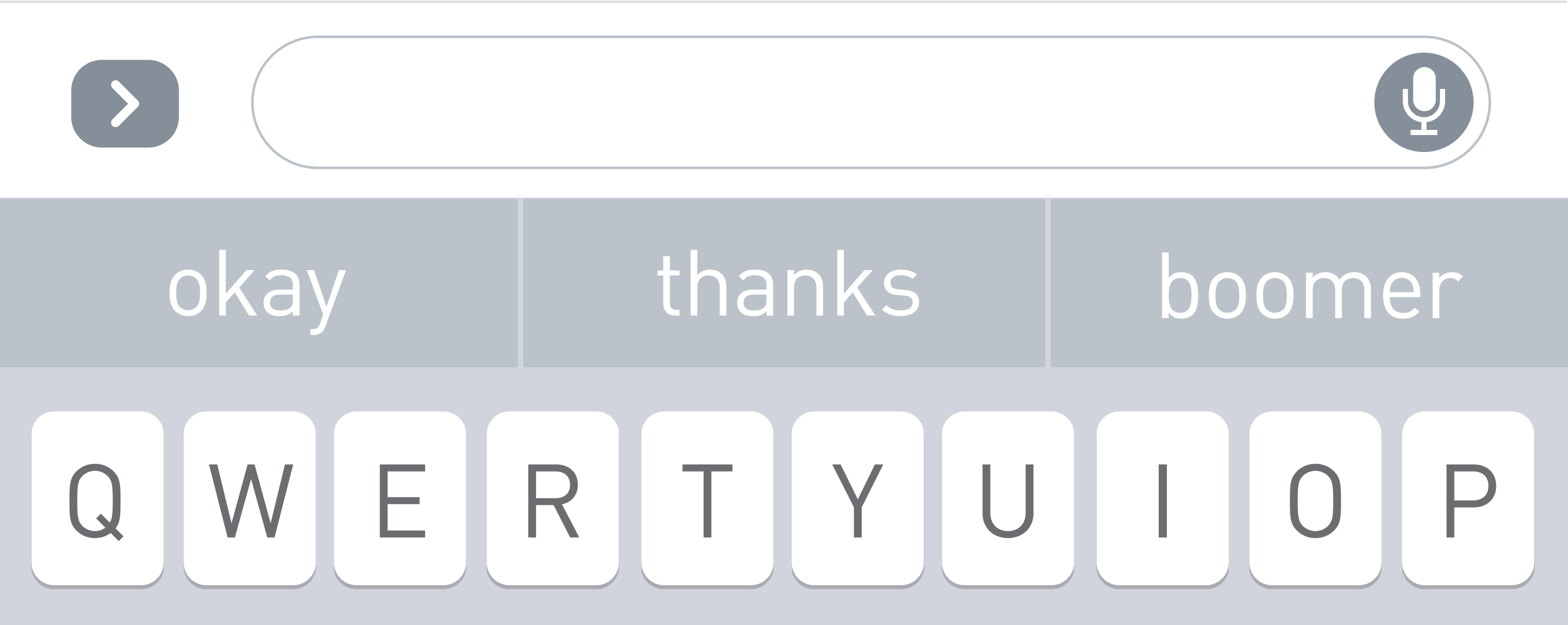
About the Authors

Bryan Sanchez is Chief Investment Officer and Hans Nordby is Head of Research and Analytics for Lionstone Investments, a wholly owned subsidiary of Columbia Management Investments Advisers, LLC, that specializes in conceptualizing, researching, and executing national investment strategies on behalf of institutional investors and high-net-worth individuals.

OK, BOOMER!

SINGLE-FAMILY RENTALS AND A NEW GENERATION

By Rolf Jaeckli and Anthony Cazazian
Man Global Private Markets



The demographic transition from baby boomers to millennials spells increased demand for single-family rentals in the coming decades. Supply needs to keep up.

"OK, boomer," the somewhat condescending term applied by Millennials to those born in the decades after World War II, has morphed into a meme that encapsulates the gulf in priorities between these two very different generations.

"OK, boomer" takes on a slightly different meaning when used in the context of the single-family rental (SFR) market, though. US population growth and demographics trends could indicate increasing SFR demand over the coming decades, and supply may well fail to keep up. Indeed, when it comes to SFR, a new, different boomer generation—millennials who are just now entering the key home-building phase of their lives—is good news for the sector.

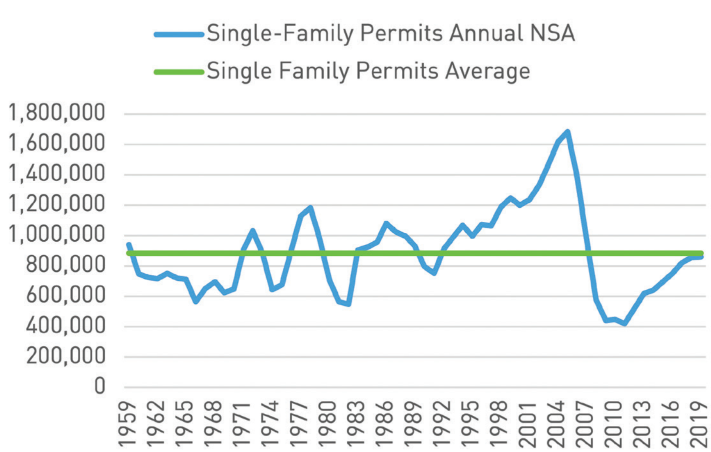
A BOOM OF TWO PARTS

The outlook for the SFR sector is positive for two main reasons: population growth and a shift in demographics.

Firstly, population growth has an obvious influence on the demand for housing. While we observe the decline in population growth in many areas across the globe, the US is forecasted to grow from a population of 319 million in 2014 to a population of 417 million by the end of 2051.[1]

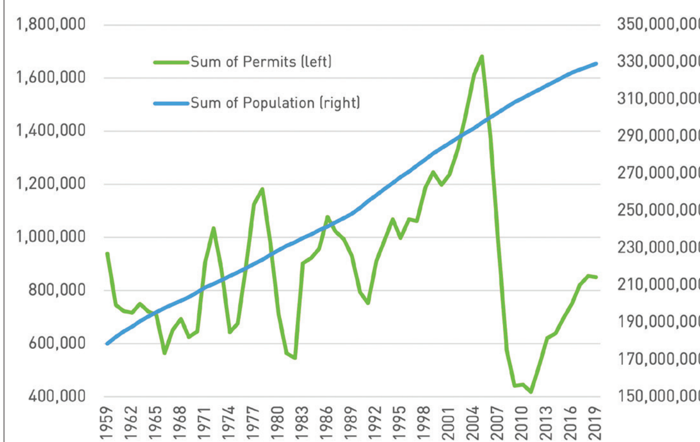
As the population continues to grow, enough new homes need to be built to satisfy demand. However, permit issuance for the construction of new single-family homes has been significantly below the historical average for much of the last decade, after reaching its peak of 1,681,986 in 2005 *(Exhibit 1)*. With 858,910 permits issued in 2019, we are approaching the historical average, although the gap between population growth and new permits is still very large *(Exhibit 2)*.

EXHIBIT 1: SINGLE FAMILY HOME BUILDING PERMIT ISSUANCE



Source: US Census Bureau; as of December 31, 2019.

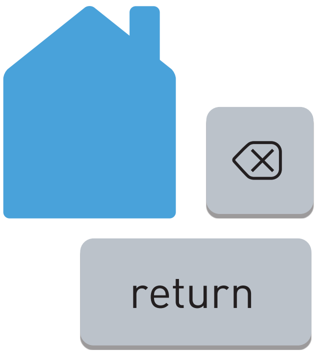
EXHIBIT 2: SINGLE FAMILY HOME BUILDING PERMITS VS. US POPULATION GROWTH



Source: US Census Bureau; as of December 31, 2019.

We expect this shortage of new homes to support continued home price appreciation over the medium term, leading to an ever-greater cost of entry and therefore supporting strong rental occupancy as prospective buyers are priced out of the market. Furthermore, Exhibit 3 shows that occupancy numbers are hovering around the historical average of 94.3%, but are still well below the all-time high of 97.1% in 1978—the peak period of household formation by the baby boomer generation. For comparison, the occupancy rate in the first quarter of 2007—the peak of the housing boom in the US—was a mere 89.7%. As the occupancy rate has increased and new construction has slowed, the pool of available homes has contracted, creating a supportive environment for SFR. A high occupancy rate, all else being equal, should be supportive of rental prices, and while we are around the long-term average, the lack of ongoing construction should support further rental price growth.

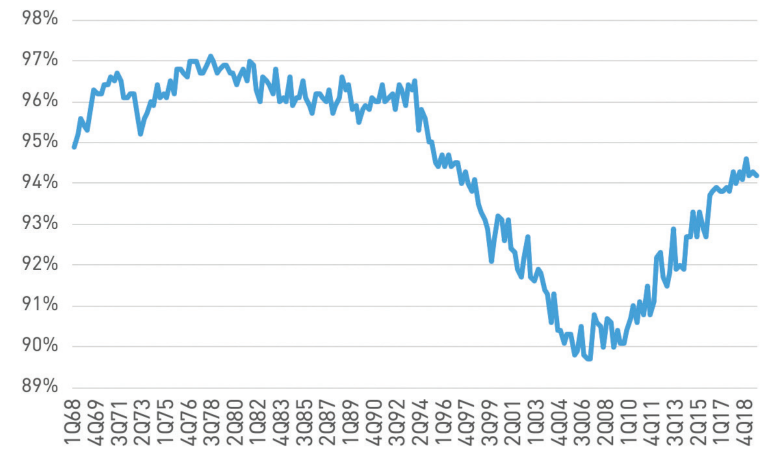
Instead of an overall decline, we have seen an entire generation simply delay significant milestones, which they are likely to pass over the course of the coming decade.



While population growth provides a tailwind for the SFR sector, a larger impact on household formation is anticipated from the shift in current demographics. There has been a tendency for Americans to delay major milestones such as getting married and having children. The average age for a first marriage has risen from 23.2 years for men and 20.8 for women in 1970, to 29.8 and 28, respectively, in 2019.[2] Likewise, the percentage of 30-year-olds who are married with children (the prime demographic for the purchase of single family homes) has declined, even as the overall population increases. In 1975, almost 90% of 30-year-olds were married and about three-quarters lived with a child, while in 2015, only 57% of 30-year-olds were married and less than 50% lived with a child (Exhibit 4).

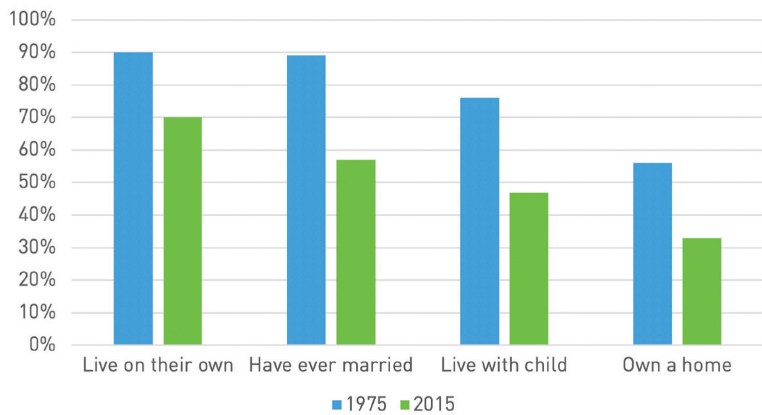
However, it is important to note that we haven't seen a decline in the total number of Americans in this age bracket. As Exhibit 5 shows, about 23 million Americans are aged 26-34. This large cohort, which has delayed marriage and childrearing, is likely to do both over the coming decade. Thus, instead of an overall decline, we have seen an entire generation simply delay significant milestones, which they are likely to pass over the course of the coming decade.

EXHIBIT 3: US OCCUPANCY RATE



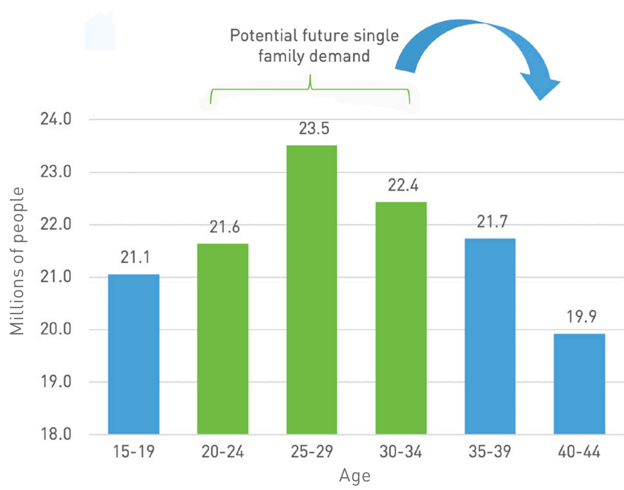
Source: US Census Bureau; as of September 30, 2019.

EXHIBIT 4: PERCENTAGE OF 30-YEAR-OLDS HITTING "ADULT" MILESTONES



Source: US Census Bureau; John Burns Real Estate Consulting, LLC; as of December 2015 (published 2019)

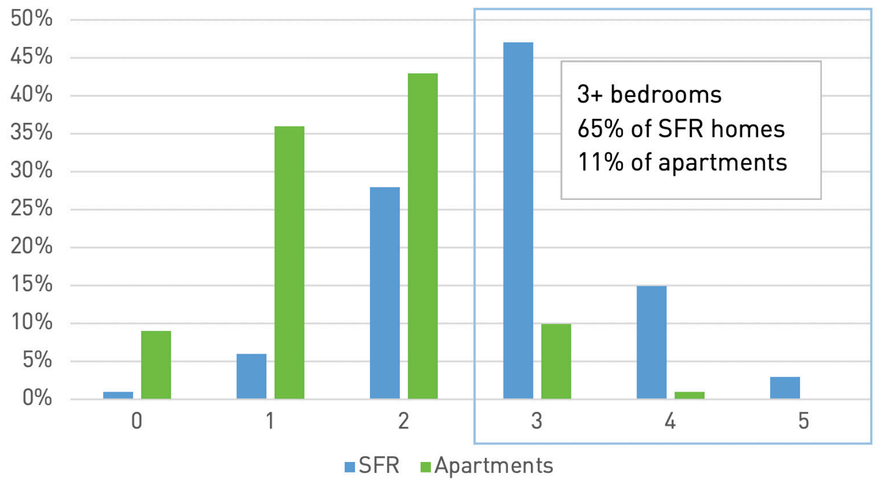
EXHIBIT 5: CURRENT US POPULATION BY AGE COHORT



Source: US Census Bureau; Man GPM; as of July 2019.

Could the coronavirus be re-shaping the underlying dynamics of the housing market? We believe the answer is yes-for both the rental and buyer market: while urban apartments offer advantages such as reduced commute times, their location and lack of space has made them relatively less attractive during the lockdown when compared with SFR in our view.

EXHIBIT 6: NUMBER OF BEDROOMS BY RENTAL HOUSING STOCKS



Source: JCHS tabulations of US Census Bureau, 2016 American Community Survey 1-Year Estimates, John Burns Real Estate Consulting, LLC; As of end 2017 (published December 2019).

Note: Single family includes attached and detached units

THE NEW BABY BOOM

We could therefore see something of a new baby boom in the US, for which the housing market is ill-equipped to cope. As people get married and have children, they need more bedrooms. Exhibit 6 shows that only over a tenth of apartments have more than two bedrooms, while almost two-thirds of single-family homes have in excess of two bedrooms. It would seem logical that as this baby boom takes hold, millennials will be forced out of multi-family apartments and into single family homes, boosting demand for the sector.

The onset of coronavirus has also impacted the SFR sector: more than a third of US SFR operators have seen an increase in rental demand since February.[3] Could the coronavirus be re-shaping the underlying dynamics of the housing market? We believe the answer is yes—for both the rental and buyer market: while urban apartments offer advantages such as reduced commute times, their location and lack of space has made them relatively less attractive during the lockdown when compared with SFR in our view.

In a post-pandemic world, in which we feel home working is likely to become more prevalent, the larger size, greater distance from neighbors and outdoor space offered by SFR homes could make the sector much more appealing than multifamily, and potentially more resilient than the wider property market.

Even after a decade of growth, momentum still appears to be with SFR. Housebuilding has been below average for much of that time, while pent-up demand, caused by delayed household formation and a growing population, could result in a tailwind for the sector. In addition, the coronavirus may create a trend of moving away from dense urban cores towards the suburbs, further supporting the SFR sector.

About the Authors

Rolf Jaeckli is a Portfolio Manager and Anthony Cazazian is Managing Director and Head of US Residential Real Estate for Man Global Private Markets (Man GPM), an experienced private markets investor with specialist expertise in real estate equity and debt, and direct lending to middle market companies.

Notes

1 Sandra L. Colby and Jennifer M. Ortman, "Projections of the Size and Composition of the US Population: 2014 to 2060," March 2015, census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf

2 US Census Bureau

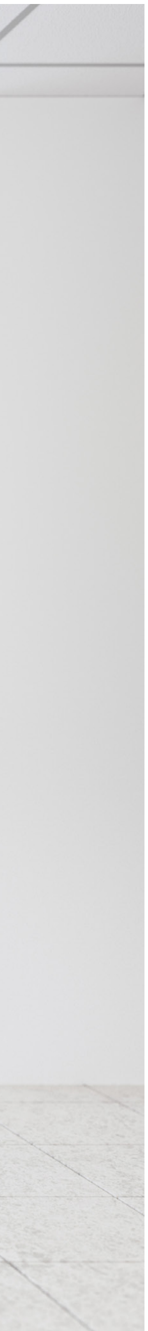
3 John Burns Real Estate Consulting, LLC, "Single-Family Rental Index," realestateconsulting.com/our-company/research/single-family-rental-market-index/

MEDICAL OFFICE BEYOND THE BABY BOOM

By G. Evan Bennett
Anthology Capital

The demographic data for baby boomers has long been a routine talking point for medical sector outlooks, but with COVID-19, advancements in medical science and technology, and the surprise of Generation X, where's the sector headed next?

The convergence of demographics, constant advancements in medical science, and the distinct social attitudes of baby boomers has been forecasted to drive medical office demand for several years. Predictions and analyses for Generation X, with its lower birth rates and differing attitudes, introduces some key questions to the outlook for the overall sector, but a closer look at the data suggests that impacts of the generational transition are not as ominous as some may think.



Another look at the baby boomer generation

For the past several decades, the collective effect of baby boomers on American society has been routinely described as the "pig in the python," a statistical bulge passing through a system that wasn't necessarily designed for such a large meal but will nevertheless find some way to digest it.

Born between 1946 and 1964, it's estimated that the net population of baby boomers is currently 72 million (see *Exhibit 1*). Approximately 10,000 boomers per day are turning 65. They started crossing that threshold in 2011 and will continue doing so through 2029. According to the 2010 Census, life expectancy at age 65 was 19.1 years. That's up from 11.9 years at the turn of the twentieth century. Assuming the average boomer lives to see their early 80s, the pig will remain in the python for at least another two decades. During that time, it's estimated that the 65+ age group could swell to 20-25% of the national population, up from 13% in 2010.

Aging baby boomers, looking to remain active well into their golden years, will continue to benefit from advances in medical science. Recent healthcare innovations have radically improved the quality of life for many seniors. However, these innovations go hand-in-hand with need. They were developed because the human body remains vulnerable to injury and disease. One of the downsides of living a longer life is the greater likelihood of chronic conditions. In a recent report from the National Council on Aging, it's noted that 80% of all Americans over 65 are currently managing at least one chronic condition, and many of them are managing more than one.[1]

Leading into the COVID-19 crisis, baby boomers were seeking out medical treatments that help maintain a feeling, and appearance, of youth. Their strong self-image, coupled with a healthy dose of affluence, pushes them to seek care that never would have occurred to their parents. Whether it be discussing stress with a psychologist, golf swings with a physical therapist, or "a little work" with a plastic surgeon, boomers simply have different medical needs and expectations, and more of them, than past generations. According to the Centers for Disease Control, the average American visits a physician's office 2.8 times per year.[2] However, it increases to 4.7 times per year for those aged 65-74, and 5.5 times for those older than 75. Medical demand increases with age.

Medical office supply and demand

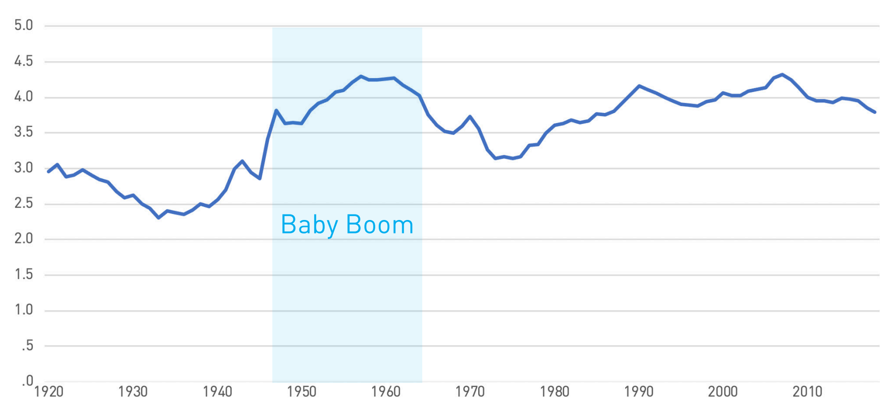
Where there's demand, supply will follow . . . eventually. Leading up to COVID-19, new medical office construction was not keeping up with the demand. There is currently 1.2 billion SF/111.5 million SM of existing medical office inventory in the continental US, limited to Class A and B properties. Only 13.4 million SF/1.24 million SM was delivered within the past year, and 70.5% of that was pre-leased at completion of construction.

Net absorption during this same time was 8.3 million SF/772,000 SM. There is currently another 14.4 million SF/1.34 million SM under construction that will be coming online by the end on 2021, though construction starts slowed dramatically during the first half of 2020. This has kept vacancy relatively tight at 9.0%, despite the current economic slowdown. Breaking it out, Class B is currently performing better than Class A, with vacancy of 8.6% vs. 10.9%, while both continue to outperform general office (*Exhibit 4*).

1.

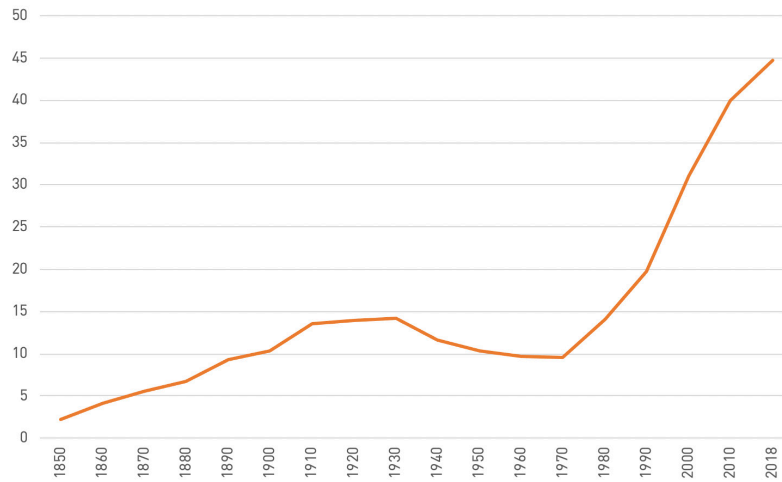
Exhibit 1: US-born population, 1920-2018 (millions)

Source: US Centers for Disease Control National Center for Health Studies



2.

Exhibit 2: Foreign-born population in the US, 1850-2018 (millions)
Source: US Census Bureau



OVERWHELMINGLY, the focus of new development has shifted to suburban locations, a decentralization of healthcare services that tends to be more conveniently located for patients and grows market share for healthcare providers, the latter starting to take on more significance due to recent high-profile mergers and acquisitions of hospital and healthcare systems. This decentralization is favoring ambulatory surgery centers and other build-to-suit facilities, due largely to the breadth of medical procedures that no longer require a hospital stay. Ever improving technology now allows for many procedures to be performed safely and more economically on an outpatient basis.

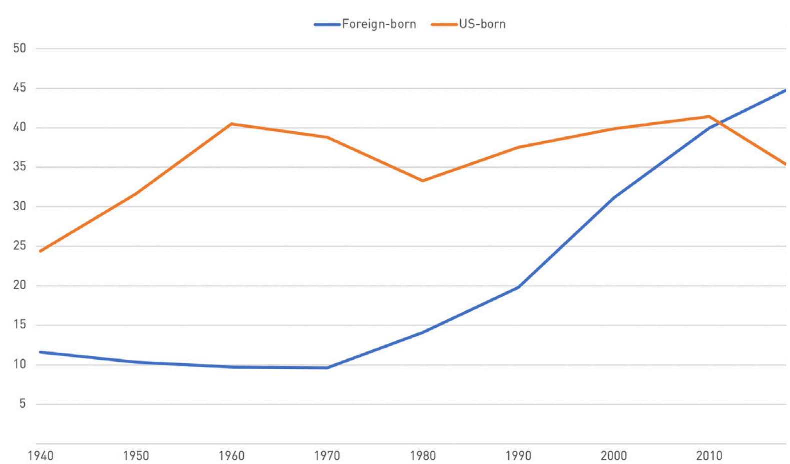
So, what about Generation X (and immigration)?

So far, all of this has seemed pretty favorable to medical office. But what happens after boomers? We've all heard the dire warnings about Generation X. Born between 1965 and 1980, Xers are sandwiched between two much larger demographic cohorts: baby boomers and millennials. The first of the Xers will start turning 65 in 2030, leading their generation in a march over that threshold that won't end until the more populous millennials starts turning 65 in 2046. If the birth rate statistics suggest that 15 years of negative growth trends in the aging population are imminent, shouldn't we be concerned about the longer-term demand for medical office? Perhaps not.

According to the most recent estimates from the US Census Bureau, there were a record-high 44.7 million immigrants living in the US in 2018, which accounted for 13.7% of the nation's population. That's up from only 9.6 million in 1970, when foreign-born residents represented just 4.7% of the nation's population. The Census Bureau releases its official numbers every 10 years, with 1970 being the first decennial census taken after the generational transition from baby boomers to Generation X. *Exhibit 2* represents the foreign-born population in the US over the past 150 years. As shown, all the real action began in the 1970s, coinciding with the birth of Generation X.

3.

Exhibit 3: Intersection of US and foreign-born population in the US, 1940-2018 (millions)
Source: US Census Bureau

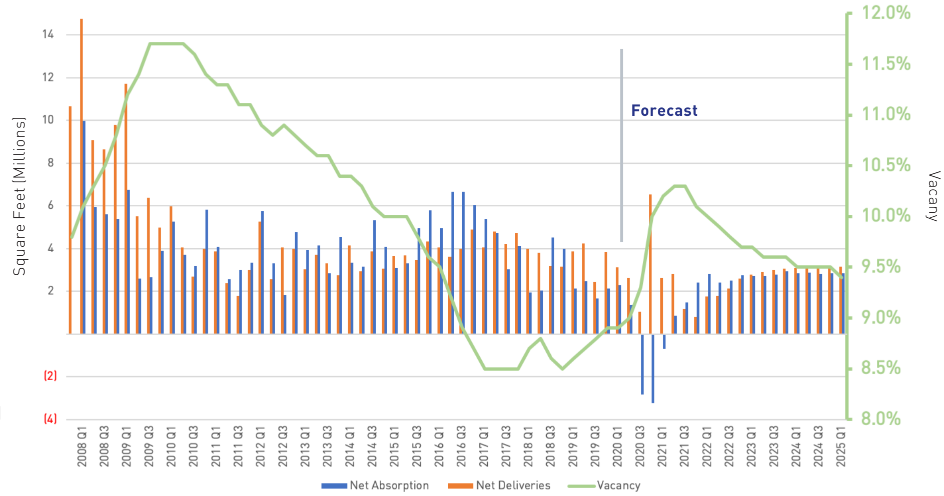


THE ANNUALIZED growth rate trends of foreign-born residents have a meaningful impact across generations. Between 1940 and 1970, growth rates were negative for the only time during the twentieth century. In 1980, that trend reversed and growth rates in the foreign-born population have been positive ever since, with the greatest growth occurring between 1980 and 2000. These ebbs and flows were significantly guided by the implementation of restrictive immigration policies and quotas during the first half of the twentieth century, followed by a loosening of those restrictions by a number of key pieces of legislation that started with the Immigration and Nationality Act of 1965. While it may be entirely coincidental, this makes for spot-on timing as the first Xers were born in 1965 as well.

4.

Exhibit 4: Net absorption, deliveries, and vacancy (2008-2025)

Source: CoStar Group, www.costar.com



THE GROWTH in the foreign-born population goes a long way in offsetting the declines in the native-born population associated with Generation X. As of 2018, the Census Bureau estimates that approximately 18 million of the current 44.7 million foreign-born residents in the US, or approximately 40% of the total, fall between the ages of 38 and 53 (Generation X). Add that to the 55 million native-born Xers, and you end up with a sum that's similar to the currently estimated population of baby boomers. This suggests that we're unlikely to experience a significant reduction in the number of senior citizens in the US anytime soon.

As long as the recent immigration trends hold relatively steady through 2030, when the Xers start turning 65, any decline in demand for medical office is unlikely to be traced directly back to demographic changes.

Demographics, technology, attitudes, and COVID-19

Beyond demographics, the future of medical office is not without risk, especially when considering advancements in telehealth and medical technology—many of which are rapidly evolving throughout the COVID-19 crisis.

While telehealth has the potential to offset demand for medical office, and warrants continued monitoring, this technology is equally as likely to evolve as a compliment to in-person visits, rather than a flat-out replacement of them. Medical office users are still going to need physical space for the services that simply can't yet be handled remotely.

A more concerning trend is the ongoing encroachment of retail properties into the medical office market. Sometimes referred to as the "consumerization of healthcare," the benefits to patients include walk-in services, expanded days and hours of operations, and convenient locations. From the landlord's perspective, however, consumerization presents challenges.

Traditional retailers and their customers may be averse to the close proximity of ill and potentially contagious patients. It is not always given that retail zoning will allow for all medical office uses. Most significantly, the retrofitting of a retail space to medical office use can be very elaborate, typically in direct correlation with the level of care being provided, up to and including structural and mechanical upgrades. For the foreseeable future, the variety of medical office tenants in retail properties will likely be limited to those that treat low-acuity patients and benefit from locations with good street visibility, and healthcare providers in highly competitive fields, such as chiropractors and dentists.

Although the durations of both the COVID-19 pandemic and the current economic recession remain unclear, there's one thing we can say with absolute certainty: boomers (and Xers) aren't getting any younger. COVID-19 has introduced many of them to the idea that they may be the "most vulnerable" members of society, an aging demographic cohort that is likely to be managing one or more chronic or "underlying" conditions. That's powerful motivation to double down on one's health concerns, especially for a group that identifies so strongly with an active and independent lifestyle.

There's another truism that's often heard these days: this too will pass. At some point, we'll be on the other side of COVID-19 and this recession. Baby boomers will still be aging, the human body will still be frail, and there will still be a never-ending need for healthcare services. The demographic and healthcare industry trends discussed in this article point to ongoing demand for medical office across generations. While we must acknowledge the risks associated with technological advancements in healthcare delivery, and the conversion of retail space to medical office uses, well-chosen medical office investments remain poised to outperform many other property types for years to come.

About the Author

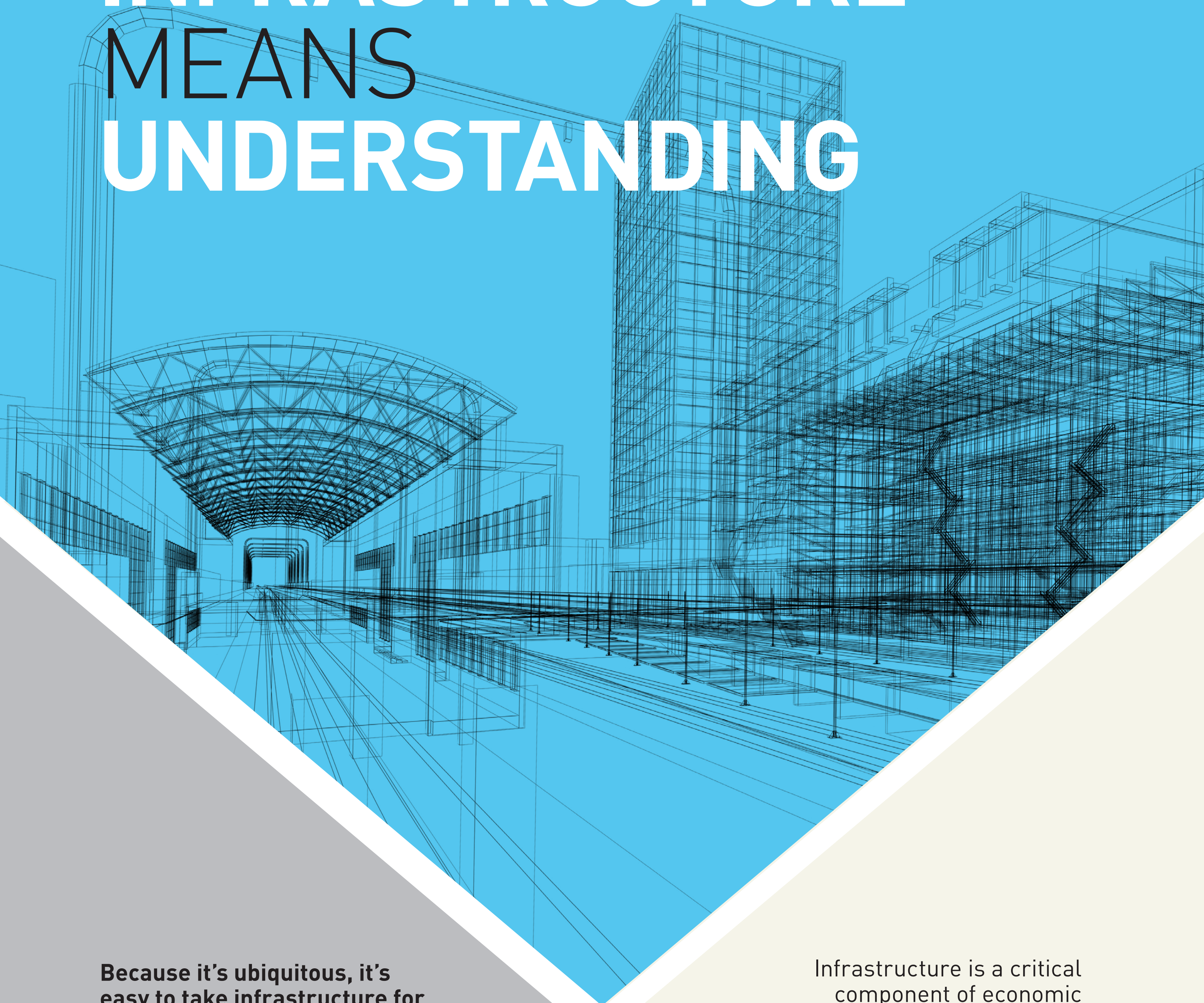
G. Evan Bennett is the Founder and Managing Member of Anthology Capital, a private equity firm that invests in commercial real estate, and also serves as the Secretary General of the World Council of Experts at FIABCI, an international real estate industry group.

Notes

[1] National Council on Aging, "Healthy Aging Fact Sheet," National Council on Aging (October 7, 2018), d2mkcg26uvg1cz.cloudfront.net/wp-content/uploads/2018-Healthy-Aging-Fact-Sheet-7.10.18-1.pdf

[2] US Centers for Disease Control, "National Ambulatory Medical Care Survey: 2016 National Summary Tables," US Centers for Disease Control (2016), cdc.gov/nchs/data/ahcd/namcs_summary/2016_namcs_web_tables.pdf

INFRASTRUCTURE MEANS UNDERSTANDING



Because it's ubiquitous, it's easy to take infrastructure for granted. But when choosing metros for potential investment, understanding is essential.

By Claire Anhalt and Paul Fiorilla
Yardi Matrix

Infrastructure is a critical component of economic development, providing the backdrop onto which businesses and housing can be built.

Infrastructure is so ubiquitous in America that it is easy to take for granted because we have functioning transportation, water, energy, and schools almost everywhere. Consequently, infrastructure is often overlooked when investors consider which metros have the best prospects for growth.

Infrastructure is a critical component of economic development, providing the backdrop onto which businesses and housing can be built. In many metros, however, infrastructure is either old and in need of mending or underdeveloped, either of which can stymie growth.

"The economic stakes of America's infrastructure system are high because its condition can either help or hurt the productivity of the economy," the American Society of Civil Engineers (ASCE) wrote in a 2016 report entitled: "Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future."

The report argues that governments in the US underfund infrastructure by upwards of US$100 billion a year, and goes on to say:

> "Poor infrastructure affects business productivity as well as every sector and region of the US because when one part of the infrastructure system fails, the impact can spread throughout the system and economy. The US economy relies on low transportation costs and the reliable delivery of clean water and electricity to businesses and households to offset higher wage levels and costs."

Although there are aspects of infrastructure that are national, and the federal government funds many projects, planning and execution is often done at the state and local level. This creates important differences between regions and metros—not only in the physical conditions of infrastructure, but also in the commitment to fund and execute projects.

EXHIBIT 1: Infrastructure ranking of US metros*†

	Overall	Trans. (25%)	Energy (25%)	Water (25%)	Schools (25%)
Charlotte	3.00	3	3	3	3
Boise	2.75	3	2	3	3
Austin	2.50	3	3	1	3
Dallas	2.50	3	2	2	3
Denver	2.50	2	2	3	3
Indianapolis	2.50	1	3	3	3
Las Vegas	2.50	2	3	3	2
Madison	2.50	2	3	2	3
Minneapolis	2.50	3	2	3	2
Phoenix	2.50	3	3	1	3
Portland	2.50	3	2	3	2
Salt Lake City	2.50	3	2	2	3
Tampa	2.50	3	1	3	3
Miami	2.25	3	1	2	3
Oklahoma City	2.25	2	1	3	3
Omaha	2.25	2	3	3	1
Raleigh-Durham	2.25	1	3	3	2
Atlanta	2.00	2	3	1	2
Houston	2.00	3	2	1	2
Huntsville	2.00	2	2	3	1
Kansas City	2.00	3	1	1	3
Nashville	2.00	1	3	3	1
Savannah	2.00	1	2	2	3
Seattle	2.00	2	2	3	1
Tulsa	2.00	2	2	3	1
Colorado Springs	1.75	1	3	1	2
Grand Rapids	1.75	1	1	2	3
Orlando	1.75	3	1	2	1
San Diego	1.75	3	1	2	1
Columbus	1.50	1	1	3	1
Pittsburgh	1.25	1	1	1	2
Albuquerque	1.00	1	1	1	1
Philadelphia	1.00	1	1	1	1

Source: Yardi Matrix

**Ranked in descending order by overall infrastructure ranking (3 = excellent; 1 = struggling)*

†Full methodology document is available to Yardi Matrix clients

EXHIBIT 2: Expected population growth in US metros*

	Population Change			
	5-Year		10-Year	
Houston	557,290	7.70%	1,176,220	15.70%
Phoenix	476,000	9.40%	969,500	18.40%
Atlanta	420,440	6.90%	791,010	12.60%
Dallas	413,780	8.00%	873,860	16.20%
Miami	306,710	4.90%	706,770	10.90%
Austin	263,610	11.60%	564,320	23.40%
Seattle	257,910	6.40%	523,790	12.60%
Las Vegas	249,970	10.70%	529,750	21.50%
Orlando	221,870	8.30%	515,700	18.40%
Charlotte	195,400	7.40%	383,800	14.00%
Denver	184,750	6.10%	371,960	12.00%
Nashville	163,570	8.20%	291,150	14.10%
Minneapolis	161,520	4.40%	322,310	8.50%
Raleigh-Durham	149,590	10.50%	298,070	20.00%
Portland	147,560	5.80%	305,520	11.70%
Tampa	146,350	4.60%	337,090	10.20%
Columbus	120,850	5.60%	246,630	11.10%
Indianapolis	116,880	5.60%	233,150	10.80%
Boise	113,040	14.60%	221,780	26.90%
Philadelphia	81,320	1.30%	177,960	2.90%
Salt Lake City	79,080	6.30%	159,370	12.30%
Kansas City	68,830	3.20%	130,290	5.90%
San Diego	63,800	1.90%	155,380	4.60%
Oklahoma City	60,470	4.30%	110,550	7.60%
Colorado Springs	50,670	6.70%	102,160	13.00%
Grand Rapids	39,860	3.70%	84,630	7.60%
Omaha	37,900	4.00%	81,570	8.30%
Tulsa	21,310	2.10%	37,040	3.70%
Madison	16,900	2.50%	30,920	4.60%
Huntsville	15,050	3.20%	24,390	5.20%
Savannah	13,460	3.40%	25,800	6.40%
Albuquerque	11,190	1.20%	32,620	3.50%
Pittsburgh	(8,250)	-0.40%	(8,090)	-0.30%

Source: US Census Bureau; Moody's Analytics Forecasted

**Ranked by five-year population growth forecasts*

33

Secondary and tertiary metros based on a series of 29 metrics in 4 different categories:

- Transportation
- Energy
- Water
- Schools

13 Metros

Charlotte and Boise and had the highest totals. The worst scores were awarded to Philadelphia, Albuquerque, and Pittsburgh

To get a handle on which metros have the most growth potential, Yardi Matrix created a scorecard in which we awarded grades to 33 secondary and tertiary metros based on a series of 29 metrics in four different categories: transportation, energy, water and schools. The scores were based on statistical and qualitative research in the 29 sub-categories.

Charlotte and Boise led the 13 metros with the highest grades. These metros had the highest scores in most categories, and none of the 13 garnered the lowest score in more than one category. The worst scores were awarded to Philadelphia, Albuquerque, and Pittsburgh.

It should be stressed that infrastructure is only one aspect of the investment picture. Demand for commercial space is complex and based on a host of factors. Investment decisions should not be made based solely on these infrastructure rankings, but neither should investors ignore the potential of a metro to handle future growth.

TRANSPORTATION

Transportation infrastructure impacts urban development, human life, and the accessibility of a city, and as a result, it plays a significant role in economic and population growth. To estimate how well a city's infrastructure meets the current and potential future needs of residents and businesses, we looked at characteristics of local surface transportation (e.g., roads and bridges), aviation, and public transportation. All transit infrastructure was evaluated based on qualitative research of each metro's effort to improve and develop its public transportation systems.

Road conditions, commute times, and bridge deficiencies were the metrics used to determine the state of surface transportation. We measured the capabilities of public transportation networks to study connectivity, frequency of service, and access to local jobs. Additionally, we considered aviation infrastructure, which plays a vital part in facilitating economic growth by providing a key network of short and long transportation. We looked at the availability of international flights, airport status as a major airline hub, total number of departure flights in 2019, and the rate of on-time departure and arrival flights.

ENERGY

Efficient and reliable energy infrastructure is critical for growth, particularly as increasing populations raise the rate of energy consumption and the need for readily available energy. The ability to cope with potential future growth was evaluated based on metrics that provide insight into the production, distribution, and transmission capabilities in each locality.

Our energy metrics included costs, power outages, and commitment to funding. We looked at the state average cost per unit of residential electricity, natural gas, and regular gasoline. High energy costs can illustrate lack of production and/or infrastructure constraints, both of which can limit growth. The number of outages measures whether a metro's energy infrastructure is reliable and resilient to factors such as weather, while a high average outage duration can indicate infrastructure that needs major improvements and modernization to speed restoration. We also measured current or future projects in each metro that might improve energy infrastructure capabilities.

WATER

Whether a metro has the infrastructure to provide enough water for growing populations is a crucial issue, particularly in the rapidly growing desert of the Southwest. We looked at metrics related to costs, the quality and quantity of water resources, and the condition of physical water infrastructure components, such as distribution pipelines and treatment facilities.

We also looked at the average water bill and water pressure to determine the health of a metro's water system and its potential risks. High costs can indicate poor water conditions or lack of supply. Water pressure problems can be an indicator of strained supply. Unsustainable depletion of nonrenewable water sources could be a factor in future development and growth of a city, discouraging high urban density as supplies dwindle. We also considered the condition of each city's water infrastructure and whether efforts are underway to make improvements.

Public school education is an aspect of social infrastructure. High-quality public-school systems translate into more skilled and productive workers that fuel economic growth.

6/10

Six of the top 10 metros that are forecast by the US Census Bureau to have the fastest population growth over the next five years:

- Boise (14.6%),
- Austin (11.6%),
- Las Vegas (10.7%),
- Phoenix (9.4%),
- Dallas (8.0%)
- Charlotte (7.4%)

SCHOOLS

Infrastructure isn't merely mechanical. For example, public school education is an aspect of social infrastructure. High-quality public-school systems translate into more skilled and productive workers that fuel economic growth. In order to comprehensively evaluate the quality of each city's schools and the ability to support growth, we factored in metrics at the state and local level that include safety, funding, graduation rates, test scores, and utilization of facilities. Because most schools are funded by multiple jurisdictions, in some cases we evaluated by county or state rather than local level.

Metrics we considered include the county-level high school graduation rates, student-teacher ratios, and availability of charter schools in the city's largest school district. Public charter schools can expand school choice for low-income families, and some believe the competition they create can spur improvements in public schools.

School infrastructure was also evaluated based on the capacity and utilization of schools in the city's largest school district, in addition to funding and/or programs to accommodate growth. Overcrowded schools can have a negative impact on quality of education and stresses teachers.

RANKING THE METROS

After assigning grades for each of the metrics, each metro was given a grade, which we separated into three levels by color. A green ranking signifies metros whose infrastructure is best prepared to handle future development, red signifies metros that are least prepared, and metros in the middle are yellow.

Charlotte and Boise and had the highest totals. For example, authorities in Charlotte have been proactive in upgrading infrastructure. The city is shifting to usage of renewable energy sources; is collaborating with Duke Energy Carolinas to upgrade the power grid; is investing US$3 billion to expand its airport; and has created a long-term plan for streetcars and light rail. Similarly, Boise has implemented forward-thinking water renewal facilities, a comprehensive school renovation program, highway upgrades, and clean electricity plans.

Metros that ranked higher in the list also tend to be growing faster than those that graded poorly. Six of the top 10 metros that are forecast by the US Census Bureau to have the fastest population growth over the next five years—Boise (14.6%), Austin (11.6%), Las Vegas (10.7%), Phoenix (9.4%), Dallas (8.0%) and Charlotte (7.4%)—are in the top third of our infrastructure ranking. Meanwhile the three metros with the lowest infrastructure grades are projected to have weak population growth—Pittsburgh (-0.4%), Albuquerque (1.2%), and Philadelphia (1.3%).

The extent of the correlation can be debated, because infrastructure preparedness is only one component of in economic growth. Metros grow for any number of reasons, including a business climate that fosters jobs, the availability of skilled talent, housing costs, geography, weather, lifestyle preference, and more. Whatever role infrastructure plays, though, it is fair to say that growth is not possible without a framework in place to support businesses and housing.

DON'T IGNORE INFRASTRUCTURE

The data in this study was compiled before COVID-19, so metrics such as airport traffic and delay times, and the commute times of office workers, have been temporarily disrupted. The study is looking at long-term development potential, and we assume that eventually those metrics will go back to pre-COVID levels. Others may assume future transportation and workforce trends will change more dramatically.

We stress that our goal is not to create a definitive measure of infrastructure's impact on commercial real estate. Investors may have different views as to which categories are most important, how to weigh them, or even how important infrastructure is in producing future growth. That said, we believe that infrastructure is an underrated and oft-ignored aspect of growth—one that investors should take more seriously when determining where to allocate capital.

About the Authors

Claire Anhalt is Senior Research Analyst and Paul Fiorilla is Research Editorial Director for Yardi Matrix, which offers the industry's most comprehensive market intelligence tool for investment professionals, equity investors, lenders, and property managers.

PREPARING FOR A NEW PARADIGM

A Dispatch from the 2020 AFIRE Winter Conference

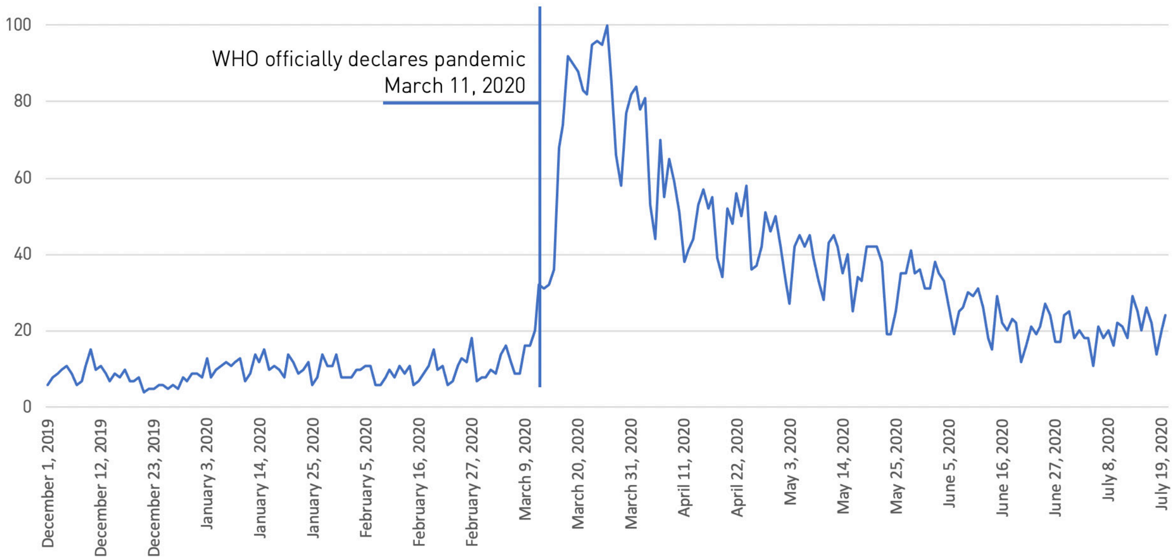
By Benjamin van Loon
AFIRE

When AFIRE members gathered at the Mandarin Oriental for the annual AFIRE Winter Conference earlier this year, few suspected that it would likely be one of the last in-person real estate conferences in 2020.

Attendees recognized that COVID-19 was a concern, especially for those doing business in China at the time, but the threat still seemed removed and abstract for many. It would be a few more weeks before everyone realized that the pandemic had already taken hold in Europe and the US. The resulting local and national disease prevention efforts enacted around the world would soon spark the economic and psychic gunpowder that will one day be marked as a singularly significant, explosive, and unprecedented event in modern history.

And yet, much of the discussion in February seemed to predict what is the center of mainstream political, social, and fiscal discussions taking place *right now*.

WORLDWIDE GOOGLE SEARCHES FOR "UNPRECEDENTED," DECEMBER 2019 – JULY 2020



Source: Google Trends

Note: Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term.

As the malignancies of COVID-19 spread in the following months (and continue to do so, even now), AFIRE members and other leaders across industries began to observe that the pandemic hasn't brought anything new into the world, but it did accelerate what was already underway.

For example, pressure for sustainability isn't new, but COVID-19 has heightened the urgency for resiliency and responsibility—for both investors and assets. The need for infrastructure investments and affordable housing isn't new, but with many millions newly unemployed and cash-strapped, the need is now immediate and existential. Home offices and Zoom meetings aren't new, but now they're ubiquitous.

With these ideas already fomenting in the minds of AFIRE's real estate leaders, the Winter Conference program was a prescient primer on understanding where we are today, and what we need to do (or stop doing) to be prepare our investors, employees, constituents, communities—and buildings—for tomorrow.

CAN INVESTMENTS BE USED TO STABILIZE DEMOCRACY IN URBAN CENTERS?

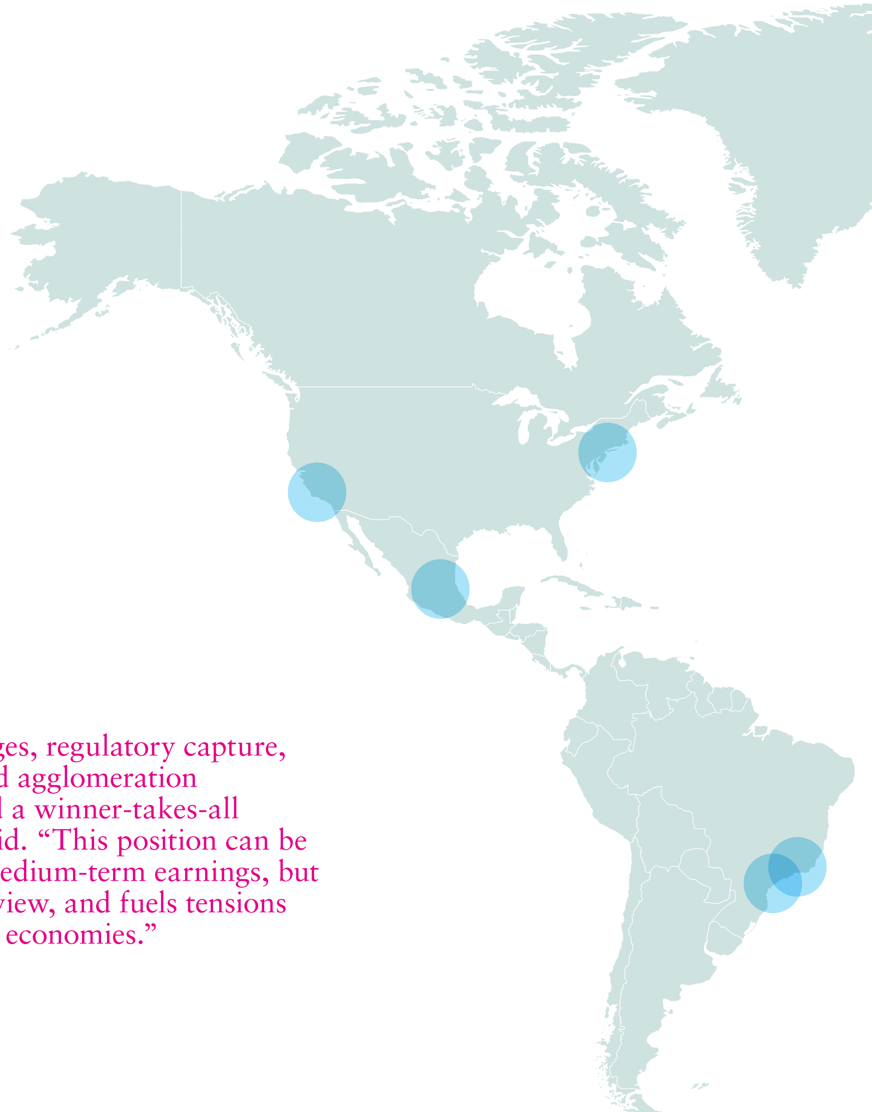
Just as the pandemic has accelerated technological, infrastructural, and social changes already underway, it has also de-siloed physiology from more comprehensive concepts of well-being. Race, employment, geography, and socio-economic status have emerged as major factors to COVID-19 susceptibility, just as much as blood type and other physical health conditions, underscoring the interconnected relationship between economic performance and public health.

You can't have vigorous, dynamic, and profitable cities without healthy people, and as we have seen, health is as much about disease and life expectancy as it is about education, literacy, opportunity, access, and mobility. Typically, these have been the same factors that have determined and driven urban growth since the beginning of the Industrial Age, including what Anthony Shorris sees as the rise of the world's great megacities—New York, Los Angeles, Singapore, London, and other "somewheres."

As a long-time public servant, former deputy mayor of New York City, current senior advisor at McKinsey and John Weinberg/Goldman Sachs visiting professor at Princeton University, Shorris recognizes the strengths of the megacity, and the critical role institutional and international capital holds these urban centers. However, Shorris cautioned, these megacities have become increasingly powered by the same winner-takes-all strategies that have exposed the limitations (and negative economic/health implications) of capitalism. These limitations are simultaneously playing out in other sectors, such as technology, where three or four players dominate the overwhelming majority of the market, leading to tensions in labor, politics, and diplomacy.

MEGACITIES

"Investors should consider investing elsewhere—not only to maximize returns, but to think in terms of shoring stability. Cleveland and Milwaukee might actually be as important to America's future as New York and San Francisco."



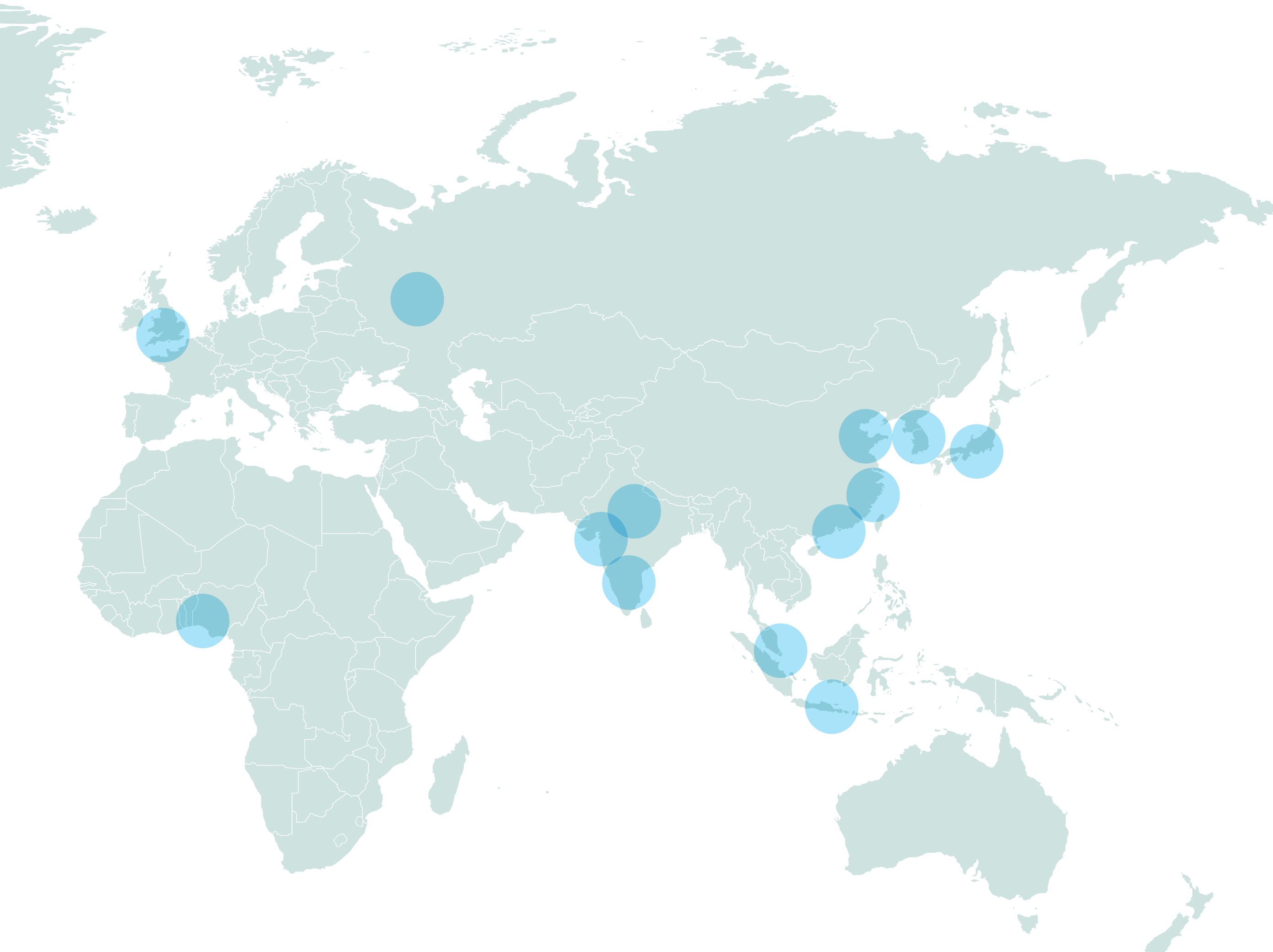
"First-mover advantages, regulatory capture, political influence, and agglomeration economics have fueled a winner-takes-all urbanism," Shorris said. "This position can be good for short- and medium-term earnings, but affects the long-term view, and fuels tensions already rising in these economies."

The economic dominance of megacities—just like the dominance of small groups of firms in various sectors, or the dominance of wealthy families and individuals relative to their populations—is enormous and growing. There are political ramifications to this. "Low-demand communities blame high-demand areas for their problems, and high-demand areas dismiss low-demand communities for being uneducated or irrelevant," Shorris said, and in both cases, "where the winners take all, the majority is left behind."

Political stability is the most critical ingredient for cross-border investing. For this reason, long-term investors can bring an important perspective into this paradigm, including developing better understanding of risks in their own portfolios, and may even have the ability to advance actions that support the infrastructure of stability that makes such investments possible.

In addition to increasingly accounting for climate risk and political stability in their own portfolio strategies, "investors need to think about how tense is the winner-take-all thinking of the economies in which they're investing," Shorris said. If the political actors in an economy are not managing such imbalances, they could be undermining asset performance. In these cases, "Investors should consider investing elsewhere—not only to maximize returns, but to think in terms of shoring stability. Cleveland and Milwaukee might actually be as important to America's future as New York and San Francisco."

For investors already exposed and performing well in megacities, Shorris warns against a cold exit, but instead encourages more expansive long-term strategies in other cities, ensuring that climate risks and politics are part of the equation. And as we have seen, COVID-19 is a likely signal of the challenges to come from large-scale political/social/existential disruptions caused by large-scale change in environments and economies.



WHAT CAN COVID-19 TEACH ABOUT CLIMATE CHANGE STRATEGIES?

The damage and danger of COVID-19 could soon be instructive for navigating the impending hazards of climate change, which pose one of the most significant threats to long-term strategies for real asset investments. According to the World Health Organization, "changes in infectious disease transmission patterns are a likely major consequence of climate change."[1]

While it may be several years if and before a causal relationship is proven between climate change and COVID-19, official measures instituted over the past several months, such as mask wearing, social distancing, closure of indoor spaces, and remote working, establish yet another direct link between climate change, human behavior, and our usage of the built environment.

Disease has become a necessary part of understanding climate risk alongside sea-level rise, heat waves, wildfires, and other increasingly persistent weather events—all of which, according to Mary Ludgin, Senior Managing Director and Head of Global Research for Heitman, are "game-changers" for mapping long-term patterns used to identify locations of enduring value for investors—accounting for resiliency, water access, migration patterns, and other factors.

"Climate change is upending the notions we hold about where people and firms will congregate," Ludgin said. "We need to be increasingly mindful that when we accept risk for our investments, we are taking on the risk of the municipality's initiatives to keep its infrastructure working, and how it invests in mitigation and adaptation strategies to offset the effects of climate change."

2020

"Our environments have been built largely by utility—strip malls, excessive freeways and highways, soulless architecture, poor management of power and congested roads,"

Understanding both state- and metro-level policies for infrastructure and climate issues is essential for informed investment decisions. With COVID-19 transferring infectious disease from the realm of abstraction into our lived experience, we now have a more immediate and knowable awareness that should work to elevate the necessity of this understanding—even for factors as rudimentary as migration. For example, between 2008 and 2018, 265 million were displaced as a result of natural disasters.[2] It remains too early to tell what the impact of COVID-19 will be on migration, but as addressed elsewhere in this publication, employment, outdoor accessibility, and safe buildings will be driving factors for ongoing migration trends, and these factors are a direct result of attitudes and policies about sustainability and climate change.[3]

Metro-level strategies implemented to mitigate climate change effects, such as earth berms to guard against flooding, or net-zero construction mandates, could lead to new investment strategies, Ludgin said. And even as legacy coastal cities will see their climate defense battened, other better-protected cities, on higher ground and with better access to natural resources—especially fresh water—will potentially grow in importance and value for long-term investments.

REIMAGINING THE BUILT ENVIRONMENT

With more drastic climate change effects on the near horizon, and COVID-19 still in the room, it will also be critical for investors to track policies and regulations alongside changing social attitudes. As the pandemic continues, healthy buildings aren't just engineering novelties and shiny facades for trade magazines—they're the new baseline for ensuring safe experiences in the built environment, critical to the performance of assets in all sectors.

In his closing keynote address for the Winter Conference, Landscape Designer, Conservationist, Author, and Television Host P. Allen Smith used the idea of housing development to advocate for an overall paradigm shift in how communities are both served and organized.

"Our environments have been built largely by utility—strip malls, excessive freeways and highways, soulless architecture, poor management of power and congested roads," Smith said, elucidating the difference between real estate that takes a myopic view of maximizing value per square foot, with little regard for context, and more thoughtful and integrated approaches to urban design and development. A paradigm shift, in other words.

As an example, Smith discussed his organization's Pinewood Forest project in Fayetteville, Georgia, "a development that promises an eventual 700 new homes, 600 apartments, 300 hotel rooms, and some 270,000 square feet of commercial space with restaurants and retail," according to *Curbed Atlanta*.[4] Designed as a mixed-use community integrating traditionally suburban single-family house and yard concepts with the principles of urban density, walkability, and ample community spaces, the project aims to strike a balance between both environments to create a new real estate idyll.

"A new paradigm isn't really new it all. It's looking around and asking what actually means something important to us."

Facing emerging crises and uncertainties in economies, foreign relations, and social attitudes—with the threats of climate change looming on the near horizon—the real estate investment industry is facing a paradigm shift of its own.

Of course, Smith said, "A new paradigm isn't really new it all. It's looking around and asking what actually means something important to us."

As much of the world hit a pause button in early 2020, and as we continue our uncomfortable transition into a post-COVID-19 era, people and organizations at all levels have been asking exactly questions similar to those posed by Smith: Do I really need to get on an airplane every week? Why do I live in this city if I no longer need to commute to the office? Where can I get access to more green space? Does a five-day work week actually make sense?

These questions derive from the same social consciousness that has driven other paradigm shifts and ideological evolutions throughout history. As Thomas Kuhn wrote in his influential work, *The Structure of Scientific Revolutions* (where the term "paradigm shift" was coined):

> The transition from a paradigm in crisis to a new one from which a new tradition of normal science can emerge is far from a cumulative process, one achieved by an articulation or extension of the old paradigm. Rather it is a reconstruction of the field from new fundamentals, a reconstruction that changes some of the field's most elementary theoretical generalizations as well as many of its paradigm methods and applications.[5]

Facing emerging crises and uncertainties in economies, foreign relations, and social attitudes—with the threats of climate change looming on the near horizon—the real estate investment industry is facing a paradigm shift of its own. And as Kuhn writes further on, "As in political revolutions, so in paradigm choice—there is no standard higher than the assent of the relevant community."

Just as real estate has embraced and led the charge for better sustainable practices over the past several decades, so too should it lead the assent for a new paradigm choice that looks beyond the next quarter and into a long and healthier future.

About the Author

Benjamin van Loon leads communications and publications for AFIRE. He is the Editor-in-Chief of Summit.

Notes

[1] World Health Organization, "Climate Change and Human Health," World Health Organization (July 15, 2020), who.int/globalchange/climate/summary/en/index5.html.

[2] Sylvain Ponserre and Justin Ginnetti, "Disaster Displacement: A Global Review, 2008–2018," Internal Displacement Monitoring Centre, May 2019, internal-displacement.org/sites/default/files/publications/documents/201905-disaster-displacement-global-review-2008-2018.pdf

[3] See TK

[4] Sean Richard Keenan, "How a New Town Tied to Georgia's TV and Film Industry is Rising South of Atlanta," Curbed Atlanta (August 14, 2019), atlanta.curbed.com/atlanta-photo-essays/2019/8/14/20804376/pinewood-forest-studios-atlanta-fayetteville-mixed-use

[5] Thomas Kuhn, The Structure of Scientific Revolutions (Chicago: University of Chicago Press, 1964)

AFIRE 2020 WINTER CONFERENCE

In Photos
Mandarin Oriental, New York, NY












CRAVING the LIGHT

All corners of the commercial real estate industry are facing era-defining challenges. Transparency matters. Now more than ever.

By G. Andrews Smith
L&B Realty Advisors

What holds promise for improving the business relationships we depend on for making better investments? All corners of the commercial real estate arena are facing era-defining challenges. Transparency matters—now more than ever. Being intentional and open in our dealings with our investors, employees, and communities will bring closeness to all our relationships—particularly those between managers and investors.

In this context, liquidity is a primary financial concern that has bubbled-up to the top of the worry list. The resulting anxiety is triggering an increase in redemption requests and unplanned capital calls. According to the May 29, 2020 IPE Real Assets report, the amount of institutional capital seeking to exit open-ended core real estate funds in the US has more than doubled since the beginning of the year to US$14.4 billion.[1]

Today's uncertain market valuation conditions exacerbate the complexity involved in balancing redemption payments with capital calls. How long it takes to clear these requests is yet to be seen. The significant question is, "How will managers, faced with today's challenges, hold their investors' trust while working through these issues?" Crisis reveals character and character is revealed through the ongoing process of transparency.

The Necessity of Transparency (It's More Than *Just* a Word)

Prior to the Great Financial Crisis (GFC), transparency in the real estate sector was "nice to have," but not always pressed as a serious issue. Fast forward to today, and the practice of transparency has grown into a necessity. In fact, the Economist Intelligence Unit (EIU) conducted a survey in February 2017 (more than seven years post-GFC) of 200 investment managers in the alternative asset class space. The result of the survey showed 63% of the respondents listed "degree of transparency" as "very important" and well ahead of all other investment considerations.[2]

Investors by nature are hyper-curious. With curiosity comes the desire to learn, which drives exploration and inquiries. An intellectually curious investor thirsts for information and data in order to make prudent and profitable decisions. One vehicle, in particular, relies on curiosity for its development: a separate account is open to implementing any given strategy birthed from investor curiosity and its investment beliefs. The investor is, by definition, an active participant in this account. This proactive role enhances transparency at each step of the investment process. The more comfortable a manager is in welcoming its investors to the decision-making table, the greater the trust.

What does transparency actually look like? How does it get delivered from the manager to the investor? Following are five examples demonstrating a manager's transparency in various situations that often occur throughout the investor/manager relationship.

Allocation of Investment Opportunities

Situation: Investment opportunities available at any one time in a manager's pipeline are dynamic. When the demand exceeds the pipeline's bandwidth, the manager typically resorts to its written allocation policy. While the steps involved in those policies differ by manager, the need for consistent and transparent application is essential to ensure equitable and non-biased outcomes.

Solution: Routine investor reports should include a schedule showing the manager's pipeline, the allocation of those opportunities being pursued, and a list of recently closed transactions. Any surprises revealed may indicate a need to strengthen investor/manager communications and investment aspirations.

Shared Beliefs

Situation: Investors want to see their managers devoting significant focus and attention—from across their respective organizations—on their particular needs. Active management of their physical assets easily becomes the go-to focal point, yet this is only one piece of what's involved in meeting an investor's needs. A premium is attributed to those managers that actively manage assets, and anticipate and participate in the specific needs of investors.

Solution: Don't assume a manager knows everything important to the investor. Managers should spend dedicated time asking questions so that they can gain a mutual understanding of investment philosophy and shared beliefs. The development of these dialogue-based relationships over time is vital as each conversation builds a framework of knowledge that allows both investor and manager to be more effective.

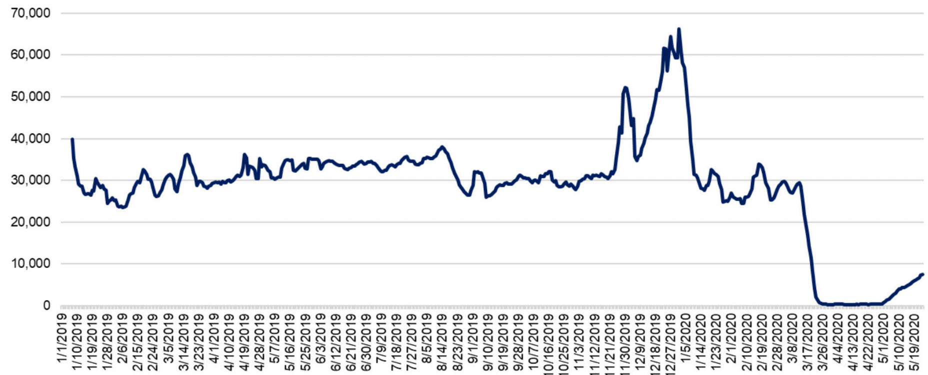
Information Flow

Situation: There are a handful of methods to earn alpha. The conventional wisdom focuses on four: information flow, operational capabilities, sourcing, and problem solving. Ideas and critical thinking applied to any of these techniques is destined to add value. The greater the transparency involved in each step, the higher the potential reward.

Solution: To better understand what it looks like building transparency into each step, take the information flow and problem-solving pieces and look at each independently and then together. Whether assessing the pros and cons of a new investment opportunity or authoring an annual investment plan, the more dialogue and exchange of information between the manager and investor, the more robust and energic the feedback loop. Leveraging off one another's knowledge will stir the imagination needed to move new investment ideas forward. The union of investor and manager working side by side unlocks creativity and drives evolution.

Exhibit 1: Estimated daily visits at Upscale Center in Texas from January 2019 to May 2020*

Sources: Placer.ai, L&B Realty Advisors
**Using a seven-day moving average*



Harnessing Big Data

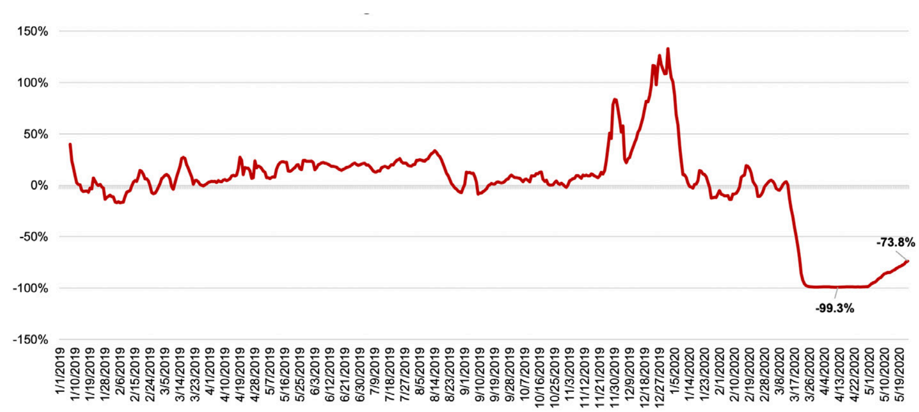
It has been said that, "if you torture the data enough, it will confess." This warning takes on new meaning in a world of big data and amid the proliferation of new property technology (proptech) tools now available to commercial real estate players. Exponential growth in computing power has made it possible to store and analyze oceans of data, but interpreting the data requires experience, integrity, and reasoned judgements.

Situation: It is well known that the retail property sector is under immense pressure as a result of the current pandemic, as well as long-term trends favoring online shopping. Using the proptech tool Placer.ai, which tracks foot traffic at shopping centers using cell phone location data, we can tell two stories about a particular upscale Center in Texas.

In Exhibit 1, one can quite clearly see the explosion in traffic associated with the holiday shopping season, as well as the steep drop-off in traffic during March 2020 associated with local "stay-at-home" orders due to the coronavirus.

Exhibit 2: Estimated customer visits at Upscale Center in Texas from January 2019 to May 2020 with baseline*

Sources: Placer.ai, L&B Realty Advisors
**Measures change in estimated visits compared to normal traffic volume for that day*



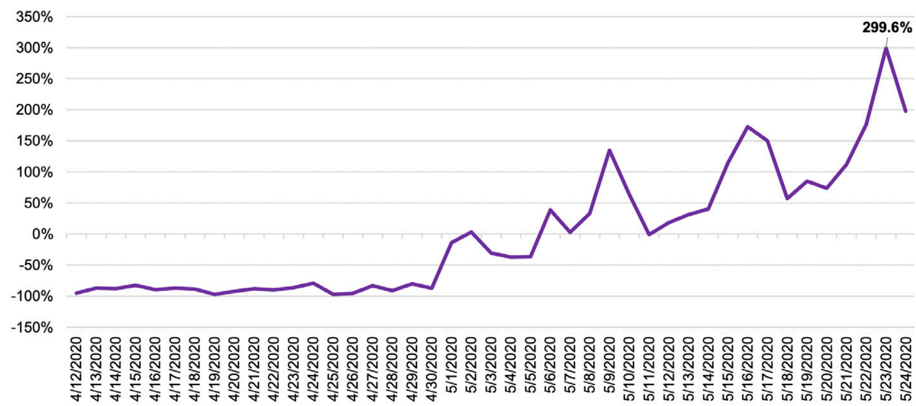
To more clearly show how the current number of visits reflects a departure from the "normal" number of visits this center typically experiences, we can compare recent visits against the "baseline" of typical visits for this time of year (Exhibit 2).

Exhibit 2 shows that during most of March and April, visits to the Center were effectively 100% below what the Center typically experiences in the spring months. However, as a result of a limited reopening, visits to the Center have increased, but remain about 74% below what is "normal."

Solution: This is as close to the "true story" for this Center as we can get using the Placer.ai data. However, given the impact of the limited reopening on the change in foot traffic at this property, a much different story could be told if we limit the time frame to capture only the period from mid-April to mid-May. Exhibit 3 shows the same change in foot traffic compared to the baseline as Exhibit 2, but with a different time period.

Exhibit 3: Customer visits at Upscale Center in Texas from April 2020 to May 2020 with constrained time frame

Sources: Placer.ai, L&B Realty Advisors



On its own, Exhibit 3 would give the impression that foot traffic at the Center has exploded in recent days, gaining nearly 300% the normal traffic expected on these days. However, by restricting the time frame used in the analysis, Exhibit 3 shows the increase in *visits compared to a period in which the center was effectively closed.* Any growth from zero visits will appear to be explosive.

Context is everything when interpreting data. Additional information and interpretation is frequently needed, if not required, to adequately explain how data has been interpreted so that the story it tells is authentic.

Telling the Complete Story

Situation: The small number of high-quality proptech firms incentivizes them to closely guard the underlying methodologies that form their value proposition. Proptech's current love affair with AI and big data analytics technology is easy to understand, because firms in this space can predict trends and boost profitability. However, investors should measure the outcomes for statistical algorithms and machine-learning technology to tell the complete story.

Solution: How do we know the technology works? Even with the curtain being only partially drawn we can see the outcome and measure the results. For example, Carbon Lighthouse is a provider of energy savings that uses big data analysis, machine learning, and AI-driven technology to reduce electricity consumption in the commercial real estate space. Their model attempts to solve for the competing needs to protect the privacy of their patented algorithm while at the same time assuring a specific outcome for investors. Carbon Lighthouse guarantees a minimum annual financial savings for the entire term, thereby demonstrating confidence in their technology until a proven track record is established to validate the efficacy of the technology.

Where Do We Go from Here?

Is the DNA of the manager's culture receptive to giving the investor authentic ownership throughout the investment process? Whether that question suggests friction or collaboration determines the level and quality of transparency. Looking closely at a manager's own workplace provides a powerful glimpse into its culture. More than likely, the degree of transparency practiced up and down the hallways will be what the investor should expect to experience.

Holding lasting trust is never easy, yet even with today's challenges, a manager whose business dealings are grounded in transparent practices will be positioned to deliver better investments. Transparency starts with opening up to those around us to reveal deeper and more authentic relationships. It empowers investors and managers alike and clears the space so that all stakeholders can focus on making better investments.

About the Author

G. Andrews Smith is CEO of L&B Realty Advisors, an employee-owned real estate investment advisor offering real estate investment management services to institutional investors.

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WHY MIGRATION MATTERS

Do people follow jobs or is it the other way around? The answer depends on where we are in a business cycle.

By Gleb Nechayev
Berkshire Residential Investments

During recessions, people tend to move towards markets where employment prospects are better, and as recoveries take hold, businesses usually expand into areas where people want to live. As the COVID-19 virus spreads around the world, it introduces a whole new dimension to the question: do people follow jobs, or do jobs follow people? Today, the answer is as much about public health as it is about the interplay of economics and demographics.

UNDERSTANDING RECENT MIGRATION PATTERNS

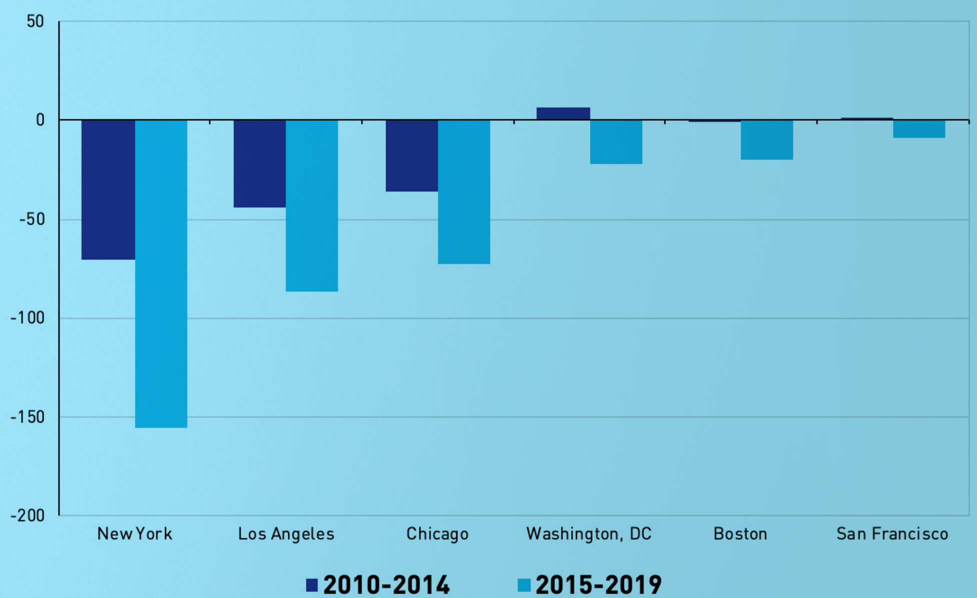
Global and domestic migration patterns are likely to be greatly affected by the pandemic. Investors should monitor these trends closely, because they can have major implications for economic growth and real estate fundamentals both across markets and within them (urban core vs. suburbs). In the US, migration is contributing to a growing regional divergence. Over the last five years, the South and West regions (mainly their metro areas with lower costs of living) accounted for more than 90% of the nation's total population gain, whereas the Northeast experienced a net population loss.

This should be a concern for the nation's gateway markets where institutional real estate investments are concentrated. Chicago, New York, and Los Angeles have experienced net population decline since 2015. Meanwhile, population growth in Boston, San Francisco, and Washington, DC, has been slowing progressively over the last decade and was only slightly positive last year. These changes were largely due to domestic migration, which has worsened notably in recent years. The Tax Cuts and Jobs Act of 2017 has likely accelerated these trends even further, as many of the people leaving these areas tend to earn higher incomes. Without continuing international migration, population trends in these areas would have been much worse. The current environment and substantial limitations on foreign travel pose new headwinds—at least in the near term.

People are leaving these markets for many reasons, but mainly because of the high costs of living and high taxes. The latter will likely remain a headwind for a while. This recession will likely put significant pressure on state and local finances nationwide, but especially in many parts of the Midwest, the Northeast, and California, which faced serious fiscal imbalances even before the crisis. Additionally, the rapid increase in the share of retirees relative to the working population will also make it more challenging to fund various health programs and public pensions. The "silver tsunami" is just starting and this demographic shift is one of the factors making the next business cycle quite different from the ones we have experienced in recent decades. A wider spread of telecommuting in the post-COVID economy could also speed up the migration towards lower-cost markets and suburban submarkets.

Migration matters because it is one of the key drivers of overall population growth, which in turn has a major impact on the labor force. In addition to the industry composition of local economies, migration is a key differentiating factor for local job growth. The table below shows average annual net birth and migration rates along with changes in population and employment over the last five years for the 60 major metro areas tracked by Berkshire Research.[1]

EXHIBIT 1: AVERAGE ANNUAL DOMESTIC MIGRATION (THOUSANDS)



Sources: US Census Bureau, Berkshire Research

70% of all people who migrate each year are renters prior to their move and are likely to continue renting in the first year after the move.

EXHIBIT 2: BIRTH, MIGRATION, POPULATION, AND EMPLOYMENT: 2015-2019

	2015-2019 Annual Average			
	Birth Rate (Net)	Migration Rate (Net)	Population Change	Employment Change
Austin	0.75	1.93	2.69	3.87
Orlando	0.43	1.83	2.26	3.67
Nashville	0.51	1.26	1.77	3.55
San Francisco	0.42	0.07	0.49	3.53
Phoenix	0.51	1.42	1.93	3.29
Las Vegas	0.48	1.47	1.96	3.21
Dallas	0.78	1.17	1.95	3.14
Jacksonville	0.35	1.55	1.90	3.05
Raleigh	0.60	1.64	2.25	3.05
Charlotte	0.46	1.40	1.86	3.00
Salt Lake City	0.92	0.44	1.35	2.93
Tampa	0.01	1.71	1.73	2.78
Sacramento	0.39	0.72	1.11	2.73
Seattle	0.55	1.00	1.55	2.71
Denver	0.57	0.90	1.47	2.68
San Jose	0.63	-0.22	0.41	2.63
Atlanta	0.60	0.86	1.46	2.63
Portland	0.38	0.83	1.21	2.56
West Palm Beach	0.00	1.34	1.34	2.55
San Antonio	0.63	1.17	1.80	2.48
San Diego	0.62	-0.07	0.54	2.26
Fort Worth	0.67	1.02	1.69	2.25
Orange County	0.55	-0.23	0.31	2.24
Miami	0.42	0.18	0.61	2.22
Oakland	0.48	0.30	0.77	2.22
Fort Lauderdale	0.36	0.60	0.95	2.22
New York	0.62	-0.75	-0.13	1.94
Indianapolis	0.49	0.54	1.02	1.84
Columbus	0.54	0.63	1.16	1.81
Boston	0.31	0.28	0.59	1.80
Los Angeles	0.55	-0.55	0.00	1.73
Washington, DC	0.75	0.09	0.84	1.70
Richmond	0.31	0.59	0.90	1.68
Philadelphia	0.37	-0.16	0.21	1.63
Louisville	0.23	0.19	0.41	1.52
Camden, NJ	0.15	-0.21	-0.06	1.49
Houston	0.84	0.80	1.64	1.43
Kansas City	0.46	0.38	0.84	1.43
Minneapolis	0.60	0.32	0.92	1.43
Cambridge	0.30	0.16	0.45	1.39
Cincinnati	0.31	0.14	0.45	1.37
Detroit	0.28	-0.53	-0.25	1.33
Memphis	0.46	-0.27	0.19	1.22
Baltimore	0.28	-0.14	0.14	1.22
Oklahoma City	0.48	0.57	1.05	1.22
Birmingham	0.22	0.05	0.26	1.14
Chicago	0.46	-0.76	-0.30	1.14
St. Louis	0.21	-0.21	0.00	1.04
Norfolk	0.43	-0.22	0.20	0.97
Newark	0.36	-0.26	0.09	0.96
Providence	0.06	0.11	0.17	0.94
Long Island	0.22	-0.34	-0.12	0.85
Cleveland	0.05	-0.23	-0.18	0.83
Milwaukee	0.37	-0.37	0.00	0.69
Rochester, NY	0.12	-0.32	-0.19	0.63
Pittsburgh	-0.19	-0.13	-0.33	0.59
Buffalo, NY	-0.01	-0.11	-0.13	0.55
Hartford	0.09	-0.24	-0.15	0.45
Montgomery County, PA	0.11	0.21	0.31	0.45
Stamford	0.32	-0.34	-0.02	0.05
Average	**0.40**	**0.39**	**0.79**	**1.90**

Sources: US Census Bureau, US Bureau of Labor Statistics, Berkshire Research

Across these markets there was a correlation of more than 95% between net migration rates and population growth and a correlation of more than 80% between population and employment growth. All of the top ten markets for job growth were in the South and West regions, and virtually all of them were also in the top ten for migration rates. Meanwhile, all of the bottom ten markets for job growth were in the Northeast and Midwest and they had negative or near-zero net migration.

For the most part, what happened over the last five years was a continuation of trends that were at play before, but net migration is and will be playing an increasingly important role as a demographic driver relative to the natural population growth, especially as the population ages. This is not surprising since the US birth rate has not recovered following the Great Recession and was at its lowest level in 35 years in 2019, while the death rate has edged up slightly.

MIGRATION TRENDS AND RENTAL HOUSING

Migration is particularly relevant to investors in rental housing not only regarding the net figures but also to the actual flows of people moving in and out of markets (also known as the "churn"). Negative net migration does not mean that people are moving out, but rather, that the number of people moving out exceeds the number of people moving in, and vice versa. For example, while Chicago is indeed experiencing negative migration, more than 150,000 people are still moving into the metro area each year from other parts of the state and the country. One of the key factors, however, is the demographic and income profile of the people moving out of a market relative to those moving in.

This is important because 70% of all people who migrate each year are renters prior to their move and are likely to continue renting in the first year after the move. What type of rental housing they move out of in one market and move into in another has implications for demand in both areas, including single-family vs. multifamily, urban vs. suburban, class A vs. B, and so forth.

All of the top ten markets for job growth were in the South and West regions, and virtually all of them were also in the top ten for migration rates.

EXHIBIT 3: MIGRATION TRENDS IN AUSTIN, TX AND ORLANDO, FL

AUSTIN, TX

	Migration (thousands)		
	from	to	net
Houston, TX	14.1	9.3	4.8
Dallas, TX	11.5	9.0	2.5
San Antonio, TX	10.1	8.5	1.6
New York, NY	3.2	1.6	1.6
Los Angeles, CA	2.9	1.4	1.4
El Paso, TX	1.4	0.4	1.0
San Francisco, CA	1.5	0.7	0.7
Boston, MA	1.0	0.4	0.7
San Jose, CA	1.3	0.7	0.7
Chicago, IL	1.9	1.3	0.6
Top 10 Metros	48.9	33.3	15.6
Total	**106.0**	**78.5**	**27.5**

ORLANDO, FL

	Migration (thousands)		
	from	to	net
Miami, FL	16.0	9.2	6.7
New York NY	10.4	3.7	6.6
San Juan, PR	9.1	1.3	7.7
Tampa, FL	7.6	5.6	1.9
Lakeland, FL	6.4	5.7	0.7
Deltona, FL	4.3	7.7	-3.4
Palm Bay, FL	3.7	2.9	0.8
Jacksonville, FL	3.1	3.2	-0.2
Atlanta, GA	2.8	2.4	0.3
Philadelphia, PA	2.6	1.0	1.6
Top 10 Metros	65.8	42.9	22.9
Total	**126.2**	**96.3**	**29.9**

Sources: US Census Bureau, Berkshire Research

Let's take a closer look at Austin and Orlando, which have the highest net migration rates and similar population counts. Exhibit 3 shows the top 10 metro areas from which people are moving into each of these two markets. While the total net migration figures are similar, there are some major differences in the composition of people moving in. Austin draws people from all four regions of the country, including most gateway markets. Many people migrating to Austin are moving from areas with notably higher incomes and costs of living. In contrast, the regional composition of people migrating to Orlando is much less diverse, with most markets being in Florida and Puerto Rico. Additionally, Orlando's net migration is much more concentrated in the top ten markets while Austin's is more dispersed across markets.

While net migration figures are a very important part of the story, one should also look at the underlying drivers to get a more complete picture of the potential impacts on the rental market. The composition as well as durability of rental demand growth due to net migration in Austin and Orlando are likely to be quite different and this should be considered when evaluating the two markets.

THE FUTURE OF MIGRATION

Migration is a key factor driving the differences both in rates of population growth and its composition. It is currently hard to say how the pandemic might affect both domestic and international migration in the US. What we do know is that these trends will become even more critical, not only over the next year—given travel limitations due to health concerns and unprecedented job losses—but also over the long term, as the population ages. It is also clear that migration flows will be greatly affected by how different markets are impacted by the pandemic and the recession.

About the Author

Gleb Nechayev, CRE, is Head of Research and Chief Economist, Berkshire Residential Investments, a people-focused investment management company known for its vertically integrated organization and experience in US residential real estate.

Notes

[1] Net migration rate is the sum of domestic and international migration as a share of total population. Net birth rate is the difference between births and deaths as a share of total population. Markets in the table are sorted by average annual changes in total employment over 2014-2019 period.

TIME TO digitize ESG

In the midst of a global pandemic, every industry is racing to adjust its business practices to meet new demands and prepare for an uncertain future. What does this mean for real estate finance and ESG?

By Amanda Davis
Measurabl

Sustainability—with ESG (environmental, social, governance) data as its prevailing metric—is far from a new business concern. Though ESG may have only recently caught fire in the commercial real estate industry, investors have long been aware of its power to illuminate a company's ability to maintain profitability, retain talent, and withstand unexpected disasters and disruptions.

$12.2

Billion into funds with a strong ESG practices.

Now, as we find ourselves in the midst of a global pandemic, literally every industry is racing to adjust its business practices to meet new demands and prepare for an uncertain future. One thing is clear, however: ESG will continue to be top of mind for investors, and likely even more so in an unstable economy. From January to April 2020 alone, investors poured a record US$12.2 billion into funds with strong ESG practices.[1] Simply put, investors want quantifiable assurance that companies are resilient to unforeseen events.

COVID-19 has certainly underscored the relevance and importance of ESG. Companies' response to the pandemic—in terms of resilience, sustainable business practices, and the way in which they protect and empower employees in a crisis—are under intense scrutiny. ESG has become a valuable indicator of a company's ability to withstand future shocks.

The pandemic has also complicated business processes for companies that have yet to modernize their approach to ESG. Commercial real estate (CRE) tenants in particular are facing heavy disruptions to their businesses. Gaining insight across an entire portfolio will become even more difficult without the help of technology. Conversely, companies that embrace digital innovations are able to spend less time on the cyclical, mundane aspects of tracking performance and invest in projects that truly move the needle in carbon reduction, employee health and wellness, and other organization-wide goals and ESG metrics.

The need to digitize is nothing new for industries, including finance, as CFOs increasingly abandon old processes and continuously adapt to meet new customer and stakeholder expectations. Now is the time for companies to place as much importance on ESG data as they do on financial data—and that means embracing technology to get ahead of the curve. Capital markets value ESG performance, and CRE companies that have a firm grasp on their portfolios will be well positioned to take advantage of sustainable finance opportunities.

A Tale of Two Industries

The financial industry is intimately familiar with the mounting pressure to modernize. A recent McKinsey survey of CFOs revealed that respondents were expected to spend more time on digital initiatives and the application of digital technologies to finance-related tasks.[2] The alternative is to risk being left in the dust as competitors capitalize on new technological innovations such as automation and blockchain. And just like their counterparts in real estate, finance executives are the gatekeepers of critical data necessary to create projections and inform the company's overarching strategies.

On a micro-level, the digitization of finance is predicted to upend the industry's everyday operations. For example, Deloitte predicts that by 2025, banking customers will see secure, touchless transactions powered by blockchain technology, as well as improved automated customer service capabilities that will give customers reliable, round-the-clock support.[3] On the business side, traditional reporting cycles will likely become less relevant, while real-time analytics and on-demand forecasting will increasingly drive mission-critical decisions.

Though finance is outpacing other industries when it comes to digital transformation, a survey of CFOs by McKinsey showed that executives are breathlessly trying to keep up, considering they still have relatively few best practices to draw from as they develop new strategies.[4] This conundrum might sound familiar to many CRE owners and property managers, who over the past few years have struggled to measure sustainability performance while just beginning to understand exactly what ESG is.

Though ESG has only recently entered the vernacular, investors and tenants are gravitating toward companies with a proven track record in this area. But it's not just about keeping stakeholders happy; ESG is linked to a number of other benefits. According to McKinsey, a strong ESG performance is shown to increase top-line growth, reduce costs, optimize investment and capital expenditures, minimize regulatory and legal interventions, and increase employee productivity.[5] Reaping the full benefits of a solid sustainability program will require modern solutions similar to the ones that are becoming more pervasive in the finance industry and others.

Adapting to the Future of Work

CRE companies face the unique challenge of gathering ESG data across multiple assets on a continuous basis. During normal times this can be a challenge, but tenant engagement has been made even more complicated by the current crisis. Companies in every industry are facing massive disruptions to their businesses, causing the chore of reporting even basic environmental data like water and energy consumption to fall by the wayside in favor of more immediate concerns.

Even as businesses slowly reopen, social distancing guidelines will apply, limiting CRE firms' ability to physically "touch" assets. Instrumentation checks and in-person meetings with property managers and tenants will quite possibly be non-existent. And current restrictions may linger for quite a while: Harvard researchers have suggested that "intermittent social distancing" may be required through 2022 to manage the spread of COVID-19.[6] With the need to do more from a distance, firms that have automated processes like utility data collection will be in far better shape than those who rely on older, manual solutions.

Digitization is especially vital to remote workers who need uninterrupted access to the information and systems they require to be productive. Global Workplace Analytics predicts that by 2021, 25-30% of the workforce will be telecommuting multiple days a week.[7] When environmental data and other pertinent information is trapped in black boxes (read: spreadsheets), data coverage becomes nearly impossible, and reporting that information—whether to investors or to sustainability benchmarks like GRESB—becomes the stuff of nightmares.

Beyond simply checking the boxes, it's crucial for companies to have continuous access to a steady stream of data so they can track their progress toward various ESG goals. With this information, companies can, for example, develop strategies to further reduce energy and water consumption and invest in building projects that mitigate climate risks like extreme temperatures and drought conditions. Without that level of transparency, firms are flying blind.

A strong ESG performance is shown to increase top-line growth, reduce costs, optimize investment and capital expenditures, minimize regulatory and legal interventions, and increase employee productivity.

25-30%

of the workforce will be telecommuting multiple days a week by 2021.

$465

Billion in sustainable finance in 2019

Reaping the Rewards

Though it can be difficult to look beyond current economic circumstances, CRE companies that can reliably report a strong ESG performance have a beacon of hope. Sustainable finance, which includes green bonds and sustainability-linked bonds and loans, has become a dominant force: it reached US $465 billion in 2019,[8] up 78% from 2018 and more than ten times the issuance from five years prior. Sustainable finance can further propel the ESG movement and facilitate the shift from traditional to sustainable economic and credit activities. But in order to set this in motion, companies must be able to report accurate, complete ESG data.

COVID-19 has further underscored the financial materiality of ESG, not only to investors but also to governments. For example, in late April 2020, the European Commission issued a "Consultation on the Renewed Sustainable Finance Strategy," stating that the outbreak . . .

> ". . . shows the critical need to strengthen the sustainability and resilience of our societies and the ways in which our economies function. This is necessary to, above all, minimise the risk of similar health emergencies in the future, which are more likely to occur as climate and environmental impacts escalate."[9]

The CRE sector is currently well represented in sustainable finance—in fact, CBI reports that 30% of all green bond and loan proceeds were allocated to buildings in 2019.[10] Boston Properties, for example, issued US$1 billion in green bonds last year,[11] with the proceeds used to fund eligible green projects. Currently, the most commonly cited reason for not opting to issue green debt is a lack of data and[12] resources required to collect and report impact metrics. Inputting, tracking, and disclosing this information manually—and ensuring it is investment grade—can prove next to impossible without a technology solution at hand.

The COVID-19 pandemic may have slowed most of the world to a grinding halt, but it has only accelerated the ESG revolution and amplified the need for a digital transformation in this area. Just like in the finance industry, emerging technology solutions will not only save companies time and money on manual processes—it will empower them with new insights and help them make smarter business decisions that allow them to grow and thrive, even in uncertain times.

About the Author

Amanda Davis is Thought Leadership Content Manager for Measurabl, the world's most widely adopted ESG software for commercial real estate. More than 9 billion SF/836 million SM of commercial property valued over US$2 trillion across 75 countries use Measurabl to measure, manage, and disclose ESG performance.

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