Emerging Trends in Real Estate®

2020

Contents

Editorial Leadership Team

Emerging Trends Chairs
Mitchell M. Roschelle, PwC
W. Edward Walter, Urban Land Institute

Authors
Hugh F. Kelly
Anita Kramer
Andrew Warren

Authors, Chapter 3: Property Type Outlook
Timothy Corzine, Retail
Melinda McLaughlin, Industrial
John McManus, Apartments and Single-Family Homes
Janet Pogue McLaurin, Office
Mary Sullivan, Hotels

Contributors
Katharine Burgess
John Chang
Elizabeth Foster
Beth Burnham Mace
Molly McCabe
Ryan Severino
Carl Whitaker

Senior Advisers
Miriam Gurza, PwC, Canada
Frank Magliocco, PwC, Canada
Christopher J. Potter, PwC, Canada
Nick Way, PwC
Steven Weisenburger, PwC

ULI Editorial and Production Staff
James A. Mulligan, Senior Editor
David James Rose, Managing Editor/Manuscript Editor
Brandon Weil, Creative Director/Cover Designer
Deanna Pineda, Muse Advertising Design, Designer
Craig Chapman, Senior Director, Publishing Operations
Owen Benge, Senior Associate, Capital Markets and Real Estate
Payton Chung, Director, Capital Markets and Real Estate
Jacob Hite, Intern, Capital Markets and Real Estate

Recommended bibliographic listing:

PwC and the Urban Land Institute: *Emerging Trends in Real Estate® 2020*. Washington, D.C.: PwC and the Urban Land Institute, 2019.

ISBN: 978-0-87420-431-5

PwC Advisers and Contributing Researchers

Abhi Jain
Aki Dellaportas
Alex Howieson*
Ali Abbas*
Alpa Patel*
Ami Patel*
Amy Brohman*
Amy Matula
Andrew Alperstein
Andrew Nickel*
Andrew Popert*
Anthony Di Nuzzo*
Ashley Somchanh*
Ashley Yanke*
Avery Munger
Aynsley Price*
Brett Matzek
Brian Ness
Bryan Allsopp*
Bud Thomas
Calen Byers
Carly Stallwood*
Carmelo Scali*
Cathy Helmbrecht
Charlene Rodenhiser*
Charles Campany
Chris Dietrick
Chris Vangou*
Christian Sedor
Christina Howton*
Christina Louie
Christine Lam*
Christopher Bailey
Christopher Mill
Court Maton
Courtney McNeil
Curtis Gagne*
Dan Ryan
Dana Miccio
Daniel D'Archivio*
Danielle Desjardins*
Darren Speak*
David Baldwin
David Baranick
David Seaman
David Swerling
David Voss
David Whiteley*
Dheeraj Bisla*
Dillon White
Douglas Struckman
Dylan Anderson
Dylan Shuff
Ed Faccio
Elliot Kung
Emily Pillars
Erin MacDonald
Ernie Hudson*
Eugene M. Chan
Evan Cohen
Francis Miu*
François Berthiaume*
Fred Cassano*
Frédéric Lepage*
Gary Meltzer
Gimena de Buen*
Gina Mandarino*
Glenn Kauth*
Harry de Haas*
Heather Lashway
Helen Zarokostas*
Howard Quon*
Howard Ro
Ian Gunn*
Ian Nelson
Ira Shaw
Isabelle Morgan
Jacqueline Kelly
Jacqueline Kinneary
Jasen Kwong*
Jason Hirschfeld
Jason Ho*
Jason Pagliaro*
Jeremy Lewis
Jesse Rosenstock
Joannie Brulotte*
John Bunting*
John Crossman
John Rosano
John Satelmajer
Johnny Cannon*
Jonathan Osten*
Joon Chan*
Jordan Bennett*
Joseph H. Schechter
Joseph Moyer*
Josh Beaver*
Karin Coetzee
Katelyn Weiss
Kelsey McLeod*
Ken Griffin*
Ken Su*
Keri Zader
Kevin Fossee
Kevin Koons
Kevin Ng*
Kristen Conner
Kristina Derek*
Lanie Potgieter
Laura Eldridge*
Leah Gates*
Leah Waldrum
Lee Overstreet
Libarid Gulizian*
Lori Watson*
Lori-Ann Beausoleil*
Macy Anderson
Mais Jarjour-Ouzon
Matt Manza
Matthew Rosenberg
Matthew Manza
Maxime Lessard*
Megan Andrews
Miranda Hardy*
Mori Contreras
Munezeh Wald
Nadia King*
Nadja Ibrahim*
Natalie Cheng*
Nick Ethier*
Nicole Stroud
Patricia Perruzza*
Paul Mehlman
Peter Harris*
Philippe Pourreaux*
Qiyan Mai
Rachel Klein
Rahim Lallani*
Rajen Shah*
Rajveer Hundal*
Ray Witkos
Rebecca Lyons*
Renee Sarria
Ricardo Ruiz
Richard Fournier
Rick Barnay*
Rick Munn
Rob Sciaudone
Ron Bidulka*
Ron Walsh*
Rosanna Musto*
Roxanne Carrier*
Ryan Dumais
Sabrina Fitzgerald*
Sam Melehani
Santino Guerri*
Scott Williamson
Sean Bailey*
Sergio Lozano
Spyros Stathnikos*
Stephen Crisafulli
Steve Baker
Steve Tyler
Steven Tirado
Tanya Hill-Lariviere*
Tara Jangle
Thomas Knox
Thomas Kozak
Tim Bodner
Tom Knox
Tom Wilkin
Tressa Teranishi*
Trevor Toombs*
Warren Marr
Wendi Pope*
Yousuf Abbasi
Zac Konings*
Zoe Funk

*Canada-based.

Notice to Readers

Emerging Trends in Real Estate® is a trends and forecast publication now in its 41st edition, and is one of the most highly regarded and widely read forecast reports in the real estate industry. *Emerging Trends in Real Estate® 2020*, undertaken jointly by PwC and the Urban Land Institute, provides an outlook on real estate investment and development trends, real estate finance and capital markets, property sectors, metropolitan areas, and other real estate issues throughout the United States and Canada.

Emerging Trends in Real Estate® 2020 reflects the views of individuals who completed surveys or were interviewed as a part of the research process for this report. The views expressed herein, including all comments appearing in quotes, are obtained exclusively from these surveys and interviews and do not express the opinions of either PwC or ULI. Interviewees and survey participants represent a wide range of industry experts, including investors, fund managers, developers, property companies, lenders, brokers, advisers, and consultants. ULI and PwC researchers personally interviewed 750 individuals, and survey responses were received from more than 1,450 individuals, whose company affiliations are broken down below:

Private property owner or commercial real estate developer:	27.6%
Real estate advisory or service firm:	23.6%
Homebuilder or residential land developer:	11.9%
Private equity real estate investor:	11.3%
Bank lender:	6.5%
Investment manager/adviser:	6.5%
Equity REIT or publicly listed real estate property company:	3.9%
Institutional equity investor:	1.8%
Private REIT or nontraded real estate property company:	1.7%
Institutional lender:	1.0%
Mortgage REIT:	0.9%
Real estate debt investor:	0.8%
Securitized lender:	0.7%
Other entity:	1.8%

Throughout this publication, the views of interviewees and/or survey respondents have been presented as direct quotations from the participant without name-specific attribution to any particular participant. A list of the interview participants in this year's study who chose to be identified appears at the end of this report, but it should be noted that all interviewees are given the option to remain anonymous regarding their participation. In several cases, quotes contained herein were obtained from interviewees who are not listed in the back of this report. Readers are cautioned not to attempt to attribute any quote to a specific individual or company.

To all who helped, the Institute and PwC extend sincere thanks for sharing valuable time and expertise. Without the involvement of these many individuals, this report would not have been possible.

Shifting Focus to the Decade Ahead

"'We've always done it this way' doesn't cut it in real estate anymore. We need to find the best way to do it."

"The last 18 months roughly has been one of the more static periods I've seen in my career. I don't mean static in a bad sense. I only mean the sense that whatever I would have said 18 months ago is not much different than I would have said this week," says a veteran real estate pro whose real estate career extends back to the Ronald Reagan years. In fact, many of our interviewees and focus groups noted the "on track" character of recent activity in the property development and investment field.

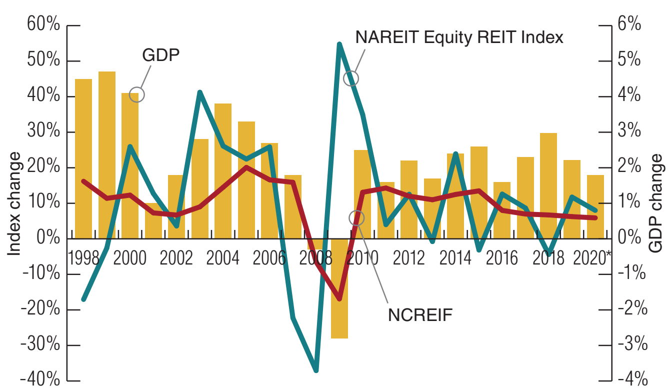
This does not mean that they are in "Groundhog Day" mode. No one claims we are in a time warp. Most of the experts in the real estate business are following through on business plans that have served them well over the past year and look like a solid roadmap for the future.

That is exactly what "trends" should produce—confidence that a business should not try to start from scratch every year. If you have thoughtfully assessed your resources, been careful about your objectives, and lined up the physical, financial, and human assets needed for success—well, your approach should have some staying power.

Trends—by their nature—are dynamic. Time is a stream, not a frozen pond. That stream runs toward the future, and each year puts some conditions into the past, and brings some conditions closer to realization. If the pace is gradual, we may hardly feel the changes. But they are happening even if subtly.

That is one reason that an annual examination of *Emerging Trends* is such a healthy and helpful exercise. It is when change

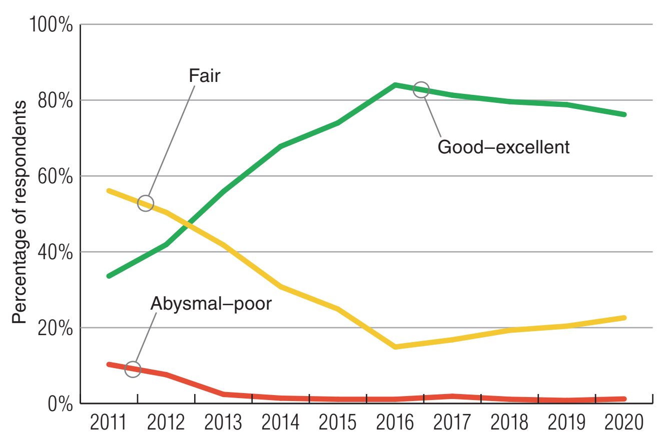
Exhibit 1-1 **U.S. Real Estate Returns and Economic Growth**



Sources: NCREIF, NAREIT, Bureau of Economic Analysis/U.S. Department of Commerce, PwC Investor Survey.

*Forecast.

Exhibit 1-2 **Firm Profitability Prospects for 2020**



Source: *Emerging Trends in Real Estate* surveys.

is so subtle that it may escape notice that that we need to pay even more careful attention.

Trends, by the way, are just one form of change. Our discussion of trends keeps in mind that the world, the economy, and the real estate business are subject to other kinds of influence in the river of time.

Cycles are perhaps the most prominent feature of the real estate industry, and we discuss late-cycle behaviors in this chapter. Trends typically persist longer than cycles. We examine the potential impact of the decades-long deceleration of the U.S. economy on real estate as we emerge from the next recession: slower demand over the decade of the 2020s.

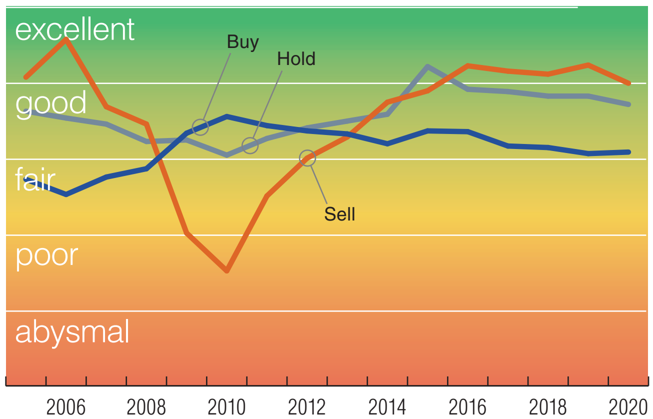
Maturation is another form of change, generational aging as well as the aging of our infrastructure. Will future cohorts continue patterns of previous generations? Boomers have frustrated predictions since they burst upon the scene, and advances in life sciences may permit them to do so again in their 70s and 80s. Our infrastructure, meanwhile, could use rejuvenation and may be seeing an infusion of capital at the state and local levels even as entropy rules in Washington.

Technology continues to present disruption—another form of change—as both a risk and an opportunity. We should not rule out the capacity of capital markets to be a disrupter either. The abundance of capital for debt and equity is a feature of markets for now. But capital markets are notoriously fickle and real estate veterans are well aware of how quickly a "Niagara of Capital" can be dammed up.

Physicists recognize "change of state" as another time-based phenomenon affecting real estate. The shift from a blue-collar economy to a white-collar economy profoundly adjusted property needs, as did the dramatic increase in female labor force participation. Today, we are experiencing changes of state in the housing market, which may see homeownership drop in the 2020s to levels not seen since the 1930s and 1940s. We are already seeing such qualitative shifts as the rise of "hipsturbias" in our metro areas. A change in ethos also is observable. The environmental, social, and governance (ESG) movement has taken root in the corporate and institutional investment world. Real estate operations, meanwhile, are more and more attuned to a preference for "community" in the places where we live, work, and play.

Our level of awareness concerning the complex nature of change is increasing, but probably not to the degree that it should be. But, as Holmes often noted to Watson, "The game is afoot."

Exhibit 1-3 **Emerging Trends Barometer 2020**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

1. Easing On Down the Road

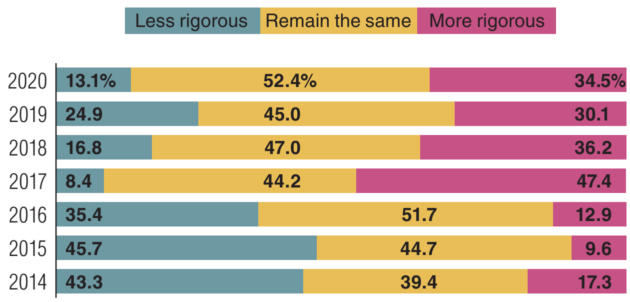
Queried about cyclical risk and opportunity, one REIT executive quipped, "Don't ask me what inning we are in. We are playing cricket!" As this economic cycle entered the history books as the longest in U.S. history, the level of confidence in the real estate industry has been palpable.

Property veterans see the internal conditions in the business as solid. "Real estate will continue to perform," one experienced investment manager said. "We don't see oversupply or overleverage." Developers continue to see opportunities, and one Sun Belt broker commented, "Builders going gangbusters even though the cycle is old makes *me* feel good." A New York–based construction executive chimed in, "It is encouraging to note that the biggest, most sophisticated developers are still active."

Reinforcing the optimism about real estate's ability to withstand a recession is satisfaction that the property sector's discipline in this recovery means that "this time it won't be our fault" if the economy falters. Any warning signs are arising from causes that real estate has little control over. As an economist from an institutional investor put it, "How much energy should you use worrying about stuff you have no ability to change?"

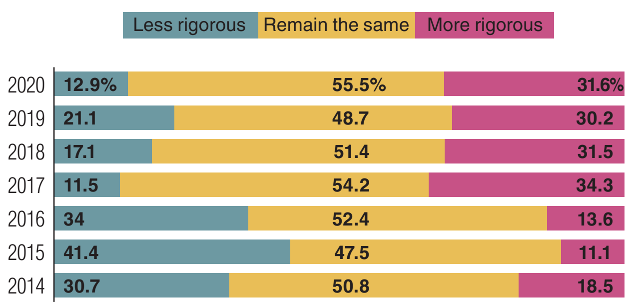
This economy may not be as robust as many believe. Although the consensus of economists has real gross domestic product

Exhibit 1-4 **Debt Underwriting Standards Forecast for the United States**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

Exhibit 1-5 **Equity Underwriting Standards Forecast for the United States**

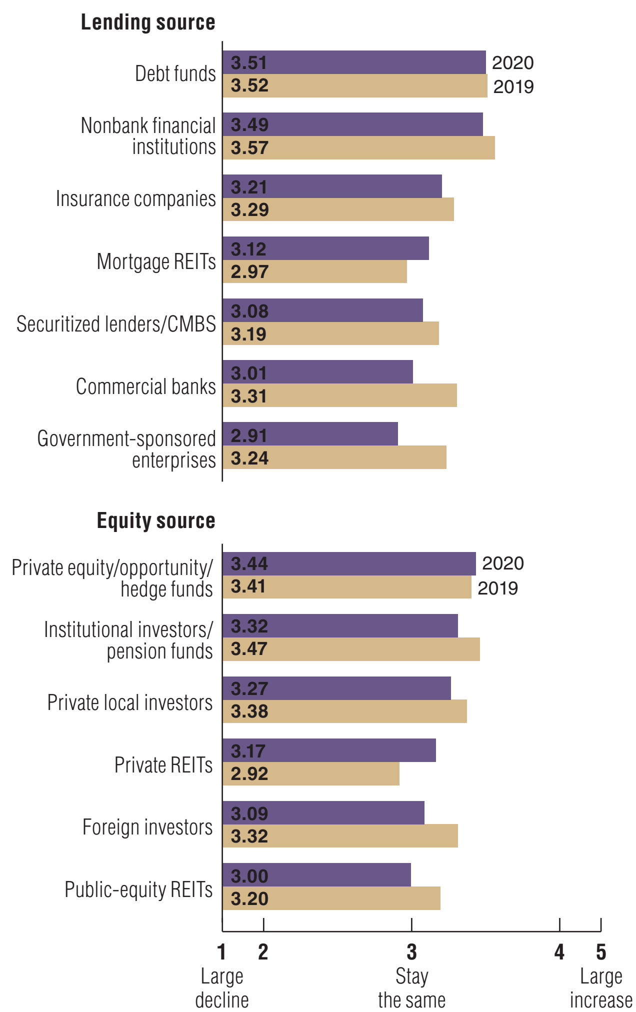


Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

(GDP) closing out 2019 with a 2.5 percent gain, and a slowing but still-positive 1.8 percent advance in 2020, the "stuff you have no ability to change" is still out there—and worthy of heed. The yield-curve inversion that took hold and then deepened during the first half of 2019 leads the list of warning signals. Housing starts have been softening, and the 6.6 percent year-over-year decline in residential permits recorded in June is presaging a weakening period ahead. Auto sales also have been languid, with implications for the consumer economy as well as for the manufacturing sector heading into 2020. Viewed one way, the decision of the Fed to ease interest rates at its July Federal Open Market Committee meeting is a sign of concern over the confluence of these domestic signals as well as a hedge against international risks in both finance and trade.

Another significant indicator of the economy's fragility, which the short memories of the 24-hour news cycle seem to have forgotten, is the impact that the government shutdown of last

Exhibit 1-6 **Availability of Capital for Real Estate, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

winter had on hundreds of thousands of workers with "secure" jobs. The delay in receiving a couple of paychecks prompted a run on food banks and sent households scrambling to meet rent and home mortgage payments. This amounted to a "natural experiment" validating estimates that 41 percent of U.S. households struggle with an emergency expense as little as $400, since they must first meet their existing obligations. The extent to which so many households are "on the edge" is likely underestimated in macroeconomic models.

Recessions strike the economy at its points of excess. Many believe that the shape of the present expansion—moderate in pace as well as extended in length—has protected it from overheating. This is said to be reflected in the low rate of inflation, due in some measure to the failure of wages to rise over most of the period of declining joblessness. The coincidence of low inflation with low unemployment is said to be a justification for easing monetary policy even as the long economic expansion persists.

But it may be that the unusual timing of rate reductions may itself contribute to excess. This is worth watching, especially coming on the heels of the significant fiscal stimulus of the 2017 tax cuts and the federal budget, which increased deficit spending by 17 percent in 2019, with red ink that will hit $1.1 trillion this year. Rate cuts (monetary stimulus) and deficit spending (fiscal stimulus) during a period of economic growth bring us into uncharted territory, and can be seen as borrowing growth from the future.

If so, then the baseline forecast from the nonpartisan Congressional Budget Office (CBO) comes into sharper focus. That analysis calls for U.S. real GDP growth to drop to 2.1 percent in the year ahead (closely in line with private forecasters' expectations), and then to remain below 2 percent throughout the coming decade. Core inflation is anticipated to stay at 2.4 to 2.6 percent through 2023, and 2.3 percent thereafter until 2029, while unemployment remains below 5 percent (up a bit from its recent lows). On the labor front, the more significant projection is this: after growing over 200,000 jobs per month on average during the current expansion, the average monthly gain in employment for the 2020s decade is projected to be just 46,600.

It is safe to say that few have made plans for investment performance under conditions of such a sharp and then extended slowdown. Many real estate professionals take comfort in their experience ("We've been through cycles before"), expect that the next recession will not be as severe as the global financial crisis (very probably true), and that the next recovery will be at least as strong as the current expansion (highly unlikely, if the CBO projection is even approximately correct).

We could be looking at an especially jolting shock to the system.

In the short run, caution is advisable. One of our interviewees, with a solid background in troubled assets as a special servicer, advised asset managers to "put some of your 'dry powder' aside to cover lower levels of NOI and for capex over the 2020s decade." An opportunistic developer is seeing some "late-cycle budget busts, where costs are running beyond its projects' contingency cushion; in those cases, we reevaluate immediately and if the numbers don't work, those deals are scrapped." A private-equity manager candidly acknowledges, "If the market

Exhibit 1-7 **How Profitability Outlook Has Changed, 2020 versus 2019**

Source: *Emerging Trends in Real Estate 2020* survey.

were to take a turn, we'd find ourselves long on our investments, long on vacancies," and suggests that a defensive strategy might not be such a bad idea right now. For a few years now, commercial property has been "priced to perfection," meaning that there is little in the way of a safety margin for negative surprises.

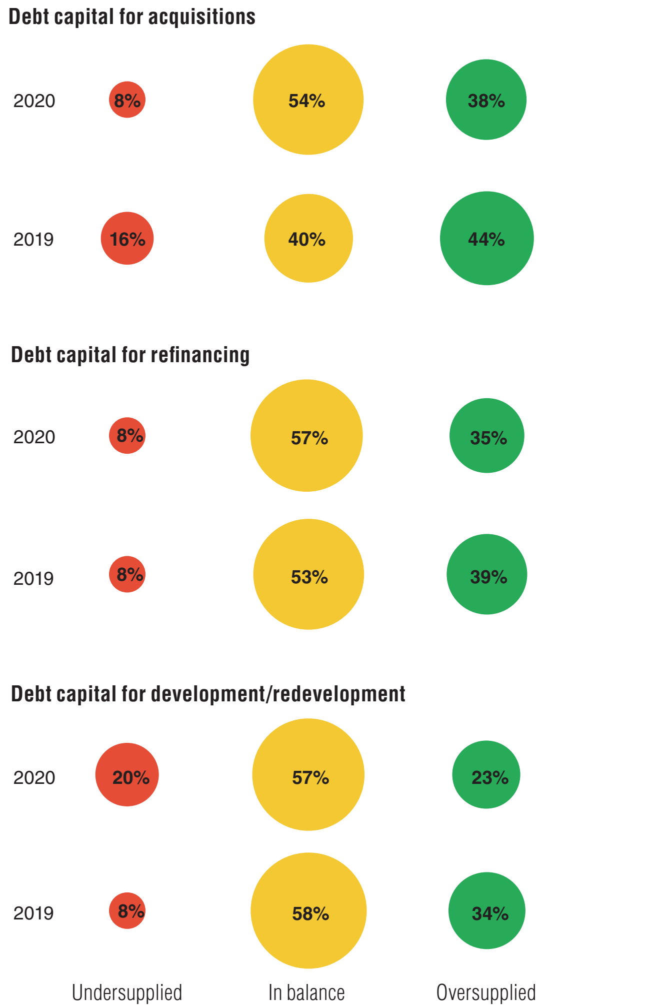
So: spoiler alert! The "emerging trend" for real estate demand in the decade ahead is not just for softer demand, it is for dramatically softer demand. As we warned a year ago, confidence is one thing, complacency is another. At least some serious attention should be given to the prospects for an extended downshifting in the economy and its implications for commercial property demand in the decade ahead.

2. The Siren Call of TINA

Way back in *Emerging Trends 2006*, chapter one was titled: "As Long as Capital Keeps Flowing, Everything Will Be All Right." A careful reading of that report is instructive in many ways. There is a familiar ring to much of its narrative:

> *The big dollars have been made from cap rate compression, [some] real estate is trading well above replacement cost, and pricing is ahead of where it should be at this point in the cycle. The consensus forecast, however, suggests that real estate can maintain a relative value edge over stocks and bonds, at least in the near term with the majority view that the risk premium for property investments has been reduced, enhancing stability and capital liquidity and limiting the chances for investment losses.*

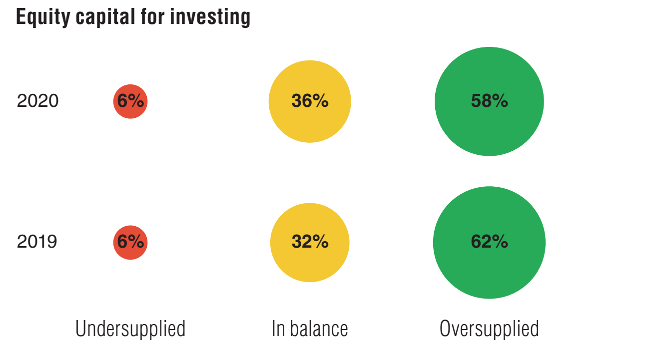
Exhibit 1-8 **Real Estate Capital Market Balance Forecast, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

That edition noted that investors were increasingly "foraging beyond core." Real estate was characterized as "priced to perfection." Cost concerns in construction labor and materials were cited as eroding builders' margins. Interviewees conceded, "Expansion has been at a subpar rate, but there is still some gas left." More suburban mixed-use development was encouraged; real estate investment trusts (REITs) were anticipated to continue consolidating into larger, more institutional companies; and housing prices were seen as being at nosebleed levels. Yet, the industry's headline conclusion was that "the real estate climate remains favorable."

Exhibit 1-9 **Real Estate Capital Market Balance Forecast, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

Our point is not a cheap critique of the optimism that reigned even as the global financial crisis loomed. That would be just Monday morning quarterbacking. The point is that a surfeit of capital desperately seeking placement is the very definition of a bubble that remains unrecognized until it bursts. Ruefully, one notable Wall Street executive lamented after the collapse a decade ago: "As long as the music is playing, you've got to get up and dance."

The conundrum is real. Investment managers are not paid to sit on cash. And yet there is serious risk in an approach that deploys the capital just because it is there. The mantra encapsulating a reasoning that one or another investment area must be chosen so that money can be put to work goes by the acronym "TINA"—"There Is No Alternative."

There is no doubt about the pressure of capital. The volume of private-equity dry powder is now estimated to exceed $2 trillion, with 5 percent or more allocated to real estate. So much money is looking to be deployed in safe fixed-income investments that $12 trillion is now parked in negative-interest-rate debt instruments in Europe and Asia. Given the very high level of economic uncertainty around the world—an index of such uncertainty maintained by academics at Stanford, Northwestern, and the University of Chicago is 70 percent higher than during the global financial crisis—a flight to safety is understandable, with key factors including Brexit, tariff and trade wars, and political turmoil in France, South America, and the United States itself.

That search for safety is one reason that U.S. 10-year Treasury yields have been pushed down, sending the markets a disturbing recession signal, inverting the two-year/10-year yield curve in midsummer. It is also a reason that U.S. equities have been outperforming international stock indices, as they did between 1996 and 2007. The threat of recession is perceived to be higher abroad than in the United States right now (with Germany contracting in early 2019), prompting some worries about "contagion." Yield, adjusted for risk, is in America's favor right now even in today's environment.

What are the ramifications for real estate, as *Emerging Trends*' interviewees see them?

From all corners of the United States, we hear that there is no shortage of equity or debt capital, but virtually no sense that there is a wave to ride toward future investment success. On the contrary, buyers and lenders are described as discriminating. A North Texas observer remarks on "a continued shortage of deals with desirable yields; there are more investors chasing deals than there are good deals available." A West Coast fund manager marvels, "It's amazing that U.S. real estate markets have done so well, given the uncertainty."

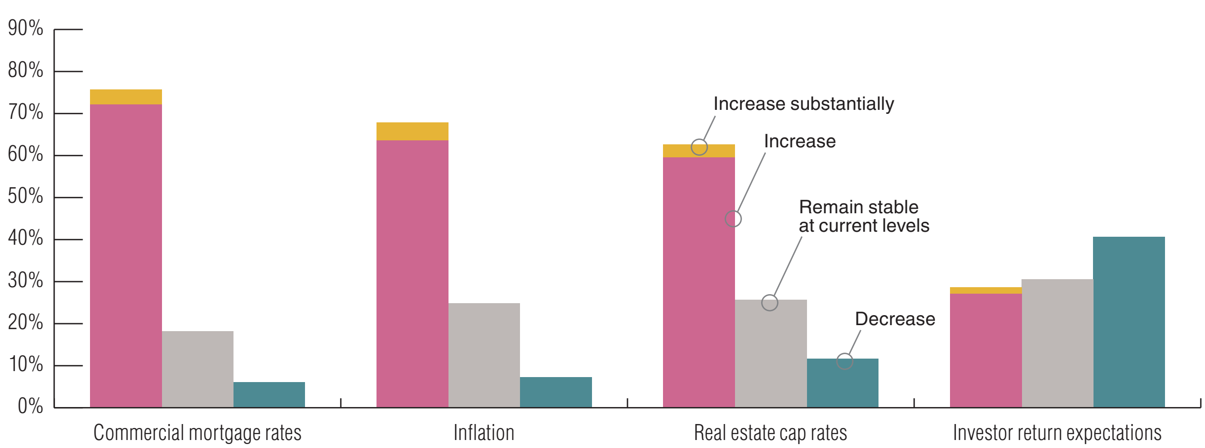
Part of the reason, frankly, has been the hard lesson of experience. There are still those bearing the scars of the Great Recession. But it is more than reflexive fear of pain. As one fiduciary put it, "NCREIF investors are in the second generation of learning about this asset class, especially in evaluating mixed-asset portfolios." They are drawing on more than intuition about volatility, relative performance among the property types, or geographic diversification.

The application of "big data" and advanced analytics is coming into play more and more. This trend is migrating from the institutional investors into other buyer categories and is bound to accelerate. "Pension funds are cautious," says one executive whose firm is a recognized provider of much of the data shaping strategies. "With a low probability of future appreciation, pension funds are getting most of their return from NOI, and this is not enough to satisfy long-term obligations." As yields disappoint, style creep is happening as capital slides up the risk curve.

One researcher at a major retirement fund looks at its legacy portfolio, overweight in office and retail assets, and concedes that "the past is our problem: we need to sell those assets and get into the real estate of the future—which includes data centers, cell towers, manufactured housing, and mixed-use suburbia." Selling offices is still an executable tactic; retail, not so much. What office and retail have in common is the continuous need for capital expenditure (capex) infusions, just to maintain market competitiveness. Lightening the portfolio load of such property types is a way toward capital preservation—don't spend money that doesn't earn another marginal dollar.

Public-equity REITs, on the other hand, are likely to prosper in an environment of easy monetary policy. They certainly have during the first half of 2019, and one dealmaker in the world of REITs sees this being one of the best merger-and-acquisition years ever. There are now 30 REITs with a market cap of $10 billion or higher. He foresees consolidation producing three or four REITs per property sector, although the total value of these public companies may actually double over time. There are certainly opportunities for smaller firms in the "niche" property types. In terms of timing, he says, "The REITs have little to worry about from 'end of cycle' concerns. Debt discipline is the REITs'

Exhibit 1-10 **Anticipated Changes in Commercial Mortgage Rates, Inflation, Cap Rates, and Expected Returns, Next Five Years**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Hot Topic: Extreme Heat and Real Estate

In summer 2019, heat waves engulfed much of the United States and Europe. According to NASA, July 2019 was the hottest month on record, and in the first month of 2019 alone, 33 hottest temperature records were broken worldwide. Both climate change and urban development are leading to increased extreme heat, which includes higher temperature days as well as longer and more frequent heat waves.

Without intervention, the current and potential future impacts of extremely high temperatures—on real estate developments, infrastructure, and the economy—could be substantial. Research links extreme heat to as much as a 4 percent decrease in U.S. GDP for midsized cities through reduced growth rates and increased expenses. For buildings, high temperatures in urban areas increase building cooling load by 13 percent. Moreover, extreme heat worsens wildfires, drought, and air pollution and decreases electrical grid stability. Heat also presents tremendous public health risk: more than 65,000 people in the United States visit emergency rooms each summer for acute heat illness.

If greenhouse gas emissions continue, the United States is expected to have twice the number of hot and humid days that feel like 100° F or higher by midcentury.

Extreme heat will affect tenant and consumer preferences: Changing temperatures mean changing thermal and energy needs, affecting building design or leading to costly retrofits. For example, air-conditioning demand has become a factor in Seattle's competitive rental market. Before the 2010s, 6 percent of Seattle rentals had central AC; responding to rising temperatures, record apartment construction, and demand, that percentage has climbed to over 25 percent.

Extreme heat is likely to influence regional markets and economies: Extreme heat puts local infrastructure at risk, potentially leading to broader economic consequences. High temperatures, for example, interfere with airplanes' ability to take off. In June 2017, American Airlines canceled over 40 flights departing Phoenix because daytime highs of 120 °F were too hot for regional planes to fly.

Local governments are enacting heat-related policies: To safeguard public health and infrastructure function, local governments are enacting heat-specific policies and updating existing ones to stricter standards. Previously, these policies largely related to social services and emergency preparedness; today, they are beginning to address land use and building issues. For example, in May 2019, Miami Beach enacted an ordinance establishing review criteria to reduce the temperature-raising impacts of development and waiving some application fees for developments that contribute to heat mitigation. Los Angeles and Phoenix are among the cities that have recently updated existing requirements for cool roofs and shade cover. Cities are also experimenting with technologies to reduce heat, such as cool street surfacing.

The built environment offers numerous solutions: There is no "one size fits all" approach to managing extreme heat, but numerous available building- and district-scale solutions can reduce outdoor and stabilize indoor temperatures, and lower operating costs in an inhospitable climate. For example, developments can prevent the absorption of heat with light-colored materials, provide direct cooling with shade from built and natural canopies, and better cope with extremes through "heat-aware" building envelopes and HVAC choices.

—Scorched: Extreme Heat and Real Estate, uli.org/extremeheat.

saving grace: low balance sheet indebtedness and a 'laddering' of maturities that spreads risk."

We have been marking the increasing heterogeneity of lenders for several years now, and that trend shows no sign of slowing down. "There are lots of lenders for all product," says the chief operating officer of a midsized value-add and opportunity investment manager. Borrowers are able shop around. One professional in the Charleston market reports that "restrictions on big banks [can] make it hard to get money, so you need to look at other sources of capital, perhaps cross-border sources or other nontraditional lending in this small market."

An Atlanta focus group member believes that discipline enforced by the life insurance lenders has aided in positioning the market to withstand negative surprises, but as equity seeks more leverage to juice yields, more mezzanine debt must be secured. Risks throughout the capital stack need to be priced appropriately. That may be a lot to ask if pressure to get deals done is of paramount importance. One East Coast transaction pro says, "There is possibly too much uneducated capital around, without sufficient understanding of the complexities of risk. In particular, the rush to Opportunity Zones is putting new types of capital into unfamiliar places." A Denver focus group participant agrees, "We see deals driven less by local buyers as by out-of-state or first-to-the-market acquirers."

At this point, the abundance of capital is a blessing and a curse. Excellent liquidity is letting the market function, and will continue to do so in 2020. However, as more of that capital comes without the sophistication to sort out opportunities and to price risk keenly, the presumption that such capital will remain available no matter what could lead to a bad end. There are "alternatives" and one of those is safer harbors, as the move of trillions of dollars to negative interest-rate instruments should suggest.

The "paradox of plenty" notes that places with abundant natural resources can experience negative knock-on effects as those resources are exploited. In past decades, super-abundant real estate capital—termed a "Niagara of Capital" some 15 years—contributed to the conditions so well described in *Emerging Trends 2006*. If that description also applies to the industry in 2020, this may give us some hints about what comes next, and ways to be prepared in the coming decade. Careful asset selection is at the heart of any strategy, and that means understanding choice among the full menu of alternatives, no matter what TINA may whisper in your ear.

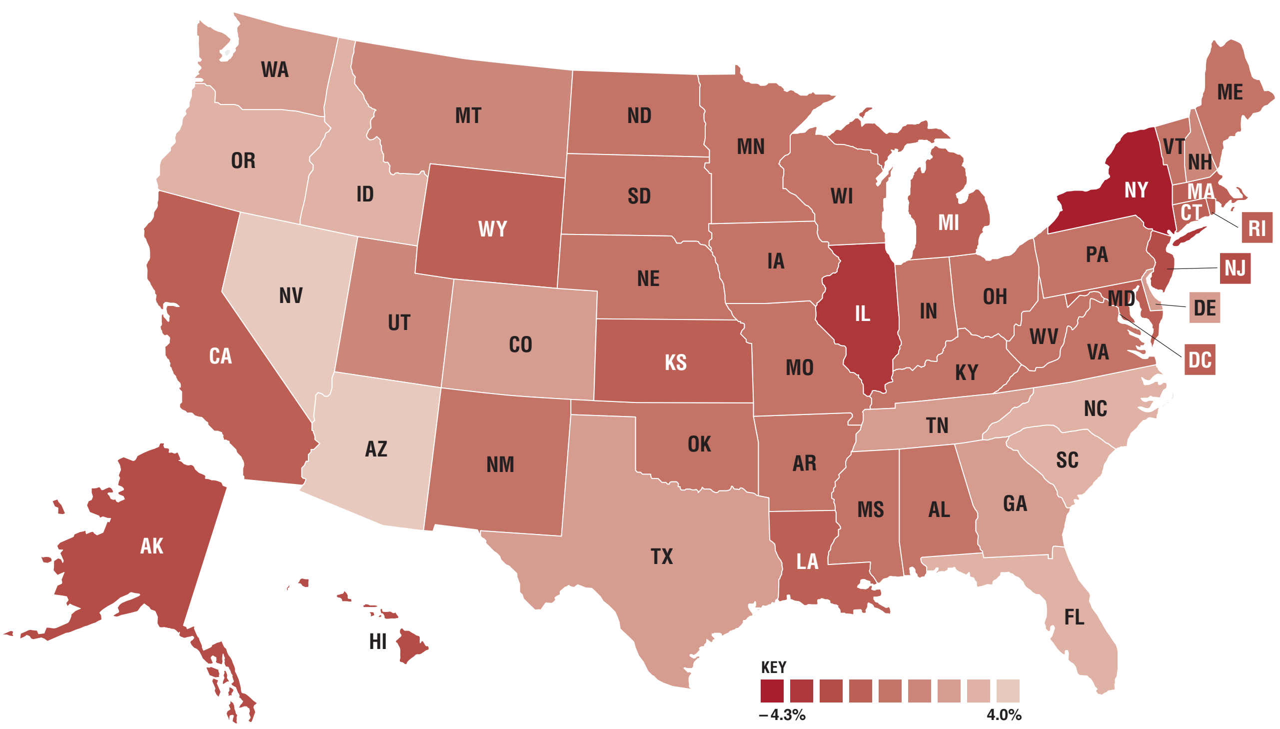
3. A New Menu for Markets

In a country as large and diverse as the United States, broad trends are filtered through the structures of local economies. Furthermore, in an age when granular data are increasingly available, investors, developers, and real estate service professionals are forming their judgments based upon awareness of such local distinctions. That is reflected in both the tight rating scores for a number of markets and, in some cases a difference between recent capital flows and survey ratings.

Specialization has become the hallmark of many professional fields, and real estate is no exception.

In the past, *Emerging Trends* has identified another form of specialization, stemming from the need for strategies addressing how to play offense and how to play defense on the playing field that stretches before us. One of our interviewees notes that attention should be paid to another key component of gameplanning: special teams, particularly, when playing among the broad array of markets.

Exhibit 1-11 **Projected State Net Migration Profile, 2019–2023**



Sources: U.S. Census Bureau, IHS Markit Forecast.
Note: For each state, the percentage is based on the five-year projected net migration as the share of 2018 total state population.

Often, the primary analytical matrix for sorting out market prospects can be arrayed in two dimensions: size and growth. This device has enjoyed success over the years not only because it is clear, evidence-based, and easy to explain to capital sources, but because it nicely aligns with the actual distribution of capital flows. This has worked well to date, but the competition to find investments that meet the return requirements of a growing investor pool has resulted in looking to new and more complex methods to find markets and property sectors that may fall outside the traditional size and growth metric. The top 10 markets (Austin, Raleigh/Durham, Nashville, Charlotte, Boston, Dallas/Fort Worth, Orlando, Atlanta, Los Angeles, and Seattle) are a mix of large and midsized metro areas. All are in the so-called Smile States (East and West Coast, linked by the Sun Belt). Markets rated 11 through 20 are more diverse, and include some largely suburban areas (Northern Virginia, Orange County), smaller metro areas (Charleston and Portland), the revitalized urban Brooklyn, and a Midwest favorite, Indianapolis.

Beyond the top 20, we find in chapter 2 capital magnets that punch above their weight in investment flows beyond their size or beyond the sentiment ratings of our survey. We examine other markets that are attracting investment in line with expectations as well as some stepping ahead of conventional opinion. Other markets may be well worth the deep dive necessary to discover some pearls of great value. Here's where those looking for possible yield enhancement in a low cap rate environment may find "Treasures Ripe for Discovery." In a "Potpourri of Thrifty Choices, Boutiques, and Special Situations" are some markets that might appeal to true contrarians and/or those with intimate local market knowledge that outsiders would usually overlook entirely.

"Special teams" also are in action across the range of property types, with senior housing and medical office deserving of attention, as detailed in chapter 3. And, in REITworld we see cell-tower and data center REITs climbing to the point where they are now four of the top 10 property trusts by public market cap. Such matters deserve their own discussion but should be mentioned in this look at market complexity.

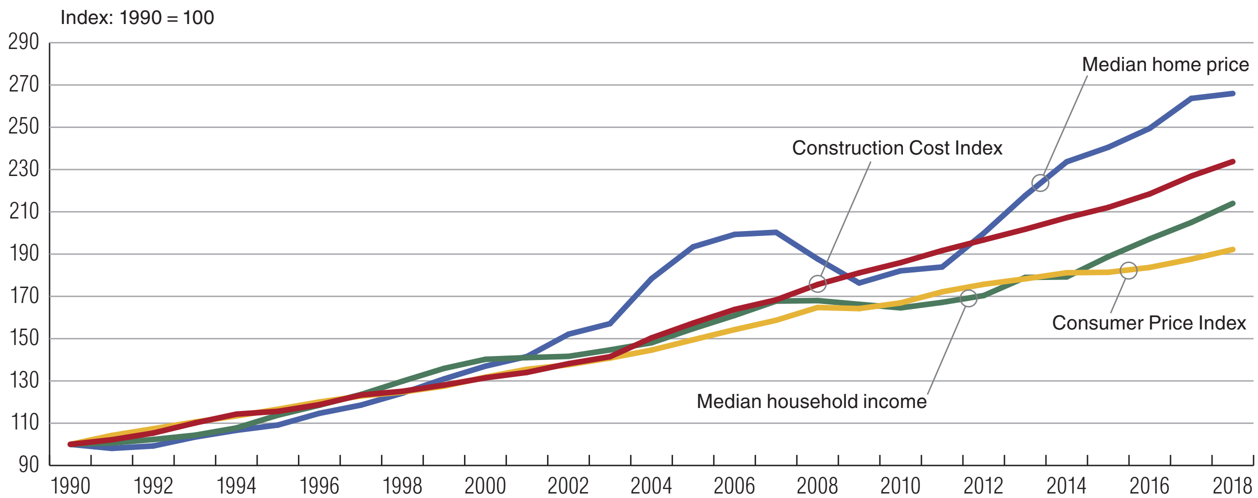
One underlying lesson is this: most economic reporting and most discussion of real estate markets focus on one statistical feature: central tendency, as measured by averages and medians. That makes for overreliance on a blunt instrument—as well as encouraging herd behavior. Much more important is the distribution of the data—the shape of the data curve, its tails, and where a market falls on that distribution. And, for analytical purposes, it is helpful to take an unconventional look at the way markets that are apparently dissimilar may have surprisingly similar characteristics.

4. Housing: The Great Unraveling

More and more, the condition of residential real estate is becoming "Home is where the heart is" versus "Love is a battlefield." Or, as one lender put it, "We are building 90 percent of our housing for 10 percent of our households." Whether we want to look at it or not, housing is a mess and getting worse—not better—over time.

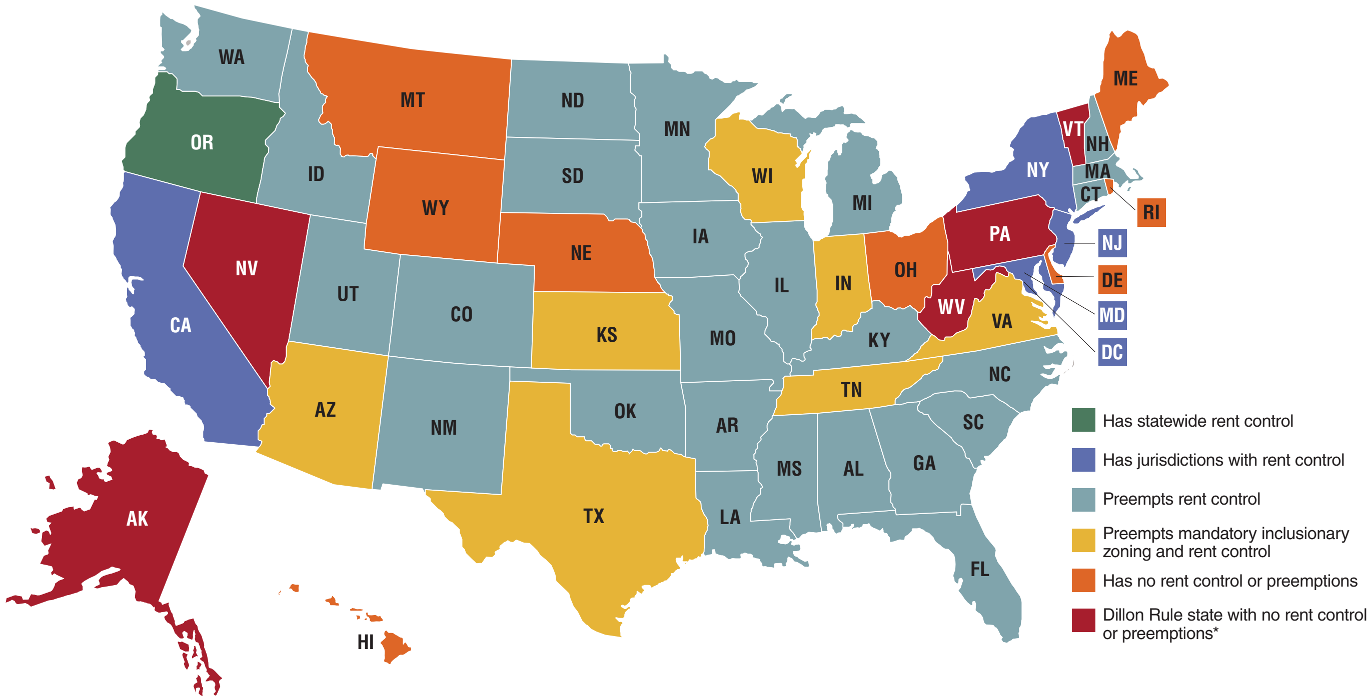
There are apparent winners and losers, to be sure. And if the survey scores compiled for the housing sectors (see chapter 3) are any indication, there is still a reservoir of optimism out there.

Exhibit 1-12 **The Great Unraveling in Housing**



Sources: *Engineering New Record*, U.S. Bureau of Labor Statistics, U.S. Census Bureau.

Exhibit 1-13 **Rent Control Status**



Source: National Multifamily Housing Council (NMHC).

*The Dillon rule specifies that municipal governments can pass ordinances only in areas where the state government has granted clear authority to do so.

But the signs of unraveling are there for anyone to see. The signs of a solution are not.

Optimists read the shifting toward multifamily housing as a positive sign for the apartment sector and are encouraged by the descent of the U.S. homeownership rate from nearly 69 percent a decade ago to the 63 to 64 percent range at present. This lower level has been the "floor" for homeownership since the 1960s, and some expect that this is a sign that things have "returned to normal"—especially with the recovery in single-family home pricing over the past seven or eight years.

But that price recovery has so far outstripped household incomes that affordability has reached the breaking point even in markets that previously boasted of the low cost of housing. Rental apartments, meanwhile, also are feeling the squeeze. *Emerging Trends* interviewees and focus group participants from across the United States almost universally are terming housing conditions as "challenging," noting that conditions are inhibiting employers who feel the pinch of inadequate workforce housing options.

The accompanying graph ("The Great Unraveling") displays the widening gap between median home prices and median household incomes. That is the demand-side pressure, a function not only of lagging incomes but also of income inequality. Certainly, high-cost markets such as D.C., Boston, Los Angeles, San Francisco, and San Jose cite affordability as a critical issue—and not just for lower-income households. The "missing middle"—medium-density housing filling a key market niche as well as the affordability gap—is a concern in those markets, as it is for San Diego and Jacksonville, as well as for Cleveland and Detroit. How unexpected is it to see comments like these?

- "Single-family for-sale housing has seen a decline due to cost." (Charlotte)
- "We are missing medium-density housing. The stock is not diverse enough." (Austin)
- "Single-family is flat and affordability a challenge. We see a voluntary inclusionary housing ordinance in Dallas and more single-family homes for rent." (North Texas)
- "We're missing affordable housing." (Huntsville, Alabama)

The same graph elucidates supply-side pressure: construction costs (labor and materials) accelerating well beyond the level of inflation and the increase in nominal incomes. Apartments, like ownership housing, are feeling the pinch. From Gainesville, we hear that "rising costs are causing projects not to pencil [out]." From San Diego: "Increased labor and material costs have outpaced rents." From Boston: "Rent growth is slowing—it is no longer great for landlords." From Indianapolis: "The heat has come off market-rate multifamily housing."

Some large employers are taking matters into their own hands. In a highly publicized move, Microsoft announced a three-year, $500 million investment to spur housing development across the Puget Sound markets. A 21 percent increase in jobs this decade had stressed a housing stock that had grown by only 13 percent, resulting in a massive rise in home prices and rents. The company's program contains components addressing low-income housing, middle-income housing, and programs for the homeless. Redmond, Kirkland, and Bellevue are pursuing a "cooperative strategy" with private firms, but Seattle has demurred under opposition from local community groups.

When conditions exacerbate housing affordability, some jurisdictions turn to rent control at a time when about half of American renters—over 21 million households—spend more than 30 percent of their income on housing. This has been the case in Oregon, which passed a statewide rent-control law early in 2019. The California legislature was grappling with proposals to cap rents under various formulas as it met during summer 2019. New York State, in June, expanded its rent protection laws just as they were about to expire. Politics? Sure. But the politics only arise as a result of the market conditions. (New York even has a party with the name "The Rent Is Too Damn High.")

Whatever the populism behind the politics, investors are taking note.

One opportunistic investor immediately reacted to the New York State legislation by withdrawing from multifamily acquisitions in Brooklyn, observing, "There is a new 'class' of legislators and other elected officials, elected by populists from both ends of the political spectrum. This can create bad policy and bad law." The head of investment sales for a major brokerage said, "Complex issues are more and more reduced to sound bites, and this potentially can lead to big mistakes in the rush to judgment." A sophisticated West Coast fund manager pointed out, "With effective demand constrained as rents hit a practical limit, rent control is now a national/international wave."

Most in the real estate industry regard rent regulation unfavorably. One major institutional investment manager takes a more tempered point of view, though. "Rent control may become more prominent and hurt upside return potential, but could also provide for more steady, reliable investments to emerge."

Renters are not simply looking to government for solutions, and probably do not have the time to wait for legislative edicts. Co-living is observably a more frequent phenomenon, as our focus group in Southwest Florida noted, saying that "this is starting to drift into adult living arrangements." There is even a pop-culture reference for this trend: the "Golden Girls" model. Several firms are promoting advantages beyond just costs—such as an increased experience of community, mutual decision-making, and even shared ownership.

If we are at a critical moment for housing, perhaps that is not entirely such a bad thing. After all, adaptation is the key survival skill in a world of Darwinian evolution. The real estate industry can be counted on to adapt, and the trend in housing is almost assuredly not the "same old" extension of the direction taken in the decade just past.

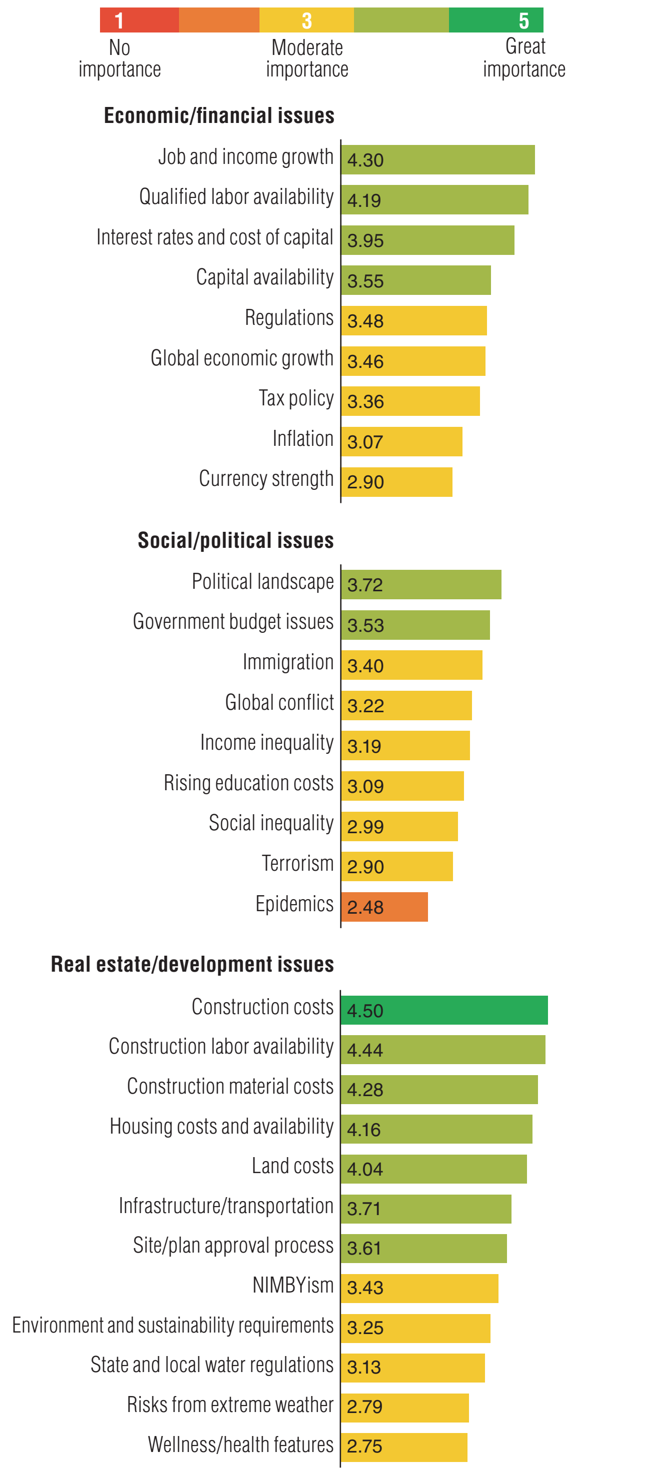
5. A Community State of Mind

About a century ago, the seminal sociologist Max Weber adopted two terms to distinguish broad categories of social organization. In his native German, those terms were *Gemeinschaft* and *Gesellschaft*. In the business world, the latter term is very familiar as a rough synonym for "the company" or "the business enterprise." Weber explained the term as connoting a relationship grounded in rational mutual agreements, epitomized by commercial contracts. *Gemeinschaft*, by contrast, is characterized by personal relations in an organic community.

The values (and emotional appeal) of "community" have long been part of the vocabulary of the real estate world, especially on the development side. We speak of community development and of "working with the community." The industry has built resort communities, retirement communities, and even "continuing-care communities." But, to be honest, most of these have been created on the model of *Gesellschaft*, with binding obligations, goals established in business plans, and metrics that treat individuals as customers or counter-parties subject more than as persons making up a community defined by relationships.

We may be about to see a shift of generational proportions toward a more *Gemeinschaft* array of real estate demands, ironically induced—at least partially—by technology. Overcoming isolation is becoming increasingly imperative, as seen in such

Exhibit 1-14 **Importance of Issues for Real Estate in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.

trends as coworking and co-living. Office design even within large organizations has gone beyond the eclipse of the individual (private) office and the blooming of common areas, to spaces that encourage serendipity even more than mere collaboration. The office spaces created specifically for the gig economy are even more designed to help this along, as they regard networking as an essential benefit for their users—and provide social as well as "productive" opportunities to help this along.

Co-living is appealing to those in their 20s and 30s, who can find some cost savings in the arrangement, but more importantly a group of peers sharing common interests, values, and concerns. As one of our interviewees put it, "This is really serious. These people are feeling a lot of stress. They're very concerned about climate change. They are very concerned about gun control. They are very concerned about economics." That may evolve over time. But is not just for the gen-Zers and millennials. "Golden Girl" arrangements are popping up more frequently, according to reports from the AARP, bringing cost benefits but also *Gemeinschaft*.

As "foodies" become more a feature of our society, it might be worth highlighting the growth of urban green markets, which now exceed 8,700, up from just 2,000 a quarter century ago. These are essentially "pop-up retail," as well as a powerful link of farm to city, much appreciated by locavores. Add to that the over 200 retail stores operated by food co-ops across the country, owned by 1.3 million "members" who operate the establishments and who not only create an "intentional community" but who also support ongoing educational outreach in their neighborhoods and who connect with local farmers.

This is just one example of what is being termed "collaborative consumption," a feature appealing specifically to millennials and generation Z. Such coordinated consumption seeks to create integrated platforms of products, services, and experiences. A noted consultancy labels this the effort of "communaholics" whose social media background persuades them that joint activity—even if organized over distance—can foment desired change when focused on a specific place. It is not hard to imagine that real estate's efforts at "placemaking" can gain energy from such a trend.

6. Hipsturbia

It hardly seems possible that it has been 25 years since *Emerging Trends* began to discuss the live/work/play environment under the rubric of the "24-hour city." But that is a fact. Cities and their suburbs have evolved tremendously since the mid-1990s, and the "proof of concept" of live/work/play has long since been established in the sociological sense of lifestyle preferences and has also been validated in terms of superior real estate investment returns.

Success has a way of spreading, and 24-hour downtowns have provided replicable models that many suburban communities are seeking to emulate. From dense northeastern cities like Philadelphia, to Sun Belt giants like Atlanta, to boutique markets like Charleston, our interviewees and focus groups have uncovered the desire of suburbs to create their own versions of the live/work/play district. There is a term of art being heard to capture this concept: *hipsturbia*.

Many of these "cool" suburbs are associated with metro areas having vibrant downtowns, illustrating the falsity of a dichotomy that pits central cities against ring communities. One of our Jacksonville, Florida, respondents noted, "You can't be a suburb of nowhere." Even in an enviably active small downtown, such as Charleston, South Carolina, our focus group related, "People want to work in a mixed-use environment," even as they seek more manageable housing costs than in the booming center of town.

Leading 24-hour cities like New York City, San Francisco, and Chicago anchor networks of communities that can be named "hipsturbias." Brooklyn might be the prototype, although it is now hard to remember how recently that borough transitioned from slipping to soaring. But now New Jersey communities including Hoboken, Maplewood, and Summit are on that rising trajectory—several of them well along the path. North of Manhattan, the same is true of Yonkers and New Rochelle. All have excellent transit access, strong walk scores, and an abundance of retail, restaurants, and recreation.

The communities dotting Silicon Valley, between San Francisco and San Jose, also have evolved along live/work/play lines. Santa Clara, California, has recently announced an ambitious plan to develop 240 acres with offices, hotels, serviced apartments, and residences, bound together by an open-space plan for active and passive recreation. Caltrain runs along the spine of Silicon Valley, and its stations anchor the towns that were once agricultural market hubs but are now tech-based communities. The presence of Stanford University is a massive contributor to a hipsturbia environment.

Northwestern University plays a similar role in Evanston, Illinois, as a constant supply of young adults is the lifeblood of hipsturbias. Rooftop bars, Lake Michigan beaches, downtown shopping, and access to and from the Chicago Loop via the Chicago Transit Authority's purple line help round out the elements of coolness in one of the Midwest's oldest suburbs.

That formula also applies in Tempe, Arizona, with local variations appropriate to the desert Southwest. The supply of young and hip people is assured by Arizona State University, transit access is facilitated by Valley Metro Rail, and Mill Avenue clusters coffee shops, sit-down restaurants, brew pubs, retail, and entertainment 24/7/365.

It was one of our focus group participants in Atlanta, in fact, who alerted us to the term *hipsturbia*, explaining that "suburbs are taking a chance on mixed-use, walkable, millennials-attracting development." Concentrating the talent pool of young workers is seen as a key to luring (or keeping) large employers in an era when downtowns are competing ever more effectively for businesses. Around Atlanta, communities such as Decatur and Alpharetta are bidding for a spot on "cool suburbs" maps.

As more and more suburbs—not all, but those with the right recipe—attract a critical mass of "hip" residents, their success will become increasingly visible. This will multiply the number of imitators, keeping the trend going. This, in part, will be the pragmatic answer to "will the millennials [and the following generations] follow the boomer generation's pattern of migrating to the suburbs?" The response is, "Some will, and some won't," and also "To some suburbs and not others." If the live/work/play formula could revive inner cities a quarter century ago, there is no reason to think that it won't work in suburbs with the right bones and the will to succeed.

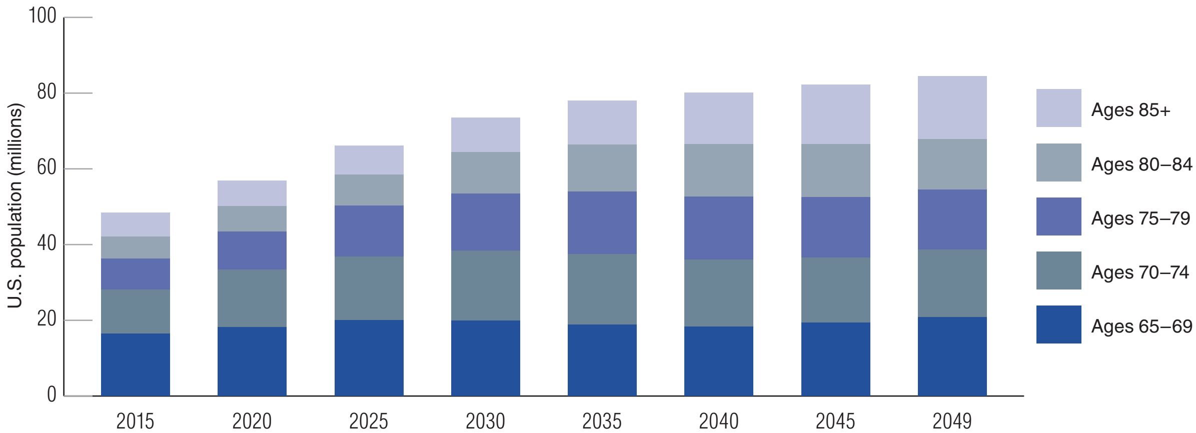
7. Boomers and Beyond: Let's Think This Through

At this point, hasn't everything that needs to be said about the baby boom generation been said? Haven't we already shifted focus not just to the millennials but to gen Z and whatever generation label is coming up after them? Shouldn't we just acknowledge the adage, "Youth must be served," and get on with it?

Point 1: Let's not be too hasty, and in our haste look past a trend that is right under our noses, one with real implications for society. Longevity is not only increasing, but advances in life sciences also are altering how Americans will likely spend their time as septuagenarians and octogenarians, beginning right now.

Point 2. Then we can mull over the implications of increasing longevity and quality of senior life for our industry beyond the 2020s. All generations are likely to make different decisions as

Exhibit 1-15 **Growth in Numbers of Older Americans**



Sources: U.S. Census Bureau; Moody's Analytics.

the span of life continues to increase, so real estate will have to be nimble.

On point 1: Life expectancy changes at a glacial pace, and so it often escapes notice in the short run. Over time, those changes can be dramatic. In 1950, just when the baby boom was gathering steam, the average life expectancy at birth was 68.2 years. Those born now have average life expectancy of 79 years. Moreover, today's 65-year-olds can expect to live, on average, until nearly 85.

Over the course of their lives, the boomers have seen the conventional post-retirement (i.e., after 65 years) period increase by 43 percent (from about 13 years to 20 years). This builds on an exceptional historical record, as life expectancy at birth has risen approximately 25 years during the past century.

There are solid indications that Americans will continue to live even longer lives as time goes on. For one thing, we need to play catch-up. Research by the Kaiser Family Foundation shows current U.S. life expectancy well below the average for comparable countries, lagging 11 other developed nations by 3.6 years.

Real progress in the life sciences is underway at research centers like the Cleveland Clinic. The object is not only to extend life, but also to improve overall quality of life for seniors well into their 80s and beyond. Too often, discussions simply stop at the counting-up-the-years stage. A more holistic look not only is needed, but also could be extremely instructive, especially if the scientific advances continue and benefit the whole sequence of generations, the millennials, gen Z, and beyond.

This brings us to point 2: An increase in the population of older Americans does not necessarily signal a higher "dependency ratio" and a presumed "generational burden." On the contrary, the scientific advances in medicine and in healthy lifestyles may have positive implications for seniors' income potential, yielding a boost in gross domestic product (GDP) from this population's productivity.

One of the nation's leading real estate researchers, when interviewed, urgently suggested greater attention to the subject of the social, economic, and real estate prospects as they flow from such trends. He notes, "The front edge of the baby boom is 72 years old, and people generally don't become consumers of seniors housing until they are 78 to 80. So, boomers are not going to get there for another six to eight years." What does this mean for the decade of the 2020s?

The span of this generation covers those born through 1964, meaning the last boomers will not turn 80 until 2044. Interviewees at a major life insurance company remarked that America's vibrant downtowns and "hipsturbia" towns stand to benefit, as does the multifamily rental sector generally. A researcher at a major pension fund felt that as the boomers in retirement downsize housing, this may represent an opportunity for new and high-quality manufactured housing.

The real estate implications run far beyond housing. Take the workplace, for example. Although the U.S. labor force participation rate for 25- to 64-year-olds has been down 2.9 percent since 2000, the rate for those 65 and over has increased 56 percent, with nearly one in five employed in what was considered the retirement cohort a couple of decades ago. Consider that the number of Americans between the ages of 65 and 80 is projected to grow from about 43.5 million to 53.5 million in the decade ahead, and then factor in a 20 percent labor force participation rate.

Certainly, some people's higher propensity to continue working is a function of a retirement savings shortfall exacerbated by the impact of the Great Recession. Many have never made up the erosion of their net worth, and continue to work out of necessity. But others work because they want to—and can. In an era with a risk of a sharp downturn in the supply of younger workers (and therefore demand for workplaces), boomers may mitigate the slowdown.

There may also be "addition by subtraction" on the GDP front. We spend roughly 18 percent of GDP on health care, according to the Center for Medicare and Medicaid Services. Bringing down the share of the economy spent on health care should improve the long-range GDP outlook. Redirecting our economic resources to more productive uses could mean better outcomes for the generations coming after the baby boomers, allowing them to see improvement in their future living standards, rather than the erosion now widely forecast.

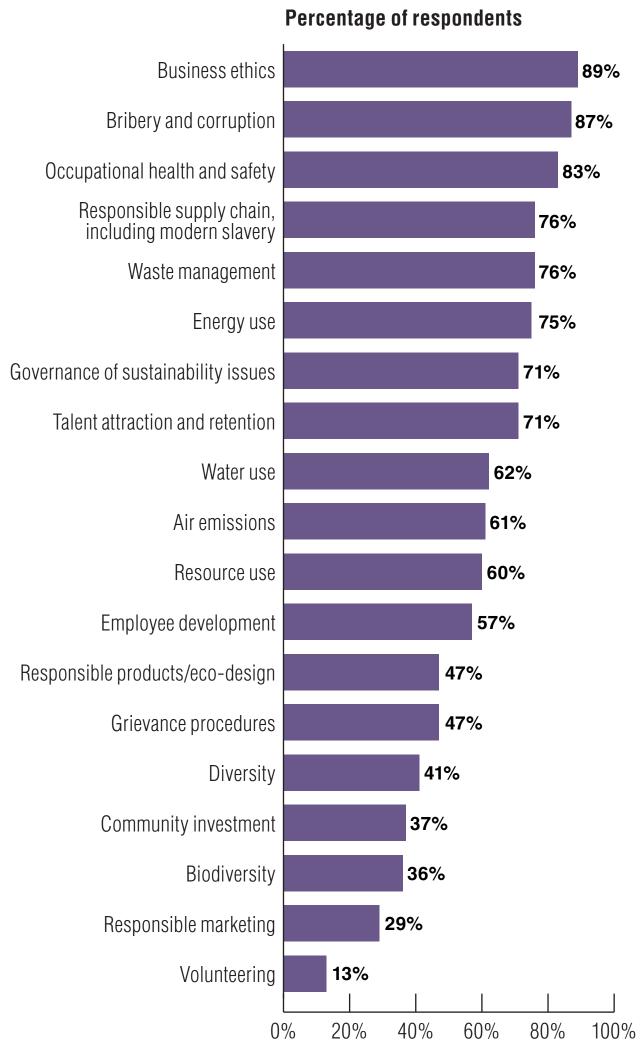
All in, what does it mean for real estate? "None of us really know," said our aforementioned prominent interviewee. "We need to put our minds to fresh thinking and need imagination to consider the real estate, social, and economic implications as succeeding generations have not only more years, but better years in which to live, work, and play." There is plenty of room for a productive dialogue between leaders in real estate and experts in the life sciences about a future that is already coming, but for which we may not be fully prepared.

8. ESG: A Sustainable Trend

Adam Smith famously observed in the second chapter of *The Wealth of Nations* (1776) that "it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest." Less well known is his earlier (1759) opening sentence in *The Theory of Moral Sentiments* (which should be read as an indispensable companion to *Wealth*): "How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it."

These propositions are often mistakenly juxtaposed as expressions of selfishness and altruism. They are not, and were not in Smith's own mind. They are complementary statements of

Exhibit 1-16 **ESG Issues Important to Private Equity Investment Decisions**



Source: "PwC PE Responsible Investment Survey 2019."

mutually reinforcing motivations: self-concern in the context of our communities. That complementarity undergirds the growing commitment to the tenets of ESG (environmental, social, and governance) principles among corporations generally, and in the real estate field in particular.

For those actually involved in the investment arena, the level of awareness of ESG is high—and is skewed generationally. Millennials drive ESG, according to a recent study, with 55 percent of them indicating that they factor ESG policies and performance into their investment decisions—a far greater percentage than for generation X (25 percent) and baby boomers

(11 percent). This suggests that the power of ESG to influence capital deployment will be rising over time, qualifying it as an emerging trend.

A large industrial REIT sees the capital markets and operations impacts as significant. "ESG attracts a more diverse set of investors, aids in recruiting talent, and helps generate community support for proposed projects," said one executive from this REIT.

A prominent real estate consultant in the institutional asset management world indicated that ESG monitoring as part of the acquisition due diligence process is associated with improved risk-adjusted returns. An executive for that consultant noted, "As ESG data is becoming more widely available, we're seeing clearer ties between ESG and overall performance." One Wall Street firm's studies place that performance premium between 10 percent and 40 percent in the private real estate sector.

An office REIT has specifically used the investment community's interest in ESG to issue $1 billion in "green bonds" in late 2018, and has followed this up with a similar offering for $850 million in such bonds in mid-2019. (Green bonds are designated bonds intended to encourage sustainability, especially projects aimed at energy efficiency, clean transportation, sustainable water management, and the cultivation of environmentally friendly technologies.) An executive with that REIT said, "Environmental, social, and governance performance indicators are increasingly important to our customers, employees, shareholders, and the communities we serve."

Executing on the Promise of O-Zones

It has been more than 18 months since passage of the 2017 Tax Cuts and Jobs Act and the launch of Opportunity Zones.

Under the Opportunity Zone legislation, there are three separate tax benefits. Individual and corporate investors may defer capital gains tax until 2026 if those gains are reinvested into new construction or major rehabilitation of projects in economically depressed areas via Qualified Opportunity Funds (QOFs). If held for five years, the original amount of capital gains tax due is reduced by 10 percent; if held for seven years, it is reduced by 15 percent. If the investment is held for at least 10 years, gains on the invested amount accrue tax-free. At least 90 percent of the opportunity fund assets must be invested in qualified opportunity zones (QOZs).

Key to the intent of the legislation is that the zones, designated by each state governor, were designed to spur economic development and job creation in economically distressed areas. According to the Economic Innovation Group, about 10 percent of the U.S. population, or 31.3 million people across every state, the District of Columbia, and Puerto Rico, live in QOZs. The zones have an average poverty rate of nearly 31 percent, almost double the national average; and 56 percent of residents are people of color. Three-quarters of zones are in urban areas, and 25 percent in rural communities.

Where OZs Stand in 2019

What has become strikingly clear is that while the potential is extraordinary, implementation remains murky. As of early August 2019, the U.S. Department of Treasury is still formalizing rules and policies to give investors clarity and confidence. The Internal Revenue Service has released two sets of proposed regulations. The first, in October 2018, dealt principally with real estate investment. The second, in April 2019, clarified a number of issues primarily related to operating businesses. More is still to come, with the next set reportedly focusing on impact metrics.

Some of the key real estate clarifications in the second round of guidance include the following:

- The initial regulations provided a 31-month working capital safe harbor as long as the funds are to be used to acquire, construct, or substantially improve tangible property and there is a written plan of deployment—a nod to the realities of a real estate development process. The April guidance further makes an exemption that allows extension beyond 31 months if the delay is attributable to waiting for government action (such as permitting) as long as application documents have been submitted.
- Leased property qualifies as long as "substantially all" of the property is used for QOZ purposes for "substantially all" of the lease term.
- The tax benefit is linked to the duration of the taxpayer's investment in the QOF, not the duration of the QOF's investment in a specific asset or business.

With very limited exceptions (e.g., banks, including community development financial institutions [CDFIs]), almost

As greater attention is devoted to ESG, in real estate as elsewhere, sustainability evaluation is becoming a checklist item for institutional investors domestically and worldwide. An *Emerging Trends* interviewee at a major financial institution cites a brokerage study counting 4,700 office buildings in the 30 largest U.S. markets having earned "green" certification, 41 percent of the total in these markets. ESG has become a "market standard" for investment benchmarking. Moreover, it is top of mind for leading architects and designers, and thus will be shaping new development for the foreseeable future.

Climate change, the #MeToo movement, public attention to ethics issues in both the business and political spheres, concerns for health and well-being, and many other issues fall under the aegis of ESG concerns. Given real estate's enormous environmental and social footprint, attention to trends in this area will assuredly grow in the decade ahead.

9. March of Technology: The What and When of Disruption

As humans, we have some evolutionary advantages in binocular vision and stereophonic hearing. With these physical characteristics, we are better connected to the world around us, enjoying depth perception to navigate through a three-dimensional world and a sense of where we stand in an aural environment by filtering signals from noise and interpreting communication with greater quality. It is more than one plus one equals two.

If that observation fits for individual human beings, it is even more true for groups. As Kevin Kelly, one of the founders of

anyone (individuals, corporations, trusts, and so on) can set up their own Qualified Opportunity Zone Fund, invest for their own account, and defer capital gains. Capital gains must be invested into a Qualified Opportunity Zone Fund within 180 days of gain recognition.

OZs' Intent versus Potential

Outside of funds set up for individual projects, numerous multi-investor, multiasset funds have been created, structured to ensure that the investors can take full advantage of the tax benefits. Capital deployment in these multiasset funds remains spotty due to timing challenges and the availability of readily investable assets. Investments to date have primarily circled around previously vetted single-asset transactions.

Over time, we hope to see long-term investment in jobs, businesses, and assets in distressed and underserved communities that enhance the very fabric of these neighborhoods. Done well, this kind of investment will support communities already in positive transition and gives rise to great promise and a more flexible approach for under-resourced ones. The QOZ tax benefits essentially provide for a buydown in the cost of capital. This can propel transactions on the margin over the finish line and expedite good deals already in process.

Some cities and states are co-investing to spur private-sector development and business relocation; others are layering financial and/or development incentives on top as a carrot. In Mississippi, housing projects proposed in Opportunity Zones are receiving additional points on their low-income housing tax credit applications. Maryland and Ohio, among others, have instituted state tax credits for investments in QOZ projects and businesses. In many areas, both private- and public-sector entities are taking the lead. For example, through Louisville Forward, the city and local economic development agency have created programs to proactively reach out to investors and highlight opportunities for development. In Fargo, North Dakota, and Erie, Pennsylvania, local private-sector business and community members have created their own Opportunity Funds to funnel capital into redevelopment of QOZ areas. In Erie, private leadership led by Erie Insurance and other businesses with capital gains have raised in excess of $40 million for an Opportunity Zone Fund focused on local investments.

With limited guardrails, outcomes will be driven by community engagement and investors' choices within the context of OZ regulations, and investors' ability to meet the dual objectives of impact and return will require opportunities, disciplined investing, and understanding of community desires and interests.

It is important to note that the legislation, as currently written, sunsets without a provision for renewal. Unless this changes, there is a limited time period—maybe five years—to prove that Opportunity Zones produce the outcomes that communities and investors expect.

—HaydenTanner

Exhibit 1-17 **Internet of Things Applications Dependent on the Adoption of 5G**

Market	5G-enabled uses	Essential requirements
Automotive	Self-driving cars Vehicle-to-infrastructure communication Vehicle infotainment applications	Long-range transmission High bandwidth Low latency Quality of service
Industrial manufacturing	Mission-critical factory automation Remote supervision and control of machines Manufacturing process automation	Low latency Long battery life Quality of service
Health care	Remote robotic telesurgery Remote patient monitoring Medical treatment aided by augmented reality	Long-range transmission Low latency Quality of service
Media and entertainment	Ultra-high-definition video (4K/8K) Immersive media applications Augmented reality/virtual reality gaming	High bandwidth Low latency Quality of service
Smart cities and utilities	Smart buildings Smart transportation Smart meter monitoring	Bandwidth consumption Long battery life

Source: PwC.

Wired magazine, put it in his book, *What Technology Wants*, "That is the whole point of social organization—the sum outperforms the parts. That is the emergent power that technology nurtures."

Real estate is manifestly advancing along a steep technological curve. Our discussions with industry professionals seem to indicate that—at one and the same time—technological change is underestimated and yet overhyped. The property sector is considered a relatively slow adopter of emerging technologies, and nevertheless prone to consider the threshold to the "brave new world" no more than a short step away.

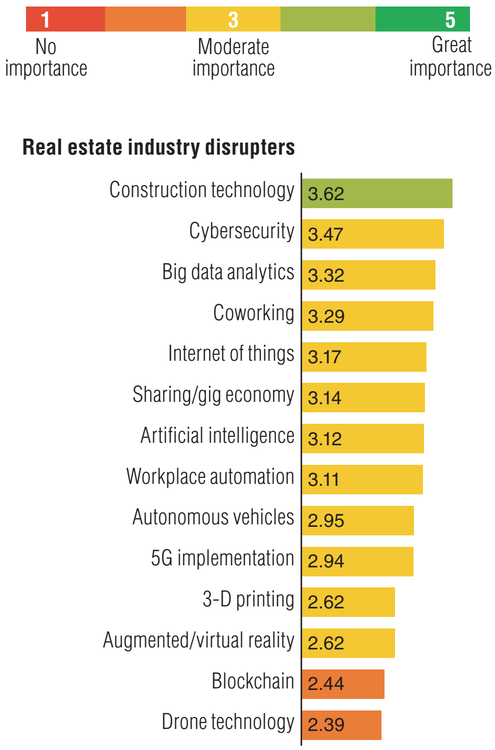
From its evangelists, we hear of wholesale technological disruption of the real estate economy. E-commerce has just begun the "death of retail stores." Blockchain will render entire segments of the real estate service sector obsolete. Artificial intelligence will, faster than we realize, replace millions of jobs as it transforms the nature of work.

Other tech-oriented real estate professionals demur. "You want to be in a job that can't be coded away," one says. "Human judgment and human touch are the keys to future job security since they can't be routinized." Although change is unquestionably accelerating, as seen by the speed with which the internet propagated versus earlier technologies like the telephone and television, the basic functions of society and commerce still must be accommodated. Such executives say that we should be wary of announcements that one or another property type is surely going to disappear. Who would have anticipated, at the turn of the millennium, that multistory urban industrial properties would become a key element in "last mile" logistic chains?

Some things are safe to say. Technology is having an impact on all property types, most obviously in retail and industrial assets. Property managers and asset managers are leaning into technical solutions for productivity enhancements and operational efficiency. They are digitizing as much information as possible, so that analytics can be applied and data shared throughout the organization. Decisions not only need to be right, they also need to be timely—and that means fast. Cloud-based data management systems are still required to interface with "humint," as the intelligence services term their own professional cadre. For many managers, that means developing and deploying "dashboards" that synthesize data streams for executive use.

Another safe observation is that space users and capital sources will demonstrate increasingly demanding expectations for technological sophistication. One property technology ("proptech") executive stressed her experience in the multifamily sector. As deliveries to the front lobby have picked up speed, residents expect package handling to be flawless. "Tech without the mystery" will only become more important over time. Voice-activated technologies will penetrate everywhere, as natural language control extends to more of the internet of things (IoT).

Exhibit 1-18 **Importance of Disrupters for Real Estate in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.

Even with the periodic uproar over data breaches, it is apparent that the public's expectations of privacy are being steadily eroded. Even though specific technologies like facial recognition are feeling some pushback (even in a public safety context), few anticipate that any developed technology will be put back on the shelf once it has been deployed. Sensors—whether motion activated, voice activated, temperature activated, or weight activated—are now part of the landscape, and will become more ubiquitous over time.

Awareness of cybercrime also is on the rise, and businesses—real estate not excluded—will be considered liable if the victim of a cyberattack can allege negligence. There are many IoT "back doors" to be secured. Here is another place where the human factor has interplay with technology. One interviewee, when queried about cybersecurity concerns, acknowledged that his firm had been subject to a Bitcoin ransomware demand. When he quietly shared his story with business peers, many confirmed that they, too, had similar experiences. But none wanted to let the word get out, as a matter of reputational protection. This suggests that the problem is even more widespread than typically believed.

All of this is about to become exponentially greater as 5G technology spreads. This will be the backbone that brings into common use technologies like autonomous trucking and advanced imaging for remote surgical interventions. That technology requires enormous capital investment, cell tower density that could require 400 times the number of current relays. No wonder cell tower REITs are soaring! For competitive reasons, governments and multinational corporations are going to need to do business in cities and in buildings where 5G is available first. But it will not be cheap.

Welcome to the future, where trends will emerge each and every day. But, as one construction executive put it, we still need to "give due attention to the big question about how real estate functions in the future economy and in the society we want to build."

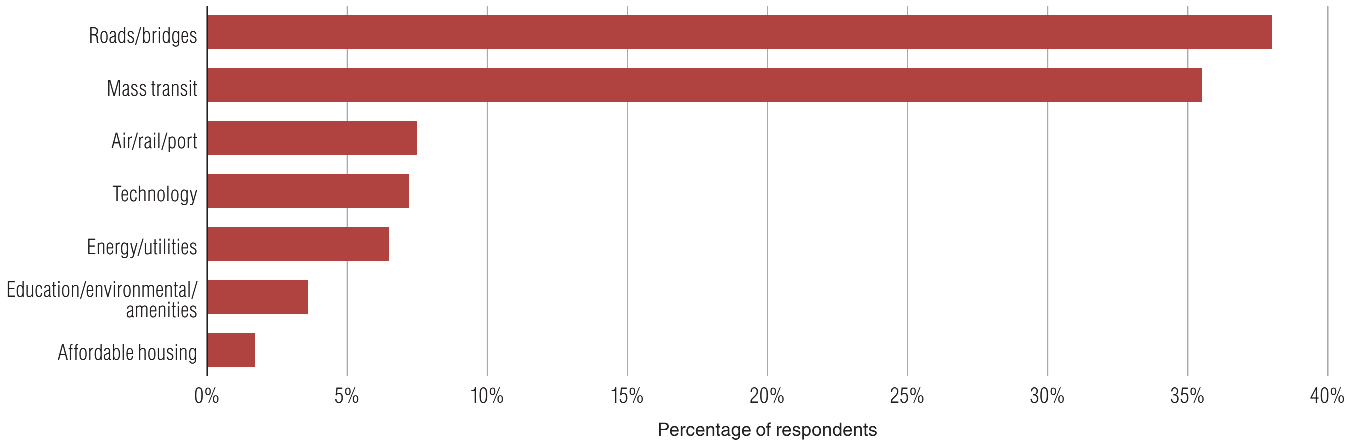
10. Infrastructure: Washington Fumbles; States and Cities Pick Up the Ball

As if the world needed any reminders, the dysfunction in national government was put on public view in spring 2019. On April 30, congressional leaders emerged from a meeting at the White House with an apparent agreement to move forward with $2 trillion in infrastructure investment. A huge number, indeed, but less than half of what the American Society of Civil Engineers estimates is needed to repair and modernize the U.S. system of roads, bridges and tunnels, transit, seaports, airports, levees, dams, power transmission and generation, wastewater, and other physical facilities. Less than a month later, the agreement was off the table as a bargaining chip in an unrelated policy debate.

It is not as though there is not sufficient awareness of the urgency of the problem. "We need to address these challenges because our nation's prosperity, public safety, and public infrastructure have never been more intertwined," said Elaine Chao, secretary of transportation in February. "Infrastructure is among the two or three big policy matters upon which leaders from both parties can agree," she has noted. The American Society of Civil Engineers' calculation of the scale of necessary work exceeds $4.5 trillion, within a time frame extended until 2025. And yet the federal government dithers.

Perhaps our attention is somewhat misdirected. Three-quarters of all infrastructure investments occur at the state and local levels funded by a combination of resources, only some of which are dependent upon federal funding. State and local

Exhibit 1-19 **Infrastructure Expected to Have Greatest Impact on Real Estate**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

government spending on construction is running at about $281 billion as of May 2019. By comparison, federal construction on infrastructure systems was just $11 billion in May, at an annualized rate.

In the long run, decaying infrastructure is a national problem needing a national solution. However, the trend in the meantime will likely be more influenced by action at the state and local levels. Here are some examples of actions shaping that trend.

- Pittsburgh has transformed its procurement and permitting process, via its Beacon website, with an eye toward a long-term plan for the city's assets, including its 138 bridges. Its strategic approach includes joining the 100 Resilient Cities network to prepare for the challenges of climate change, urbanization, and global competition.
- Over the past 11 years, D.C. Water has tripled its investment in clean water and power, obtaining patents for improved treatment technologies, and issued (in 2014) the nation's first 100-year bond for green infrastructure.
- Los Angeles has $15 billion in capital projects, with funding supported by a half-cent sales tax passed in 2016. That tax is projected to stimulate $133 billion in economic development over the coming decades, and claims to represent the largest public works program in North America.
- New York City operates an "anaerobic digestion" wastewater treatment plant that "eats" the organic materials in sludge and converts methane into renewable natural gas and biofuels. The digester "eggs" are 21st-century upgrades to a site on Newtown Creek that has been in operation for 50 years. Rather than hiding this infrastructure, New York provides special lighting during the evening, a nature walk, and visitor exhibit at the perimeter of the facility.
- Smaller cities like Spokane, Washington, and New Bedford, Massachusetts, are working on smart-city infrastructure and alternative energy resources. Spokane has invested in bridge and roadway improvements, including signalization, pedestrian, and bikeway enhancements, especially in its University District. Meanwhile, New Bedford has drawn national attention for the use of the internet of things in its water management.
- New York State has committed nearly $30 billion in each of two transportation sectors (roads and bridges; mass transit) while also funding $2.5 billion in water systems since 2017, and $1 billion in broadband infrastructure, with the fully funded $225 million third phase bringing high-speed internet to largely rural upstate communities.

Real estate professionals unwilling or unable to wait for a serious federal plan to address America's urgent infrastructure needs can look to those localities that are already committing to a better foundation for economic growth, efficiency, and sustainable systems for employers, workers, and the citizenry.

Markets to Watch

"Right now, the real estate markets are positive. Cities that have invested in significant infrastructure can move the needle in terms of returns."

Conventional divisions often structure discussions into categories that are familiar, but arbitrary. In so doing, they encourage us to keep analysis within boundaries that are expected and easiest to work with. There are many such divisions: Sun Belt versus Frost Belt; gateway cities versus secondary and tertiary markets; strong core areas versus sprawling metro areas. One of the most convenient and most frequently used organizing schemes is that of broad geographic regions, such as the U.S. Census Bureau's seven regions: New England, the Midwest, the Rocky Mountain states, and so on. However, data sometimes do not respect such clean-cut boundaries. This year, in our exploration of markets, we attempt to suss out attitudes and behaviors in the real estate industry by allowing the data to speak across boundaries—by the way *Emerging Trends* survey respondents sort out the prospects for markets on a national basis, by the way investors actually are allocating their transactions place by place, and by the way the flow of people is shaping up in the present decade. Perhaps, more than the traditional divisions, this may help us understand how capital flows are influenced, how real estate values are supported, and how trends are emerging for the decade to come.

Thus, we present six unconventional groupings of markets. The first is obvious: those that received the highest scores for overall investment and development prospects in our annual survey. But the others cluster markets according to relationships between the overall prospect scores and other rankings, such as investment flows or population size and growth rates. For each grouping, a brief explanation of common characteristics linking the markets is offered. We hope this approach contains some surprises that stimulate a fresh look at the 80 markets we review.

The categories:

- Top 20 Markets by Overall Prospects
- Major Capital Magnets
- Stalwarts, Surprises, and Determined Competitors
- Markets Aligning with Expectations
- Treasures Ripe for Discovery?
- Potpourri: Thrifty Choices, Boutiques, and Special Situations

Top 20 Markets for 2020: A Tight Race toward the Top

Ranking may seem as easy as one, two, three. However, we find scores reflecting the overall prospects markets in this year's survey so closely clustered that is hard to make the case that there is a material difference between numbers one, two, three… and onward. That is not to say that markets are not qualitatively distinct from each other in size, growth, structure, geography, local culture, and recent success. Disparate cities as Boston and Charlotte, or the trio of Dallas, Orlando, and Los Angeles, are separated by such thin margins in their quantitative scoring that they appear virtually identical in our survey results. It is for this reason that we convene panels of local experts in ULI district council focus groups to provide perspectives and specific insights to supplement the numbers.

For the purposes of this discussion, our sorting out will primarily refer to the overall real estate prospects displayed in exhibit 2-1. This ordinal ranking employs the average of scores awarded by all *Emerging Trends* survey participants. In exhibits 2-3 and

U.S. Markets to Watch

Exhibit 2-1 **Overall Real Estate Prospects**

1	Austin
2	Raleigh/Durham
3	Nashville
4	Charlotte
5	Boston
6	Dallas/Fort Worth
7	Orlando
8	Atlanta
9	Los Angeles
10	Seattle
11	Tampa/St. Petersburg
12	San Francisco
13	San Jose
14	Washington, DC–Northern VA
15	New York–Brooklyn
16	Indianapolis
17	Denver
18	Orange County
19	Charleston
20	Portland, OR
21	Miami
22	Salt Lake City
23	Jacksonville
24	San Antonio
25	Philadelphia
26	San Diego
27	Columbus
28	Washington, DC–District
29	Fort Lauderdale
30	Oakland/East Bay
31	Phoenix
32	Jersey City
33	West Palm Beach
34	Washington, DC–MD suburbs
35	Minneapolis/St. Paul
36	Louisville
37	Inland Empire
38	Pittsburgh
39	New York–other boroughs
40	New York–Manhattan
41	Cincinnati
42	Houston
43	Boise
44	Greenville, SC
45	Cape Coral/Fort Myers/Naples
46	Las Vegas
47	Kansas City, MO
48	Chicago
49	Richmond
50	Chattanooga
51	Honolulu
52	Sacramento
53	Madison
54	Oklahoma City
55	Northern New Jersey
56	Knoxville
57	Long Island
58	Des Moines
59	Tacoma
60	St. Louis
61	Spokane, WA/Coeur d'Alene, ID
62	Birmingham
63	Cleveland
64	Albuquerque
65	Tallahassee
66	Milwaukee
67	Portland, ME
68	Omaha
69	Tucson
70	Daytona Beach/Deltona
71	Virginia Beach/Norfolk
72	Gainesville
73	Westchester, NY/Fairfield, CT
74	Baltimore
75	Detroit
76	Memphis
77	New Orleans
78	Providence
78	Hartford
80	Buffalo

Source: *Emerging Trends in Real Estate 2020* survey.

Exhibit 2-2 **Homebuilding Prospects**

1	Raleigh/Durham
2	Charlotte
3	Houston
4	Nashville
5	Salt Lake City
6	Austin
7	Phoenix
8	Cape Coral/Fort Myers/Naples
9	Dallas/Fort Worth
10	Tampa/St. Petersburg
11	Oakland/East Bay
12	Jacksonville
13	San Antonio
14	San Jose
15	Washington, DC–Northern VA
16	Portland, OR
17	Orlando
18	Tucson
19	Las Vegas
20	Indianapolis
21	Charleston
22	Sacramento
23	Boise
24	Tacoma
25	Washington, DC–MD suburbs
26	Fort Lauderdale
27	Denver
28	San Francisco
29	San Diego
30	Atlanta
31	Seattle
32	Minneapolis
33	Virginia Beach/Norfolk
34	Madison
35	Orange County
36	Spokane, WA/Coeur d'Alene, ID
37	Knoxville
38	Washington, DC–District
39	West Palm Beach
40	Boston
41	Chattanooga
42	Los Angeles
43	Honolulu
44	Columbus
45	Richmond
46	Greenville, SC
47	Louisville
48	Inland Empire
49	Albuquerque
50	Miami
51	Daytona Beach/Deltona
52	St. Louis
53	Milwaukee
53	Oklahoma City
55	Tallahassee
56	Birmingham
57	Pittsburgh
58	New Orleans
59	Philadelphia
59	Kansas City, MO
61	Portland, ME
62	Omaha
63	Gainesville
64	Des Moines
65	Cleveland
66	Cincinnati
67	New York–Brooklyn
68	Detroit
69	New York–other boroughs
70	Westchester, NY/Fairfield, CT
71	Baltimore
72	Memphis
73	Chicago
74	Jersey City
74	Long Island
76	New York–Manhattan
76	Northern New Jersey
78	Providence
79	Buffalo
80	Hartford

Source: *Emerging Trends in Real Estate 2020* survey.

Key: More than 1 standard deviation above mean | +/– 1 standard deviation of mean | More than 1 standard deviation below mean

Mean

2-4, we report local market respondents' particular expectations of local and outside investor demand in 2020 and their assessment of development/redevelopment opportunities.

The top 10 cities show a strong representation of midsized markets. Austin, Raleigh/Durham, Nashville, Charlotte, and Orlando, ranging in size from 1.9 million to 2.6 million in population, are among the highest in projected population growth and net migration. Larger metropolitan statistical areas (MSAs) like Dallas and Atlanta also rate highly in anticipated growth. In contrast are Boston and Los Angeles, major metro areas with comparatively slow population expansion but whose vibrancy and critical mass generate potent energy for their substantial real estate markets.

Markets rated in the top 10 have consistently attracted investor capital. From 2016 to 2018, these markets collectively account for 25.8 percent of total transaction volume; and during the first half of 2019, they kept pace with 26.0 percent of aggregate investment.

Half of the markets in the next 10 places (i.e., numbers 11 through 20) are components of larger metro areas—San Francisco, San Jose, Northern Virginia, Brooklyn, and Orange County, California—providing evidence that often the whole is more than the sum of its parts. (As a thought experiment, imagine transplanting any of these into the cornfields of the Midwest as standalone economic entities. The economies of location and economic agglomeration continue to be potent.) The other markets in this group tend to be midsized to slightly larger in size with solid growth expectations. Charleston is the exception with population under 1 million, but its historic flavor and economic role as an international gateway to South Carolina's blossoming and increasingly globalized economy place it on the industry's radar screen.

From 2016 to 2018, this second group of 10 markets together account for 14.6 percent of total transaction volume, which remained stable to slightly higher in the first half of 2019 at 15.3 percent.

Top 10

Austin is number one, rising from sixth place a year ago to first in overall real estate prospects and from fourth to first place in local expectation of investor demand in 2020. In identifying Austin as a top-tier 18-hour city several years ago, our analysis considered many salient features: its slogan ("Keep Austin Weird"), deep pool of talent, unique and popular lifestyle, and ambitious commitment to business and real estate expansion. These persist but are being challenged by the city's own success. Traffic is an ongoing issue. Housing affordability pressures are rising.

These could be exacerbated since Austin has the highest projected population growth rate for the coming five years among the 80 markets we analyze. Development is booming and the landscape studded with impactful projects: Apple is building a $1 billion North Austin campus; a multideveloper transit-oriented development is underway near downtown on Lady Bird Lake; the new Dell Medical School recently opened at the University of Texas; and a major airport expansion is underway. Capital is abundantly directed toward Austin—so much so that some locals wonder about the underwriting assumptions of outside investors. Transaction activity in Austin is above what it you would expect from a market of its size, and 2019's early results are above the three-year historical average. Our survey respondents rate Austin a solid "buy" for industrial, offices, and apartments for the coming year.

A confluence of factors has elevated markets in the Southeast region, led by **Raleigh/Durham**, **Nashville**, **Charlotte**, **Orlando**, and **Atlanta**. All except Atlanta were in the top 10 a year ago, when Atlanta ranked number 11. Demography, both recent and anticipated metro-area growth, is the driver by and large, buttressed by the regional reputation for business-friendliness and relatively low costs and taxes. Interviewees—both within the region and beyond—anticipate strong population inflows over time as the state and local taxes (SALT) provisions of the 2017 Tax Cuts and Jobs Act prompt outmigration from more costly states. Florida is ranked at the top for tax advantage, according to a 2019 Tax Foundation analysis, with Tennessee a strong number eight and North Carolina number 16.

Raleigh/Durham, ranked number two overall, has been seeing impressive investment in its suburban office and multifamily sectors. Moreover, this metro market topped the rankings for homebuilding prospects. This market's concentration of educational institutions—Duke University, the University of North Carolina, North Carolina State University, and several smaller colleges—coupled with the Research Triangle Park, has branded the area as a technology mecca, and it now has more than 89,000 tech jobs, which, at 10.9 percent of the employment base, ranks third behind Silicon Valley and San Francisco in tech industry share, according to a recent *Tech Cities* report. Our national "buy/hold/sell" (BHS) survey ratifies the optimism, particularly for offices and multifamily assets.

Nashville, considered a leading 18-hour city, moved up to number three overall in real estate prospects from fifth place a year ago, although it slipped from first to fourth place in the homebuilding outlook. The local mood is ebullient, with expectations strong for continued investment and development. News on the corporate

Exhibit 2-3 **Local Market Perspective: Investor Demand**

Weak | | Average | | Strong

Austin	4.69	Sacramento	3.64
Boston	4.61	Columbus	3.60
Nashville	4.54	Houston	3.59
Seattle	4.49	Northern New Jersey	3.57
San Francisco	4.41	Chicago	3.54
Dallas/Fort Worth	4.40	Greenville, SC	3.54
New York–Brooklyn	4.40	San Antonio	3.52
Los Angeles	4.39	Jacksonville	3.50
San Jose	4.38	Tacoma	3.46
Atlanta	4.36	Madison	3.43
Charlotte	4.33	Long Island	3.39
Raleigh/Durham	4.33	Spokane, WA/Coeur d'Alene, ID	3.38
Denver	4.32	Pittsburgh	3.35
Portland, OR	4.30	Cincinnati	3.33
New York–Manhattan	4.25	Westchester, NY/Fairfield, CT	3.33
Orange County	4.24	Des Moines	3.31
Orlando	4.20	Richmond	3.29
Miami	4.13	Louisville	3.28
Washington, DC–Northern VA	4.06	Tallahassee	3.23
Phoenix	4.05	Gainesville	3.21
Washington, DC–District	4.05	Omaha	3.18
San Diego	4.03	Oklahoma City	3.17
Oakland/East Bay	4.00	Chattanooga	3.13
Salt Lake City	4.00	Daytona Beach/Deltona	3.13
Charleston	3.97	Knoxville	3.10
Tampa/St. Petersburg	3.97	Virginia Beach/Norfolk	3.08
Fort Lauderdale	3.93	Milwaukee	3.06
Inland Empire	3.93	New Orleans	3.00
Minneapolis	3.89	Portland, ME	3.00
Indianapolis	3.88	Detroit	2.95
Honolulu	3.80	Cleveland	2.94
New York–other boroughs	3.80	Albuquerque	2.93
Washington, DC–MD suburbs	3.77	Memphis	2.92
Jersey City	3.75	Tucson	2.90
West Palm Beach	3.73	Baltimore	2.73
Las Vegas	3.71	Birmingham	2.72
Boise	3.70	St. Louis	2.68
Philadelphia	3.70	Providence	2.62
Cape Coral/Fort Myers/Naples	3.69	Hartford	2.38
Kansas City, MO	3.65	Buffalo	2.14

Source: *Emerging Trends in Real Estate 2020* survey.
Note: Ratings reflect perspective of local market participants.

Exhibit 2-4 **Local Market Perspective: Development/ Redevelopment Opportunities**

Weak | | Average | | Strong

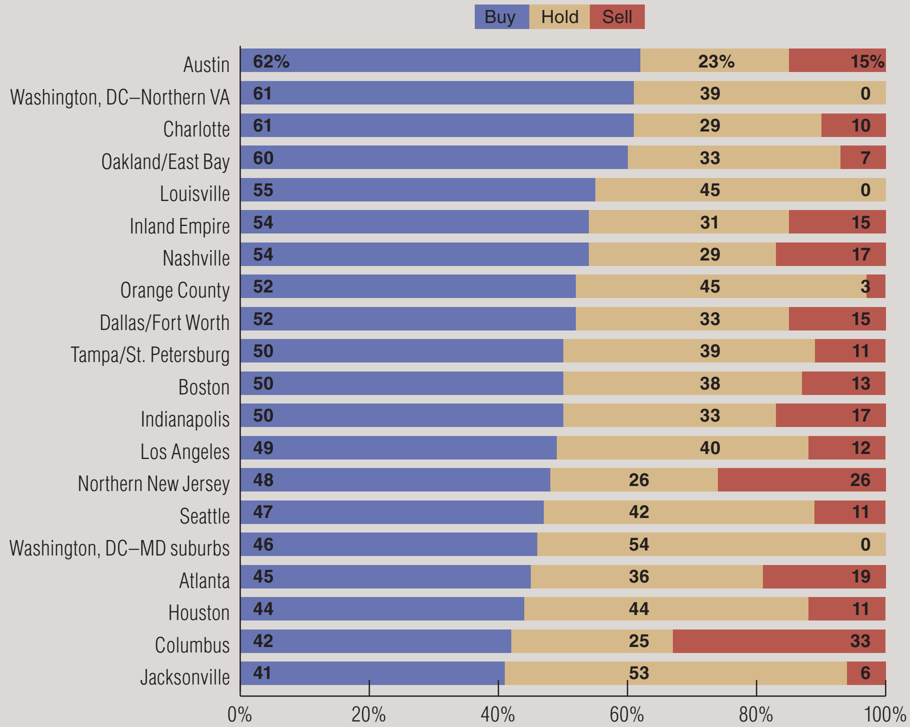
Portland, OR	4.06	Northern New Jersey	3.50
Nashville	4.04	Inland Empire	3.47
Austin	4.02	San Francisco	3.46
Charlotte	3.98	Madison	3.45
Dallas/Fort Worth	3.97	Richmond	3.43
Raleigh/Durham	3.95	Washington, DC–MD suburbs	3.43
Atlanta	3.94	Greenville, SC	3.42
Boise	3.93	Gainesville	3.40
Indianapolis	3.88	Spokane, WA/Coeur d'Alene ID	3.40
Orlando	3.88	Honolulu	3.39
New York–Brooklyn	3.87	Denver	3.38
Minneapolis	3.78	Oakland/East Bay	3.38
San Antonio	3.76	Tucson	3.38
Las Vegas	3.71	Washington, DC–District	3.38
Philadelphia	3.71	Cleveland	3.36
Seattle	3.71	Sacramento	3.36
Jacksonville	3.70	Chicago	3.34
Phoenix	3.70	Des Moines	3.33
Salt Lake City	3.70	Milwaukee	3.33
Washington, DC–Northern VA	3.70	Albuquerque	3.31
Cape Coral/Fort Myers/Naples	3.69	Knoxville	3.30
Oklahoma City	3.69	Tacoma	3.30
Tampa/St. Petersburg	3.69	Cincinnati	3.29
Miami	3.68	Detroit	3.29
Boston	3.67	Pittsburgh	3.27
New York–Manhattan	3.64	Louisville	3.26
Los Angeles	3.63	Virginia Beach/Norfolk	3.23
San Jose	3.63	Omaha	3.22
Houston	3.62	Birmingham	3.17
West Palm Beach	3.62	Tallahassee	3.17
Portland, ME	3.60	Providence	3.15
Charleston	3.59	Memphis	3.14
Fort Lauderdale	3.59	New Orleans	3.14
Kansas City, MO	3.59	Daytona Beach/Deltona	3.06
Jersey City	3.58	Long Island	3.06
Chattanooga	3.56	Westchester, NY/Fairfield, CT	3.06
Columbus	3.53	Baltimore	3.05
Orange County	3.52	St. Louis	3.00
San Diego	3.52	Buffalo	2.93
New York–other boroughs	3.50	Hartford	2.87

Source: *Emerging Trends in Real Estate 2020* survey.
Note: Ratings reflect perspective of local market participants.

location front—Alliance Bernstein's headquarters, an Amazon operations center, and the expansion of dental products firm Smile Direct Club—has bolstered confidence and generated real estate activity associated with more than 8,000 new jobs linked to these firms. Fast-paced growth is putting pressure on infrastructure. An ambitious $5.4 billion transit plan was voted down in 2018, and leaders are now seeking to establish a consensus for a plan addressing parking, roads, and other congestion issues. Affordability may be an increasing dilemma for the Nashville metro area, though, since the city and its nearby suburban areas are posting increases in housing costs that outpace income growth.

Charlotte also has moved up in our survey rankings, placing fourth overall (up from last year's ninth place) and second in homebuilding prospects (up from fourth). It is no surprise that one real estate investment trust (REIT) executive interviewed listed Charlotte as one of five cities to be in "if you were starting a company with a clean slate." Charlotte is attracting technology and manufacturing firms, as it continues to diversify its economy beyond the banking sector that dominated over the past 20 years. Charlotte has focused on infrastructure, with its airport expansion and light-rail growth emblematic of its commitment in this crucial field. Like other prospering markets, however, Charlotte is coping with the residue of success: higher housing costs, lower yields on income-producing assets, the inadequacy of its stormwater systems to accommodate growth, and the potential disruption of multifamily rent regulation. All things considered, Charlotte (with just 0.8 percent of the U.S. population) attracted 1.2 percent of the nation's real estate investment in the three-year period from 2016 through 2018 and stepped up to a 1.5 percent share during the first half of 2019.

Exhibit 2-5 **U.S. Industrial Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Cities listed are the top 20 rated for investment in the industrial sector, ordered according to the percentage of "buy" recommendations.

Orlando captured 1.3 percent of the 2016–2018 national investment volume, holding steady at a 1.2 percent share in early 2019, and, like Charlotte, well exceeded its 0.8 percent share of the U.S. population. Our survey respondents expect this to continue, scoring Orlando seventh in overall real estate prospects, ninth in development/redevelopment opportunities, and 17th in both homebuilding prospects and local expectations of investor demand in 2020. Unsurprisingly, given its projected population increase of 71,000 over the next five years, this market is overwhelmingly rated a multifamily "buy" in our survey, with offices also seen as a "buy" by 50 percent of our respondents. Local experts anticipate that the expansion of the rail link from Miami—now under construction—will boost already robust tourism flows.

Atlanta was knocking on the door of the top 10 last year, and comfortably gained admittance in this year's survey, placing eighth in overall prospects and 10th in local expectation of investor demand in 2020. That perception is validated by Atlanta's 3.6 percent share of U.S. transaction volume over the past three years, and its 3.2 percent share in the first half of 2019; this compared to a 1.8 percent share of the total U.S. population. Like many cities, Atlanta promotes its "unique culture" and successful reinvention. A once-neglected urban core is seeing a resurgence of intown living, and suburbs are becoming known as "hipsturbias" as they aim to create walkable mixed-use developments. Not that stresses are not evident: land costs, construction costs, and labor costs are all pressing on both residential and commercial affordability. On balance, Atlanta is on investors' short list and its position as a major landing spot for capital seems assured.

The top-ranked markets include several others in the "Smile States," a term that represents the East and West Coast joined by the Sunbelt. In the top 10, we find **Boston**, **Dallas/Fort Worth**, **Los Angeles**, and **Seattle**. The underlying economic rationale for strategies targeting the Smile States may well be that they are typically high on the list of statewide economies with high per-capita productivity (as illustrated in exhibit 2-10).

Although **Boston** is a comparatively small metro market, with a population of 4.9 million, ranking 10th among U.S. MSAs (0.6 percent of total), it often punches above its weight in terms of economic performance and real estate vitality. It ranks a strong sixth place in real gross domestic product (GDP) per capita and is largely responsible for Massachusetts's top-tier ranking on the gross state product map. Investors rewarded these underlying economic characteristics with 2.9 percent of U.S. transaction volume over the past three years and 3.1 percent in early 2019, led by offices and multifamily. Boston is rated a "buy" in this year's *Emerging Trends* survey BHS assessment for offices, multifamily, and industrials. Boston enjoys strong structural advantages including its outstanding educational institutions, which act as a talent magnet, and its powerful tech industry, which accounts for 10 percent of Boston's jobs base. This is an expensive area and has affordability and congestion issues to cope with. Our local survey respondents do not foresee such issues slowing down future investment, with Boston earning the second-highest score (after Austin and ahead of Nashville) for investor demand expectations.

The sprawling **Dallas/Fort Worth Metroplex** (DFW) is the fourth-most-populous MSA in the country. Texas optimism is legendary, but DFW's growth trajectory suggests that this positive spirit is well justified. The nickname "Big D" takes into account the Metroplex's land area of 1,779 square miles, accommodating a steady expansion of the urban perimeter. This keeps land costs down but challenges efforts to develop the downtowns of Dallas and Fort Worth as 24-hour or even 18-hour urban centers. Texas has no state income tax—a feature much promoted by economic developers—but the property tax may face upward pressure to sustain infrastructure growth. A generation ago, the Metroplex was bolstered by the signal infrastructure investment that created Dallas/Fort Worth International Airport. That is now being reinforced by a new terminal there, by the regional Amazon hub being constructed at Alliance Airport and the Cottonbelt commuter-rail line, scheduled to connect Plano to DFW by 2022. The abundance of capital targeting the Metroplex has driven yields down to very thin margins. Dallas captured 4.4 percent on total U.S. transactions over the past three years, and 4.2 percent during the first half of 2019, third highest nationally after Manhattan and Los Angeles, nearly double its 2.3 percent share of population.

With 5.9 percent of real estate investment flows in the past three years and a 5.4 percent share over the first six months of 2019 (both substantially above its 3.1 percent share of U.S. population), **Los Angeles** can point to empirical validation of its top 10 ranking. L.A. generates over $1 trillion in gross metro product, a clear factor in its number-nine rank in overall investment prospects. The area's abundance of submarkets is regarded as a strength—especially during a phase when investors' appreciation of suburban opportunities is on the rise. Los Angeles has seen a remarkable downtown resurgence at the same time, especially in the multifamily sector for neighborhoods like the Arts District and South Park. As we are finding throughout the country, the contrast of new development for the affluent and the distressing evidence of homelessness challenges this market. Regulated apartments in L.A. were allowed a 4 percent rent increase this year, while market-rate units realized a 2.9 percent increase, another example where wages have not kept pace with the local cost of living.

From its seaport on Puget Sound to the 14,411-foot summit of Mount Rainer, **Seattle** is a study in contrasts. The metro area, with a population of about 3.9 million, contains almost half of the residents of the state of Washington. Seattle is a receptor for real estate investment as well as for population, accounting for 3.4 percent of transaction volume both in the 2016–2018 period and in early 2019. Seattle real estate remains in expansionary mode. There are 8.8 million square feet of new office buildings underway, half of which are in the Lake Union submarket, spurred by the tech industry. Meanwhile, nearly 5 million square feet are being added to the area's 291 million-square-foot industrial market. One REIT executive noted that they had just constructed Seattle's first modern multistory warehouse to service logistics demand. Home prices, after years of above-U.S.-average increases, have begun to level off. The slowdown of trade with China is of concern and, of course, Boeing's issues with its 737 Max jet has triggered order cancelations and a slowdown in production.

Next 10 Also Post Impressive Statistics

Tampa/St. Petersburg (in 11th place) stepped down a notch from a year ago, although with a thin margin separating it from the top 10. That is likely a distinction without much difference. What does make a difference, however, is that local market participants do not expect particularly strong investor demand for Tampa; their rating of such demand places it in 26th position, closely aligned with its 1.2 percent of national investment share in the 2016–2018 period, ticking up to 1.3 percent in early 2019. Similarly, Tampa is in 23rd place in development/redevelopment opportunities, although it does achieve 10th place in homebuilding prospects. What accounts for this? Our Tampa focus group was enthusiastic about the area's quality of life and talent pool, but saw real challenges in both physical infrastructure and "soft" infrastructure, including education, regional collaboration, and marketing.

San Francisco rocketed from number 41 in overall prospects a year ago to 12th place this year. This market's robust economy seems to have overcome concerns such as high costs, lack of housing affordability, and NIMBYism ("not in my backyard") expressed a year ago. The City by the Bay has to be encouraged by the 2.4 percent U.S. investment market share it has earned over the past three years, a figure that ticked up to 3.3 percent over the first six months of 2019. Yet its high price structure and the national perception of a wide and growing income gap affecting housing affordability are still headwinds. One local observer cited concern: "Even with the oversupply of luxury, there's a persistent lack of workforce housing." With tight links to Asia, focus group members noted the impact of tariffs and potential trade disruptions. However, they observed, "We are still riding the tailwind of e-commerce on the industrial side." For those seeking a whimsical counter-narrative to the struggles of retail, San Francisco has a "Museum of Ice Cream" as a tourist destination, where visitors reportedly spend an average of two hours per $38 ticket.

San Jose and Silicon Valley, just south of San Francisco, also leapt significantly in our overall prospects ranking, moving up to number 12 from number 26 a year ago. We see a rebound in confidence based upon economic performance, as in San Francisco, reflected in the roughly 2.6 percent share of U.S. real estate investment earned in the first half of 2019, up from the 2.0 percent market share captured during the 2016–2018 period. Investors appear confident that high prices in the area have staying power. There is the belief that acquisitions will see a solid return of capital in any exit strategy. With the market's high barriers to entry, our survey respondents rated both offices and multifamily a strong "buy," even if key property types such as research and development (R&D)/flex and warehousing are topping out. Incredibly, the entirety of San Jose's downtown has been designated an Opportunity Zone.

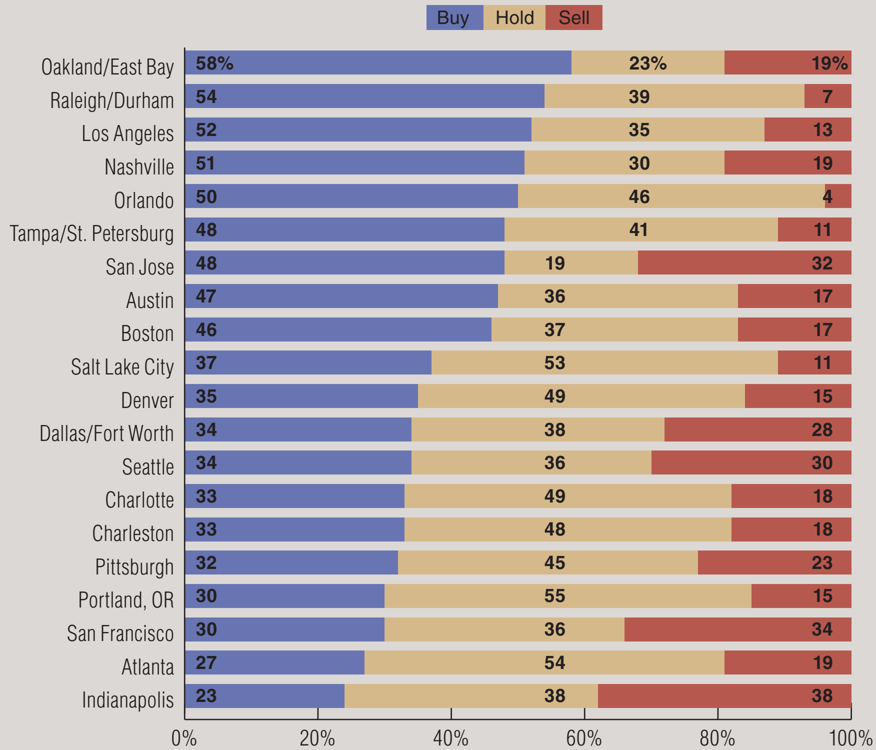
Northern Virginia's overall prospects stepped up 10 places from number 24 a year ago to number14 currently, perhaps reflecting anticipated five-year growth in these Washington, D.C., suburban markets. Buyers seem to be saying as much, with Northern Virginia tallying a 2.6 percent share of U.S. investment volume in early 2019, up from 2.0 percent in the previous three years. Multifamily has been the leading sector, followed by offices. The selection of Crystal City in Arlington County for the Amazon HQ2 development advances Northern Virginia's standing as a leading market. Industrial markets are deemed the strongest "buy" in this year's BHS recommendations, with multifamily following closely. Multifamily construction has been running a bit ahead of demand, but not alarmingly so. One positive to watch is the extension of Metro's Silver Line subway into Loudoun County, with a train link to Dulles International Airport now expected by the end of 2020. This infrastructure investment should provide transit-oriented-development opportunities in both Fairfax and Loudoun counties.

Brooklyn was ranked number two in overall prospects a year ago, but has slipped to number 15. What accounts for this? On fundamentals, Brooklyn has an exceptionally large population base (roughly 2.8 million, or greater than the Charlotte or Orlando MSAs), but its growth rate from this denominator is slow. One key factor is the "priced to perfection" condition of New York City real estate cycle. Capital flowed in abundance and earlier than for most markets into both Manhattan and Brooklyn. That created severe yield compression, and future appreciation could be minimal. Another factor might be the "second look" occasioned by the collapse of the Amazon HQ2 deal in the nearby Long Island City neighborhood in the borough of Queens. The local uprising against the development was a rebuke to both the governor and the mayor, and unsettled confidence in the city's ability to negotiate economic development transactions. Finally, the state legislature's extension of rent regulations in the multifamily sector altered the landlord/tenant balance, creating greater market uncertainty. With all that on the docket, Brooklyn still attracted proportionately high 1.0 percent of national investment in the 2016–2018 period, and a slightly reduced 0.8 percent in the first six months of 2019. Local experts still believe strongly in Brooklyn's investment attractiveness, putting it in seventh position in anticipated investor demand for 2020.

This year sees an upward step for **Indianapolis**'s 16th place in overall prospects, up a few positions from a year ago. One local broker notes, "Indy is a vibrant place to grow industrial. There's more spec construction in industrial than we've ever had; it appears the demand will support that." Another broker concurs: "People who wouldn't consider Indianapolis five years ago are now looking to put money in the market." Indianapolis is rapidly reinventing its downtown, with vigorous levels of rental apartment and condo development—prompting a construction boom in downtown offices. Tech firms now lead the pack in employment growth. The emergent signs of an 18-hour city cannot be missed. Local sentiment places Indianapolis 10th in the nation for development/redevelopment opportunity. Indianapolis is one of those markets whose national investment market share since 2016 and through mid-2019 is right in line with its 0.6 percent share of national population.

Local experts in **Denver** observe that "there are signs of market maturity everywhere you look." The Mile-High City displays an enviable combination of size (metro population of 2.9 million) and a strong growth trajectory. Denver was ranked number eight in the *Emerging Trends* evaluation of prospects last year, but it has slipped into the 17th position. Costs are much on the mind of Denver's real estate community, from land costs, to new construction inputs, to housing affordability, to the tenant improvement allowances needed to nail down leasing agreements. Denver's Lower Downtown (LoDo) neighborhood has been an avatar of urban revitalization, and now

Exhibit 2-6 **U.S. Office Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Cities listed are the top 20 rated for investment in the office sector, ordered according to the percentage of "buy" recommendations.

market participants are lauding RiNo, the River North Arts District. Denver has not forgotten its suburbs, either, although multifamily still faces some NIMBY hurdles and the retail scene is far from sorted out. There is "no groundswell for smart growth, [and we are] missing the middle in the suburbs. You can't fill affordability needs with luxury apartments," said one focus group participant. Said another, "I'm skeptical about local lifestyle retail in suburban settings. Suburban folks have different values." With all that, Denver still generated real estate capital flows well above its 0.9 percent share of the U.S. population, with a 2.4 percent market share of national transactions in the past three years, and 2.1 percent in the first half of 2019.

Orange County, California, maintained a place in the top 20 markets from a year ago, even if it slipped from 15th to 18th place on the list. This is an affirmation of the vigorous Southern California economy, and a ratification of suburbia's staying power. Orange County is home to an estimated 3.2 million people, and its gross county product is $309 billion, up over 50 percent since 2010, according to the Center for Demographic Research at Cal State Fullerton. Tech and coworking have been the principal demand stories in the office market, which has seen a flattening of its vacancy and rental trends over the past year. By contrast, landlords have tremendous leverage in the industrial market, which is registering nearly 97 percent occupancy. Transaction volume was at 1.6 percent of the U.S. total for the 2016–2018 period, ratcheting down to 1.2 percent in early 2019. Uncertainties about trade frictions with China could have ramifications on Orange County businesses related to the massive Los Angeles–Long Beach port, the nation's largest.

A small jewel with tremendous population growth projected, **Charleston, South Carolina**, has been rising in favor with *Emerging Trends* survey respondents. It has broken into the top 20 prospects (at number 19) following a number-25 placement a year ago. It is also ranking well (number 21) in the listings for homebuilding opportunities. Our survey respondents accord Charleston strong buy or hold recommendations across most property types: hotels, offices, retail, and multifamily. Investors, alas, seem to be lagging in enthusiasm, with just 0.2 percent of U.S. investment flows in the 2016–2018 period, and 0.3 percent for the first six months of 2019. This small market does not appear to have the capacity to put institutional capital to work efficiently. However, South Carolina's aggressive pursuit of international corporations is having its effect on real estate purchases, with cross-border investors accounting for nearly one-fifth of the investment volume thus far in 2019.

By contrast, **Portland, Oregon**, clearly surpasses the threshold requirements for large investors, with an office inventory exceeding 60 million square feet and industrial assets of more than 210 million square feet, and a metro population of 2.5 million. Portland ranked number 21 a year ago, and now takes its place as number 20 in overall prospects. These rankings were achieved despite the passage by Oregon of the first statewide rent-control law in the United States, prompted by an intensifying housing affordability squeeze. It is difficult to guess the impact of the new regulations on investment and development, though, as the rent cap on unsubsidized multifamily units is a generous 7 percent above inflation, and new construction is exempt for a 15-year period. Time will tell whether Portland's investment attractiveness is eroded, but for now it seems that the impact is less draconian than we might surmise from the public debate.

Markets That Are Major Capital Magnets

Real estate professionals have a justifiable interest in knowing which markets their peers regard as most promising, and our discussion of the top 20 rankings in our survey is aimed to address that interest. However, the flow of transaction volume is not perfectly correlated with the ranking of expectations. The correlation is a strongly positive 68.1 percent, in fact, but with lots of room for variance. So let's next take a look at a group of markets that have shown very high investment volume from 2016 through the first half of 2019, despite being ranked below the top 20 on overall prospects by our survey respondents.

Why characterize this cluster of markets as "magnets for capital"? Take a look at their performance. These nine markets accounted for 17.2 percent of total U.S. transactions in the last three years, and 15.3 percent in the first half of 2019. Such investment flows were well ahead of the 11.3 percent share of the U.S. population tallied in those locations by the 2018 U.S. Census population estimates.

This, admittedly, is an imperfect measure since real estate inventories are not fully correlated with resident population counts. Real estate agglomerations are based upon economic function, not merely headcount. But "big" does well describe many of the cities on this list. **Manhattan** contains a full 10 percent of all office space in the nation. **Chicago**, the **Inland Empire**, and **Northern New Jersey** have disproportionately high concentrations of industrial property. **Houston**, **Phoenix**, **San Diego**, **Oakland/East Bay**, and **Miami** are ranked among the nation's 20 most populous MSAs. Some of the very large markets also are projected to be strong growth areas, with annual population gains over the next five years forecast to be 1.6 percent for Houston, 1.5 percent for Phoenix, and 1.4 percent for the Inland Empire.

The power of adjacency appears to be at work in attracting capital. Oakland/East Bay benefits from its role in the Northern California economy spreading out from San Francisco. Northern New Jersey is helped by Manhattan's economic vigor as well as by the proven spillover effects already seen in Brooklyn. The Inland Empire, likewise, lies within Los Angeles's sphere of influence. Those adjacencies help strengthen suburban areas, for instance, as well as bolstering distribution demand for economic hubs.

Theoretically, market activity captures expectations of future performance. If that were simply the case, we should expect a close alignment of investment volumes with our overall prospect rankings. For many of the nine markets discussed in this segment, though, we find some division between transaction flows and the opinions of our survey respondents. This is not truly troubling. It is how the market works in practice, if not in pure theory. As a seasoned institutional investment manager has said, "If I just buy or sell based on average opinion or market consensus, exactly what value am I adding for my client?" In the world of econometric models consisting of ideally rational agents, we may find nicely predictable behaviors. The rough-and-tumble world that investors inhabit may never see such a triumph of predictability. We should be grateful:

history has warned us that herd behavior is itself a danger sign for markets.

For all the negative news coverage that New York City received when the Amazon HQ2 deal fell apart, investors are still targeting **Manhattan** as the most significant market for real estate capital, with deal volume running in excess of 6 percent of the national total. Why the inflows at the Big Apple's staggeringly high price points? One key is the city's economic growth, with the addition of 103,500 jobs in the 12 months ending May 2019, a 2.3 percent growth rate, compared with the U.S. job gain of 1.5 percent over the same period. There are now 721,800 more jobs in New York City than before the Great Recession. Moreover, the technology sector, with an average annual wage of $152,900, has grown 80 percent in New York City (63,200 new jobs), diversifying the city's economy and bolstering other sectors such as housing, retailing, restaurants, and entertainment. Manhattan's market maturity and significant constraints on new supply work in the borough's favor during times of uncertainty when "conservation of capital" becomes a more important factor than high yield.

Across the Hudson River, **Northern New Jersey** nicely illustrates some of the comeback being enjoyed by well-positioned suburbs. At 2.0 percent of total U.S. investment in the last three years and 1.8 percent in the first half of 2019, it ranked 14th in investment volume, distributed among apartments, office, retail, and industrial assets and well ahead of its 55th placement in our survey's outlook scoring. Vibrant downtown markets such as Manhattan are complemented by—rather than competing with—their suburban real estate. Beggar-thy-neighbors policies no longer make sense in our large metro areas, if they ever did.

Consistent with that relationship, we observe that both the **Inland Empire** in Southern California and the **Oakland–East Bay** markets earned places in the top 20 of national investment volume from the start of 2016 through June 2019. Strong inbound cargo volumes at the Port of Los Angeles and Long Beach, coupled with a vanishingly low industrial vacancy rate in L.A. itself, have propelled demand in the Riverside and San Bernardino counties market, leading to rapid absorption and surging warehouse rents. The East Bay, meanwhile, attracted $1.4 billion in office investment in 2018 and early 2019, complemented by over $2.5 billion each in the industrial and multifamily sectors. Renovations and upgrades in older Oakland central business district (CBD) buildings are attracting tenants at improved rents. As a city, Oakland has seen its population increase by nearly 30,000 (9.8 percent) since 2010, leading to direct demand for multifamily units and an increased workforce for its office market.

Although **San Diego** finds itself in 26th place on the survey list regarding overall prospects, this metro market secured 1.7 percent of all U.S. transactions in the 2016–2018 period, and edged slightly higher with a 1.8 percent share in the first half of 2019. This was sufficient for the 15th position in total capital commitment. With 3.3 million residents, this metro area has enjoyed an 8 percent increase in population since 2010, adding 248,000 people. Although the market is largely suburban in character, downtown is seeing increased office activity to supplement what has been an extended growth period for multifamily housing. Meanwhile, the industrial market remains robust, with a significant tech component in e-commerce and life sciences.

Last year's survey ranked **Houston** 37th and **Chicago** 49th in overall real estate prospects. This year's outlook also seems underwhelming, with Houston dropping to 42nd and Chicago ticking up one place to 48th. Based upon "voting with the wallet," however, investors believe that these two major cities are not underwhelming, but underrated. Since the start of 2016, Chicago attracted a nearly 4 percent share of U.S. real estate investment, even higher than Houston's 2.8 percent capture rate. This places both markets in the top 10 for investment dollar volume.

What's going on?

Houston is exercising bragging rights as it is proclaimed "the most diverse city in America," edging out Jersey City and New York City for top honors. Houston has become not only more diverse, but also more cosmopolitan over the years, supplementing its dominant energy industry with health care (especially at the Texas Medical Center), life sciences, and other technology sectors. Our survey respondents, however, cannot shake the evidence of Houston's greater-than-average economic volatility. While celebrating 2019's pace of job change (about 80,000 added jobs on a year-over-year basis), the memory of 2016 (when job growth was flat to negative) is still vivid. Houston remains a powerful growth market, with its 10.7 percent population gain since 2010. This accounts for the multifamily sector's leading role in 2018 and early 2019 investment—$10.8 billion, or about half of Houston's recent acquisitions. The office sector, along with retail and industrial property, saw transactions exceed $3 billion apiece over the past 18 months. Investors are flashing a signal of confidence in further growth potential.

It is no surprise that Chicago, home to one of America's most massive agglomerations of industrial real estate, should find $7.8 billion invested in this sector—in 683 separate deals—since early 2018.

After all, industrial property is very much in favor in the current real estate market. But nearly as much cash flowed into the apartment sector, at $6.7 billion. This reflects investors' appreciation of Chicago's changing demographics, which saw the educated 25–44 age cohort surge 42 percent since 2005. Chicago proper now has a higher percentage of highly educated workers than its surrounding suburbs. The "City of the Big Shoulders" has some widely publicized challenges, not the least of which is public safety. There also is its very large public pension shortfall—between $700 million and $1 billion for the coming year and shadowing its future. So, it is a city with both great strengths and great weaknesses. One thing that Chicago has going for it is its job density. A recent Brookings Institution study showed that 90 percent of the increase in post-2005 job density occurred in just four metro areas: Chicago, New York City, San Francisco, and Seattle. Whether this will eclipse Chicago's reputation for gun violence remains to be seen.

Miami can boast of its 21st-place ranking in overall prospects in this year's *Emerging Trends* survey, together with an 18th-place performance in local experts' evaluation of investor demand going forward. That sentiment is affirmed by 2016 to early 2019 investment volumes of 1.4 percent of the national total, considerably higher than its 0.8 percent share of America's population. The ULI focus group in this district stressed the "networked" sources of Miami's success, its reputation as the "de facto capital of Latin America," global connections through its airport and seaport, and "brand recognition among international investors now extending into Asia." Yet storm clouds are no strangers here. Geopolitical tensions are biting, with restrictive immigration compromising the labor force, tariffs affecting trade flows, and the already consequential sea-level rise pressing local governments and the real estate community to concentrate immediate attention on resilience.

After serious struggles during the housing collapse and still-serious climate change concerns, **Phoenix** has returned to robust growth and has reestablished credibility in the investment community. The Valley of the Sun accounted for 2.5 percent of total U.S. real estate investment volume in the 2016–2018 period, and stepped up even further to a 2.9 percent capture rate through the first six months of 2019. Those capital inflows are far stronger than the 31st-place ranking in our overall prospects table and well above the metro area's population share of 1.5 percent. Long driven by population in-migration, Phoenix's number-seven ranking in homebuilding prospects certainly portends a market on the rise, with its net addition of 115,000 residents between 2010 and 2018. No surprise, then, that more than $10.4 billion of the property transactions since early 2018 have been directed toward the multifamily sector. Watch this space: Phoenix is not done yet.

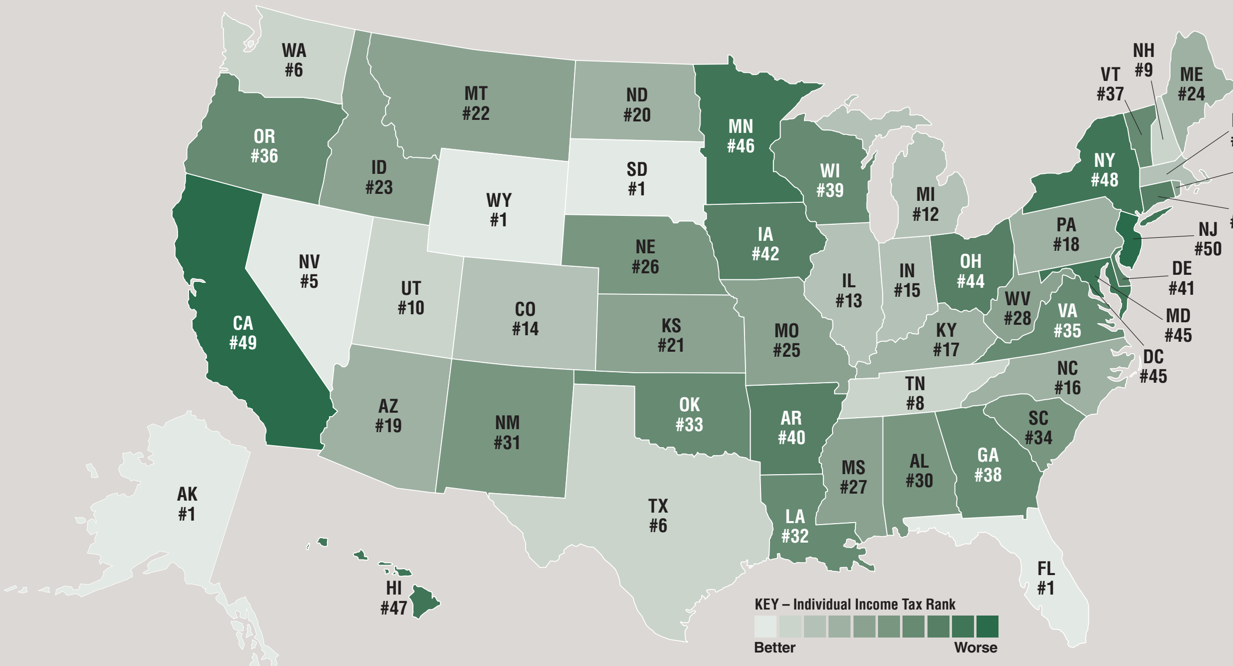
Stalwarts, Surprises, and Determined Competitors

Next, we examine a dozen markets that—although they may appear to be an unlikely grouping—have this in common: a credible track record of capital inflows in line with their size (or even better) and recent evidence of solid transaction volume. As a group, they accounted for 11.0 percent of national real estate investment in the 2016–2018 period, and stepped up their market share to 11.7 percent during the first half of 2019. The recent absolute dollar amounts are impressive: $88.4 billion since the start of 2018.

Ranked 25th in overall prospects, up from 31st place a year ago, **Philadelphia** tallied 1.3 percent of national investment volume in the 2016–2018 period and advanced to a 1.7 percent share through midyear 2019, led recently by multifamily assets and offices. In the early 1990s, the book *Edge Cities* featured the King of Prussia Mall as the avatar of the suburban land form. Today, it is the King of Prussia Town Center in the spotlight: a "hipsturbia" location considered "dense and walkable" in comments gleaned in our focus group. Philadelphia has, somewhat quietly, ascended in this recovery. It is adding jobs (37,400 in the metro area in the 12 months ending May 2019), especially in the leisure/hospitality and education/health care sectors. It is relatively affordable within the costly Boston-Washington I-95 corridor. While Center City is attracting young workers—*Forbes* magazine has accorded Philly a "cool city" label—it fights against a perception of weak public education and a difficult city tax environment. But a good commuter transit backbone means that suburban areas can do nicely while such issues are addressed.

This is not an isolated case of suburban vitality, by the way. **Long Island** has realized an investment volume exceeding $5 billion since early 2018 as activity accelerated in Suffolk County's warehouse and logistics sector and health care tenants drove demand for office space. The office market in **Fairfield County, Connecticut**, is burdened with high vacancies, prompting a trend toward office-to-residential conversions. Tenant demand is picking up in New York's Westchester markets, which is seeing rising office rents despite upper-teens vacancies as smaller firms are reportedly avid for space and as increased construction costs find their way into leases. Together, **Westchester** and **Fairfield**

Exhibit 2-7 **Individual Income Tax Ranking, 2019**



Source: Tax Foundation, 2019 *State Business Tax Climate Index*, Individual Tax Component Rankings.
Note: A rank of 1 is best, 50 is worst. D.C.'s score and rank do not affect those of other states.

counties attracted $4.2 billion in 2018 and early 2019 investment. Yonkers and New Rochelle, New York, have their own "hipsturbia" stories to tell—with strong densities, mass transit, and mixed-use growth in their older downtowns.

New York's **Other Boroughs** (i.e., Queens, the Bronx, and Staten Island) registered $2.2 billion in deals, bringing the citywide (five-borough) total to a breathtaking $19.3 billion between January and June 2019. Add Northern New Jersey to the suburbs east of the Hudson River and the suburban total is $6.6 billion, summing to approximately $26 billion in transactions within 50 miles of Times Square. That is fully 11 percent of the U.S. total for the first half of this year. For 2018, the comparable figure is $67.6 billion, or 11.8 percent of national property investment, with about $32 billion of that investment outside Manhattan.

Emerging Trends' counsel in past years not to count out the suburbs obviously bears repeating.

Markets throughout the country are seeking to find competitive advantage. **Minneapolis/St. Paul** presents some fascinating trends to consider. It might seem to be "what is old is new again," but that is not precisely correct. The Twin Cities boast the first multistory office building to be constructed of wood in the United States in the past 100 years. As a one-of-a-kind, it would not be a trend, but the 3T (timber, transit, and technology) building in Minneapolis's North Loop submarket has engendered like projects in Atlanta and even in Brooklyn. This element of "green building" should become more common in the years ahead. Minneapolis has been an active market overall, attracting 1.2 percent of U.S. real estate investment from 2016 through the first half 2019, with over $9 billion in acquisitions since January 2018. Offshore capital and investors from both coasts have been seeking property in the Twin Cities. There are large mixed-use projects underway in downtown Minneapolis, and local observers report an "amenities arms race," citing demand for "walkable, bikable, multimodal transportation neighborhoods."

There are push/pull forces at work in the **Sacramento** market. The MSA has experienced growth of nearly 200,000 in population (9.1 percent) since 2010, and there are low vacancies across property types and relatively little new supply ahead to soften the market. Tenants are seeking high-quality, amenity-rich locations, a sign of excellent effective demand. Spec industrial is being built near the airport, and a new 68-acre suburban campus is under construction for a major health care insurance company. As in so many other places, though, local participants are concerned about disrupters such as rising homelessness, the consequent pressure to greater rent control and other regulations, and the potential for a near-to-midterm recession. Still, investors seem willing to accept those risks, as transaction volume in the Sacramento market snagged a 0.8 percent share of U.S. property investment since 2016, with a total deal volume of $6.7 billion since early 2018.

The transaction flows into **Kansas City** were almost as high during the first six months of 2019, at 0.7 percent of the national volume with a moderate acceleration from the 2016–2018 capital inflow. Investment has been nicely distributed among all the major property types. Out-of-town investors are becoming more frequent sources of equity capital, attracted by nearly six consecutive years of rising office rents and tightening vacancies. Kansas City sits almost precisely at the geographic center of the lower 48 states, supporting a 240 million-square-foot industrial market with approximately 95 percent occupancy and strong rents. The MSA is seeing steady population growth, up 6.4 percent since 2010. Watch an emerging agreement between the governors of Missouri and Kansas (the metro straddles the two states) to stop an economic development tax-incentives bidding war that has led to corporate relocations to one side or the other of State Line Road, with little net impact on job creation or economic output. This could be a harbinger for other state and local governments.

Las Vegas's rebound continues, as evidenced by its 2016–2018 investment capture rate of 1.4 percent of U.S. total—double its share of the U.S population. Although Las Vegas stands only 46th in overall prospects according to our current survey, its 15th-place ranking in local sentiment for development and redevelopment opportunity and its 19th-place standing for homebuilding prospects are more in line with the "voting with your dollars" standard. Construction employment in this market is up more than 14 percent year-over-year, always a sign of a bet on the future. Since 2010, the Las Vegas MSA has added 180,000 residents, bolstering its population base by 14.3 percent. Large-volume industrial boxes are under construction in support of that growth. And, interestingly, multistory industrial is becoming a factor, including a new facility in the airport submarket. While the apartment sector is capturing the greatest investment in existing Las Vegas assets in 2019, that could change as offices push into suburban submarkets, and retail expands to meet the growing population.

Construction activity is a signal that some of America's older urban centers are determined to reenergize themselves.

"How long have we been in this recession?" asked one member of our focus group in **Baltimore**. Still, redevelopment projects are increasingly dotting the landscape, including Tradepoint Atlantic, Port Covington, and Yard 56 (an Opportunity Zone project near Johns Hopkins Bayview Medical Center). Yard 56 is a mixed-use project whose first phase is street-level retail but whose buildout is planned at 2.2 million square feet of office, apartments, hotel, and additional retail, aimed to be a catalyst for urban revitalization. Likewise, the Broadway Market in Fells Point has seen an early 2019 reopening in one of America's oldest public market spaces, dating back to the 18th century. A major transit-oriented redevelopment of the area around Baltimore's Amtrak station has been proposed, and in the suburbs the Columbia Town Center's reconstruction is underway, aiming at retrofitting Columbia's downtown to create a mixed-use, dynamic, walkable district. Perhaps motivated by such energy, investors have directed about 1.0 percent in total U.S. acquisition volume into Baltimore, nicely above its pro-rata share of the American population.

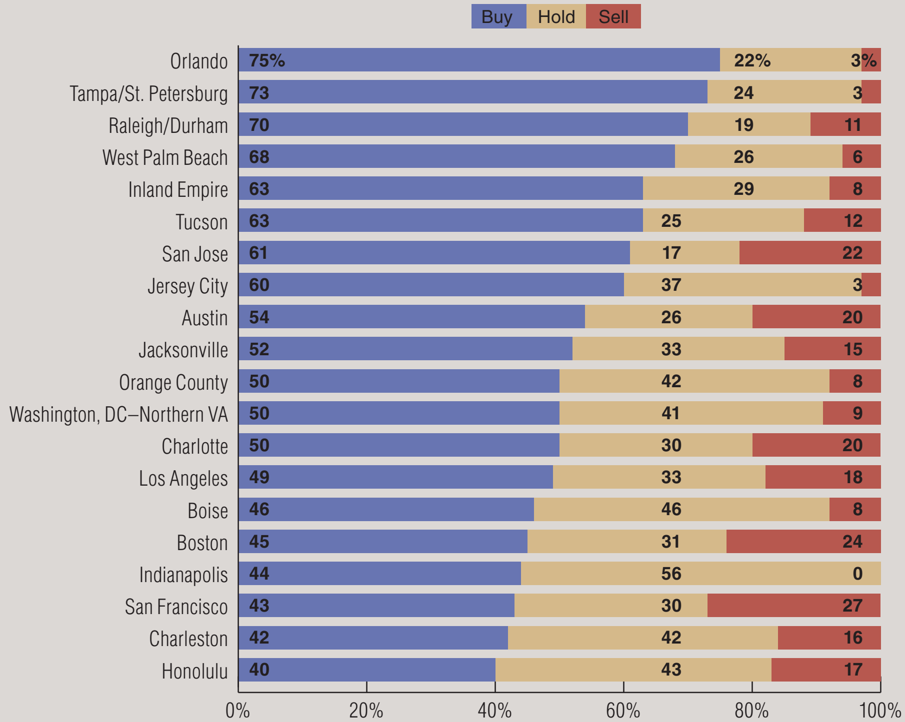
Washington, D.C.—the District itself, rather than the Virginia and Maryland suburbs—rates 28th in our survey respondents' opinion of overall prospects. The District represented just 1.3 percent of the U.S. 2016–2018 total, dropping to a 0.9 percent share in early 2019. Office vacancies have been rising for more than a year. Owners also need to cope with rising tenant improvement costs, and higher commercial rent taxes enacted to raise revenue for affordable housing needs. Our local focus group characterizes demand drivers as "troubled, with the federal government and law firms trending downward"; the class B market is fairly strong. Many market-rate apartments are being delivered, likely in excess of current demand. The relatively strong evaluation of the District's prospects may reflect its historical position as a recession hedge. Meanwhile, though, this is the hub of a metro area that is punching above its weight with a 4.5 percent share of 2016-to-present national investment totals, versus a 1.5 percent share of the U.S. population.

Understandable attention has been devoted to the much-heralded revitalization of **Detroit**, an important test case for America's mature cities aiming at economically prosperous future conditions, not merely survival. On-the-ground commentaries are positive. "Downtown Detroit properties continue to appreciate rapidly. There is an ongoing resurgence, and transformational projects are attracting international business and investors." The $4 billion transaction volume since January 2018, especially in the industrial sector, provides some confirmation of the optimism. New economies are not created overnight, though, and while Detroit reinvents itself, there still are issues of property abandonment around the city, high costs affecting any construction to come into the pipeline, and the nationwide crisis in workforce housing that is as acute here as anywhere else. Much hope is being placed on Opportunity Zones as a tool with great potential in Detroit. In Motor City, keen attention is being directed to "mobility technology," which includes autonomous vehicle production, electric cars, and other 21st-century transportation solutions.

Markets Aligning with Expectations

When examining capital flows since early 2016 in comparison with the *Emerging Trends* survey of overall real estate prospects, it is striking to note that 34 of the 80 (42.5 percent) markets we include in our review have survey rankings within 10 places of their ranking of share of total U.S. capital flows. The alignment is even higher for the top 20 markets in overall prospects, 11 out of 20, or 55 percent. The correlation cuts across geography, market size, growth rates, and local economic structure. Statisticians reflexively sound the warning that "correlation does not imply causation." This caveat suggests that we acknowledge the complexity and diversity of the real estate markets. It also impels a closer look at the details of the markets themselves, seeking to discern what both groups—our survey respondents, and the composite body of real estate purchasers—are reflecting in their judgments.

Exhibit 2-8 **U.S. Multifamily Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Cities listed are the top 20 rated for investment in the multifamily sector, ordered according to the percentage of "buy" recommendations.

In this cluster of markets, where we find good alignment of prospect rankings with transaction share since the start of 2016, we also find a group of markets that are matching their capital flow (5.2 percent of U.S. total) with an identical proportion of America's population. That does not appear to be coincidental.

South Florida has long been identified as a haven for snowbirds from the U.S. Northeast, and continues to play such a role. South Florida is the nation's seventh-largest MSA, and has grown by 11.4 percent, or more than 630,000, since 2010. Anticipation is widespread that provisions of the 2017 Tax Cuts and Jobs Act, which caps the state and local tax (SALT) deductions so important to higher-income households in the Northeast, will accelerate the relocation of such households and of businesses into South Florida.

But this is far from the most important part of the story in markets such as **Fort Lauderdale** and **Palm Beach**. Fort Lauderdale has created an impressive commercial/multifamily downtown skyline with the attendant urban vibrancy. Palm Beach remains a largely suburban market, although the West Palm Beach and Boca Raton restaurant scene is attracting attention. The two markets place well in overall prospects (Fort Lauderdale, number 29, and Palm Beach, number 33) and together have garnered $13.5 billion in transaction volume in 2018 and the first half of 2019.

A raft of smaller Florida markets are generally the province of local property professionals, off the data feeds of the national and international investor communities. Recent investment inflows in such markets are roughly in line with their rankings in the *Emerging Trends* table of overall prospects. These include places like **Tallahassee**, **Daytona Beach/Deltona**, and **Gainesville**. In the main, it is housing that is the key real estate sector in these metro markets. Since 2010, the Deltona MSA has grown 11.7 percent in population, Gainesville 12.5 percent, and Tallahassee just 4.8 percent. Their attractiveness for relocating households is the Florida lifestyle and the low cost of living, below the U.S. average and also well below the costs in the South Florida metro areas. The presence of the University of Florida helps buttress the Gainesville economy, and Tallahassee is not only the seat of state government but home to Florida State University. Such institutional pillars contribute to a sound economic base for those metro areas.

Having added about 100,000 MSA residents (8.1 percent) since 2010, **Richmond** might expect to earn a somewhat higher standing than its 49th rank in overall prospects and 59th rank in total U.S. investment volume since 2016. Employment grew 1.6 percent over the 12 months ending June 2019, with the greatest number of jobs added in health care/education and in business/professional services, followed by finance. Richmond benefits from its link to the suburban Northern Virginia communities near Washington, D.C.. It has recently secured an Amazon "last mile" fulfillment center on I-95.

The **Maryland suburbs of Washington, D.C.**, captured approximately 1.2 percent of U.S. property investment from 2016 to 2018, and close to that capture rate in early 2019, well above its 0.5 percent share of the national population. The multifamily sector has been the most active property type here. Aggregate deal flow placed 27th among our 80 markets, seven positions ahead of suburban Maryland's 34th position in overall prospects. This market's outlook for homebuilding is stronger and its industrial sector achieved a top-20 ranking, with strong buy/hold scores for recommended activity in 2020. Coupled with Northern Virginia's solid showing, evidence indicates that the real estate community is recognizing the complementarity of core and suburban markets in the health of metro economies.

Good things are happening in **Birmingham, Alabama**. The MSA exceeds the million-person population threshold, at 1.2 million, though this is up just 2.1 percent, or roughly 24,000 residents since 2010. The University of Alabama–Birmingham anchors the urban core near its campus, and there are some lovely suburban areas within easy commuting distance to the downtown. That said, Birmingham is still in transition from a traditional industrial economy to one based on health care, technology, finance, and other knowledge-based sectors. Investors seem to be awaiting "proof of concept" in early 2019, since they committed just a 0.3 percent share of total U.S capital investment here (ranking 53rd in volume), although this is nine positions ahead of our survey's number-62 ranking in overall prospects.

San Antonio sometimes seems eclipsed by Austin, Dallas, and Houston. Nevertheless, its performance should not be discounted, since it ranks 24th in overall prospects and 13th in homebuilding outlook as well as in development/redevelopment opportunities. Such optimism seems well supported by its 2010–2018 population growth rate of 17.5 percent, or 375,000 new residents. Investors now seem to be circling such opportunity, as 2018 and early 2019 transaction flows were just above $7.3 billion, in the same ballpark with Nashville. San Antonio also seems poised to take advantage of a key technology need, as the local campus of the University of Texas is ranked second in cybersecurity education, our local focus group reports.

In many ways, **Honolulu**'s experience in 2019 has been dominated by private investors, who generated over 86 percent of the first half's transaction. But for the 2014–2018 period, cross-border purchasers were noticeably active, helping push the market to its most recent peak. Honolulu ranks 51st among our 80 markets in post-2016 investment share, identical to its overall prospects position. Hawaii's relatively small size (under a million in population), distance from the U.S. mainland, and predominance of land leasing (a vestige of the feudal system of ownership in Hawaii, which was a monarchy until 1893) make this market a highly specialized investment venue where local expertise carries a higher-than-average influence on success.

Further down the list are a quintet of cities with seemingly little to connect them, other than that the outlook articulated by *Emerging Trends* survey respondents is closely matched with the reticence of the investment community to direct acquisition dollars there. **Cleveland** is such a market, ranked 63rd in overall prospects and 52nd in investment volume. Recent history shows this MSA still battling a demographic current that has seen a drop in population of 20,000 (1.0 percent) since 2010. Local professionals, however, demur that their market is unjustly underrated: "Cleveland has hometown pride, with owners and developers invested in their neighborhood and very civic minded." The downtown is seen as an emerging strength, more affordable for businesses and residents than other major cities, with several new construction and redevelopment projects either underway or proposed. The projects include a 10-story timber-frame office building in the Market Square neighborhood, with an adjacent seven-story apartment building, close to a Red Line transit stop.

A day's drive and 1,600 miles to the southwest, **Albuquerque** has a similar consonance of perceived prospects and recent investment flows, ranking 64th and 70th, respectively. Unlike Cleveland, though, Albuquerque has still sustained modest population growth of 28,000 residents (3.3 percent) since 2010. The languor in investor interest is no doubt influenced by the MSA's 60th position in overall population, still below the one-million resident mark. A high-teens office vacancy rate has its impact as well, although the metro area's small (41 million square foot) industrial market has an excellent 96.4 percent occupancy rate. Apartments, meanwhile, show decent signs of market health, with a former hotel being converted to multifamily use and 270 units of new rental housing projected for 2019 delivery.

Omaha has been adding about 10,000 residents per year since 2010, posting an 8.8 percent population increase this decade through 2018. That ranks it 59th in metro population, still below the one-million-person criterion. We find Omaha in 68th position in overall prospects, and two ticks above that in investment flows since 2016. Our survey consistently places this market below 60 in the national scheme of things: homebuilding prospects (62), local investor expectations (61), and development/redevelopment opportunities (68). In other words, this market seems to be right where it is supposed to be. Boosters tout Omaha's affordability and such pillars of stability as a solid military and student presence, and a well-regarded university in Creighton. The local agricultural economy may now be a hindrance, as Nebraska farmland values dropped 1.7 percent during 2018, and 2019 has seen historic floods—with $2.9 billion in cropland damage—and the added negatives of tariffs, which have driven Nebraska exports down more than $200 million in early 2019.

An interesting variation on the theme can be seen in **Tucson**. Tucson was rated 69th in overall prospects in our survey but scored five positions higher (64th) in investment flows. What makes the difference? One element may well be Tucson's ascending to 53rd place in MSA population, climbing above the one-million resident market as of the 2018 U.S. Census Bureau estimate. A million people is, to be sure, an arbitrary standard, but it is a benchmark nevertheless. The Tucson economic base has a strong institutional/governmental foundation, with the University of Arizona, military bases, health care, and the Department of Homeland Security providing stability. But growth and innovation seem somewhat lacking, and this may be due to the lower-than-average share of the economy accounted for by the private sector. Government jobs account for 20.6 percent of the MSA total, while professional and business services lag with just 13.4 percent.

Bringing up the bottom of this cluster of markets in 78th place in investment volume, as well as sitting in 80th and last place in overall prospects, is **Buffalo**. New York State has targeted Buffalo (and indeed most of upstate New York) for revitalization and redevelopment for at least three decades but, frankly, has few results about which to boast. Showcased developments are often aesthetic, with the High Line–inspired nature trail along the tracks of the former Delaware, Lackawanna, and Western New York railroad a case in point. However, where the successful Manhattan amenity was initiated in 2006 (its "official" groundbreaking) after a quarter-century of economic reinvention in New York City, Buffalo's project has nothing like the same fundamental economic and demographic growth upon which to build. That is not to say a brighter future can't lie ahead, but it probably will be triggered by more "nitty-gritty" than "pretty"—that is: basic jobs ahead of nature trails.

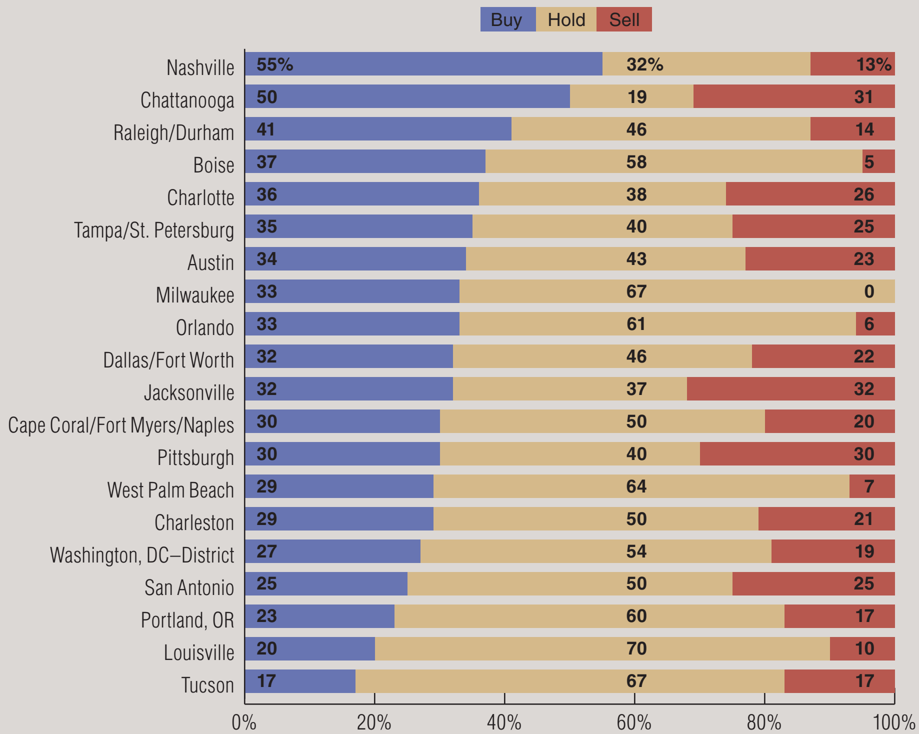
Treasures Ripe for Discovery?

There are a dozen or so markets where the judgments of *Emerging Trends* survey respondents are quite favorable, but which are not attracting investment flows consistent with their perceived overall prospects. As the search for overlooked investment opportunities intensifies, these markets may be well worth the deep dive necessary to discover some pearls of great value.

Let's look, for example, at three markets rated between 20 and 30 in our prospects survey, but which find themselves down in the 40s when it comes to recent investment volume. These markets, on the surface, are conspicuously disparate. But they share a number of quantifiable similarities: populations above the million-person threshold; and double-digit growth rates since 2010, yielding gains of more than 100,000 residents. These markets are "for real," even if they have not recently attracted capital commensurate with their fundamental attributes.

Take **Jacksonville**, in northeastern Florida. With population growth of 14.1 percent since 2010 bringing the metro area's resident count up above 1.5 million, it is understandable that Jacksonville leaped from 48th place in overall prospects a year ago to 23rd

Exhibit 2-9 **U.S. Retail Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Cities listed are the top 20 rated for investment in the retail sector, ordered according to the percentage of "buy" recommendations.

in this year's survey. Yet its investment flows rank only 43rd since January 2016. Our focus group is bullish. "This market offers the best of both worlds, with the suburbs allowing [for] quality of life with easy access to the 'big city.'" Boosters see great potential in the central business district: "Downtown Jacksonville is a relatively clean canvas for development." The public is increasingly more supportive of downtown, observing, "You can't be a suburb of nowhere." And, as to capital flows, local experts believe that "it is now Jacksonville's time for investment and growth," with "larger capital sources finally starting to look here." Thus, our respondents rate Jacksonville in the top 20 for homebuilding prospects, and it hits the top 20 for retail and industrial property markets.

As with Jacksonville, **Salt Lake City** finds itself with a large disparity between its overall prospects rank (number 22) and its capture of capital flow (44th over 3.5 years through June 2019). Unlike Jacksonville, though, Salt Lake City has slipped in its prospect ranking, which was 13th a year ago. The addition of 135,000 residents (12.4 percent) since 2010 is well appreciated, as the market ranks fifth in the nation in homebuilding prospects and 17th in development/redevelopment opportunities. Local focus group members alert us to rising interest in this market by large tech companies, and note that Salt Lake City ranks fifth in the nation in Opportunity Zones—perceived to be a key tool for attracting capital investment. But "the city is mandating densities less than the market is demanding" in the words of one local professional, and overall multifamily development is constrained by negative community sentiment. As one focus group participant put it, "There are those who would rather die than change zoning to permit a live/work/play concept." One thing about "opportunities"—they can prove fleeting if not grasped in a timely way.

The persistent mantra about investing in "the Smile States" has surely had staying power for a reason, but, like any slogan, it may also betray a blind spot. **Columbus, Ohio**, might fall into that blind spot if the gap between its strong overall prospects rank of 27th is compared with its 45th position for investment flow since early 2016. Why would a metro area such as Columbus be punching below its weight, with a population base of 2.1 million, which has grown 10.8 percent since 2010 by adding 204,000 residents? There seems to be a question about the sustainability of recent growth, which is an anomaly in the Midwest. The presence of the enormous campus of Ohio State University has made the area a magnet for young people, and may have fueled apartment demand. But there has not been comparable investor demand for multifamily assets. Industrial purchases have been more prominent, which may provide a clue about the metro area's true locational advantage—the intersection of Interstates 70 and 71, providing exceptional access to markets in a 360-degree ring around the city.

Two other Midwest markets, **Cincinnati** and **Louisville**, also may be hindered by "Smile distortion," although these two cities also face the headwinds of slower-than-national-average population growth. Both metro areas nicely step over the million-population threshold, with Cincinnati at 2.2 million and Louisville at 1.3 million, but they have growth at only 3.6 percent and 5.0 percent respectively since 2010. Investors and our survey respondents appear to have taken note. Cincinnati ranked 41st in overall prospects, roughly aligned with its investment position (48th). Meanwhile, Louisville was rated at bit higher in overall prospects (36th), but it saw sparser investment flows, well down the list in 62nd place. Of possibly greater significance for the future, though, is Louisville's top-20 rating for both industrial and hotel prospects.

Further up the Ohio River, **Pittsburgh** has deservedly been lauded for its remarkable municipal reinvention. Our *Emerging Trends* survey respondents endorse this perspective, accentuating the positive by according this market 38th place on the overall prospects lists. Investors, however, seem more skeptical, with capital committed since the beginning of 2016, down in 50th position among the 80 markets reviewed. The bulk of recent investment has flowed into the multifamily sector.

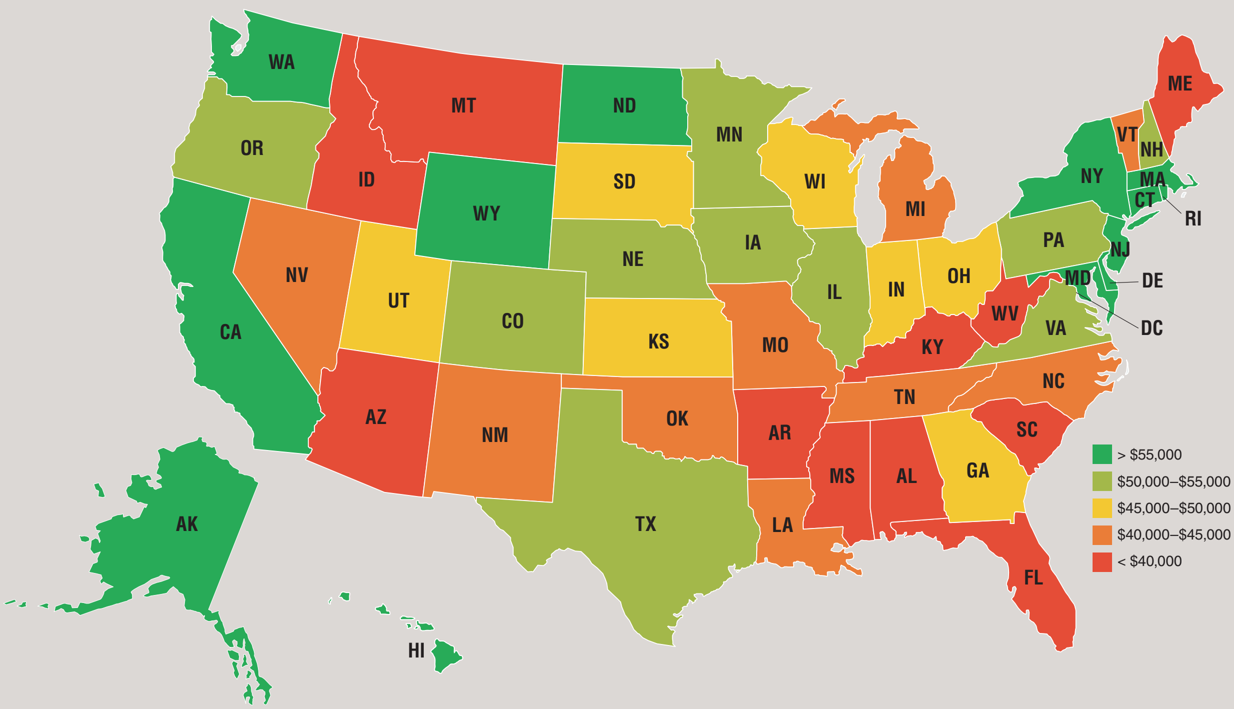
The Pittsburgh metro area has actually lost 31,000 (–1.3 percent) residents since 2010. So, even though Pittsburgh still maintains a desirable population size of 2.2 million, it is not engendering enthusiasm in investment committee meetings. Could this change? Of course it could. But in the perspective of local market participants, that shift in trend is not expected soon.

Even in the Smile states there are markets enjoying favorable sentiment, but not yet converting the good vibes into a flood of incoming real estate capital.

Greenville, South Carolina, finds itself rated number 44 in overall prospects, just about the same as a year ago. This is somewhat surprising, given the very favorable national attention provided the city as it has revitalized its downtown with offices, condominiums, craft breweries, and restaurants. Investors have not yet grabbed for the brass ring here, standing just 61st in total volume from early 2016 through June 2019. This is low even considering the metro area's size. Unquestionably, Greenville has seen growth this decade, with an MSA population increase of 10 percent, or 82,000 residents. However, it is still well below the million-person population threshold that large real estate investors seem to consider *de minimis* for investment committee consideration.

Timing is a critical factor in real estate success, as every experienced professional knows well. Our **Oklahoma City** focus group expressed some concern about this, noting that the make-up of the city council is changing, "with fewer incentives for the development community moving forward. This is happening at the time that our recruitment and

Exhibit 2-10 **Gross State Product per Capita**



Source: U.S. Bureau of Economic Analysis.

development efforts should be ramping up." Oklahoma City has enjoyed vigorous growth since 2010, adding more than 140,000 residents (up 11.5 percent). Yet it ranks just 54th in overall prospects in our survey and an even lower 65th for investment.

Some smaller markets are experiencing growth spurts of amazing proportions, and several are in those Smile states. Those robust growth rates are typically available for capture only by professionals with local market expertise. Take, for example, the **Cape Coral/Fort Myers/Naples** area. Since 2010, it has witnessed an explosive 22 percent population increase, adding 135,000 residents to its base. Even so, the current population estimate is 754,000, well below the "magic million" mark. Local experts concede that it is not only size bias inhibiting investment, as they note "environmental permitting and entitlements, outrageous exactions and impact fees, density in general, workforce scarcity, and a dearth of workforce housing" as challenges faced by the southwestern Florida markets.

Boise, Idaho's state capital, has a population size similar to that of the Naples MSA and also resembles its growth pattern, with an 18.5 percent increase in residents (114,000) since 2010. Boise has been seeing an influx from the higher-cost West Coast metro areas, especially tech workers attracted by the greater affordability of housing here. Boise has been on the radar screen of *Emerging Trends* respondents for several years, and its 43rd-place ranking in overall prospects is an eight-step upward move from our previous edition. Nevertheless, Boise's investment share since 2016 is down near the bottom in 74th place. Local professionals acknowledge that infrastructure is not keeping up with growth, and that zoning is shifting sprawl further into the suburbs, especially west of the downtown. There is a bit of political discontinuity as well: NIMBYism. Our focus group notes that "the state is not coordinating or cooperating with local-level governments." You might think that in small markets it would be easier to get on the same page, but the Gershwin rule applies here: "It ain't necessarily so."

About 400 miles north-northwest is **Spokane, Washington**, slightly smaller at a metro population of 573,000 and a bit slower growing, with an increase of 8.7 percent since 2010. Spokane boasts the well-regarded Gonzaga University and has been transitioning from a natural resources–based economy to a more high-tech and services orientation. But it has been generating less ebullience than Boise among *Emerging Trends* survey respondents, ranking only 61st in overall prospects, with a similar lassitude among investors, in 79th place.

Finally, for this section of our markets review, let's take a look at three markets where evidence of growth can be uncovered, albeit with differing metrics. One great study in contrasts might be **Des Moines**, a metro area that has racked up a 15.1 percent population gain (86,000 residents) since 2010, but which is rated just 58th in overall prospects for 2020. This view seems amply reflected in its 72nd position in post-2016 investment. The market is under the magic million population threshold (665,000) despite its growth, and it is not in the "Smile" configuration either. Opportunities to be discovered here are most likely to be identified by locally savvy developers and financiers.

Tacoma, Washington, also has enjoyed enviable population growth since 2010, adding 10.2 percent to its population base with a not-insubstantial 81,000 new residents. But it finds itself just below Des Moines in overall prospects (ranking 59th), though quite a bit higher (at 46th) in capital volume, with a 0.5 percent national share since 2016. Tacoma's population is 22 percent of the greater Seattle area, but it is losing share to other parts of the Puget Sound economy. One factor to consider is how so-called second cities fit into prosperous metropolitan areas. Tacoma appears to be trying to forge an identity of a revived downtown with restaurants, museums, and architectural nostalgia, but that does not appear to be infusing the economic base with the kind of energy needed to attract greater volumes of capital.

On the East Coast, however, **Jersey City** may serve as an alternative "second city" model. The most obvious measure of its revival is its skyline, directly across from the Manhattan's World Trade Center, fed by the Port Authority Trans-Hudson (PATH) rail line and the New Jersey Light Rail system extending from Hoboken to Bayonne. Jersey City has taken advantage of its proximity to Manhattan, and its competitive cost advantages, to grow its population by 7.3 percent since 2010 while creating a nightlife on its riverfront and spurring redevelopment near its historic Journal Square. So *Emerging Trends* survey respondents place it in 32nd place in overall prospects, expecting investors to up its inflows of capital over time.

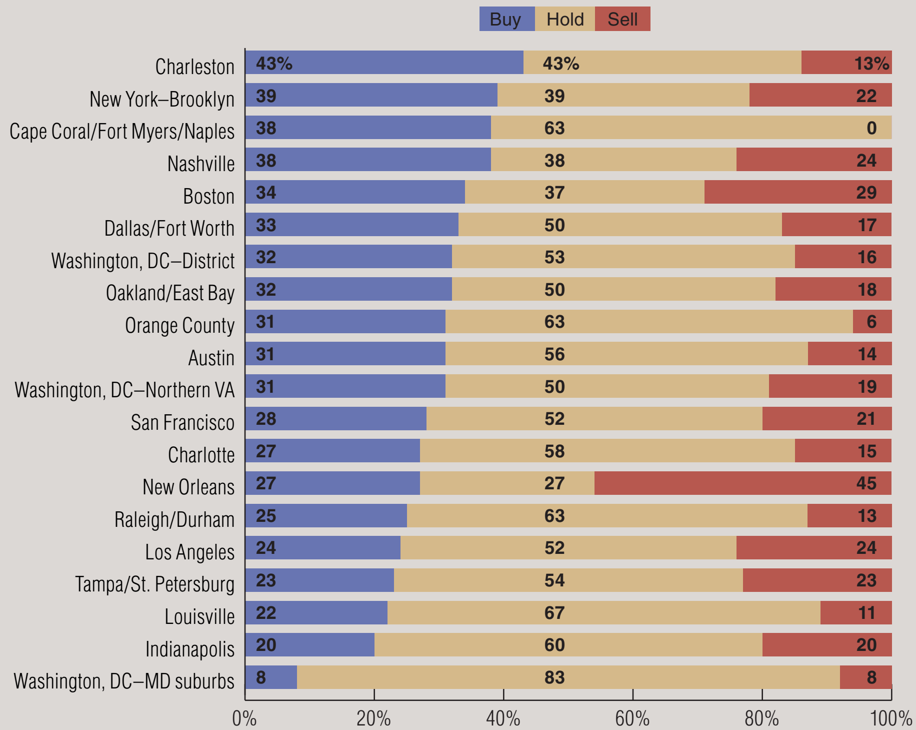
Potpourri: Thrifty Choices, Boutiques, and Special Situations

A final category, perhaps a catch-all, might include those markets whose mix of strengths and weaknesses induce our survey respondents to rate their prospects in the lowest 30 positions but that still afford selective opportunities for those willing to explore the landscape for potential overlooked by most others. We discover that the 11 markets have accounted for 1.9 percent of real property investment from the start of 2016 through midyear 2019, well short of their 3.9 percent share of the total U.S. population. Even with such a small market share, the dollar volumes are not trivial. Since the start of 2018, the "potpourri markets" have captured over $20 billion in transactions.

St. Louis attracted $4.4 billion in real estate investment during 2018 and through the first half of 2019, and achieved the 41st position in investment share since early 2016. That this is much higher than our survey respondents' evaluation of its overall prospects (number 60) is a signal worthy of attention. Impressions of shrinkage in St. Louis stem from the decline in the urban core since the 1950s, but the metro area actually has been moderately expanding since the mid-1980s thanks to suburban growth. Investors shopping for product here are finding assets for purchase across the apartment, office, and industrial sectors. Office rents have been rising fairly steeply, and the Clayton submarket is boasting occupancy above 95 percent. The area's 254 million-square-foot warehouse market, meanwhile, is finding steady logistics demand supporting an expansion of inventory.

Even more dramatically, **Memphis** ranked just 76th in overall prospects, but in tallying 2016-to-present investment volume right in line with its population share, this metro area's 49th position in capital volume is 27 steps higher. Memphis benefits from the industrial revival of the Deep South, inexpensive commercial rents, and an aggressive push from the local Economic Development Growth Engine (EDGE) program of business incentives. And it surpasses the million-resident threshold that is a litmus test for some national investors.

Exhibit 2-11 **U.S. Hotel Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Cities listed are the top 20 rated for investment in the hotel sector, ordered according to the percentage of "buy" recommendations.

New Orleans also is home to more than a million metro-area residents, but has claimed a tiny investment share since 2016, including about $1.5 billion since the start of 2018. Institutional investors and real estate investment trusts (REITs) are returning, perhaps attracted by population growth at an above-national-average growth rate of 6.8 percent since 2010. The long rebound from Hurricane Katrina has helped, and the Crescent City's 2019 resilience in the face of Gulf of Mexico storms and high water on the Mississippi River due to Midwest deluges count in this market's favor. Nevertheless, New Orleans's 77th place on the overall prospects list is fairly closely matched with its 69th spot in 2016–2019 investment share.

Providence and **Hartford** also stand with populations above the one-million mark. Providence is implementing a comprehensive economic development approach, with components of design and technology, health and wellness, urban foods, and maritime enterprises. The MSA has succeeded in attracting 20,000 new residents since 2010, a growth rate that is slow but moving in the right direction. By contrast, Hartford endured modest slippage in its resident base (losing 6,000, or 0.5 percent) since 2010 and its economy has been languid for an extended period. Hartford ranks 55th in transaction volume since 2016, and Providence 60th, both nicely above their overall prospects standings but lower than their population share. Over the 18 months ending June 2019, these two New England markets have posted just $3.1 billion in property transactions.

Virginia Beach/Norfolk ranks 58th in the nation in transaction volume since 2016, even though its prospects are considered just 71st among 80 markets in our survey. This includes about $3 billion in transactions in the 2018–2019 period (about the same as Hartford and Providence combined). With a population exceeding 1.7 million, the Tidewater MSA steps easily over the size threshold commonly regarded as a key benchmark. This is confirmed by the distribution of buyers in early 2019, as both institutional purchasers and listed REITs took 22 percent of the acquisition volume. Many people are surprised to find that Virginia Beach is the state's largest city, followed by Norfolk—both of which surpass the state capital, Richmond. Virginia Beach has a dynamic economy with a strong tourism component, while Norfolk's large natural harbor is home to a major U.S. Navy presence as well as the second-busiest commercial cargo port on the East Coast (after the Port of New York and New Jersey).

In the Great Lakes region, **Milwaukee** places 63rd in transaction amounts since 2016, closely aligned with the consensus of survey respondents that put it in 66th place in overall prospects. Milwaukee's metro population of 1.6 million is substantial, if slow growing at just a 1.3 percent increase since 2010. Its credibility in the investment world is on the rise, with 30 percent of early 2019 transaction volume coming from institutions, listed REITs, and international purchasers. Local economic growth is now led by health care and education. Like St. Louis and Norfolk/Virginia Beach, Milwaukee benefits from a favorable cost of living compared with America's largest cities.

Thrifty choices are as important to sophisticated investors as they are to educated consumers. That cost advantage might be magnified in "boutique markets" such as **Madison**, **Knoxville**, **Chattanooga**, and **Portland, Maine**. Each are metropolitan areas below the million-resident threshold, with Chattanooga and Portland under 600,000. Of the four, Madison, Wisconsin, is growing most quickly, adding 55,000 since 2010 for a 9.1 percent population increase. Madison, of course, has the advantages that come from being a state capital home to a major research university and has been lauded for its tech innovation and entrepreneurship. Knoxville is home to the main campus of the University of Tennessee, classified highly by the Carnegie Commission as a center for research, especially with links to the nearby Oak Ridge National Laboratory. Chattanooga sits right on the Tennessee-Georgia border, less than two hours' drive from Atlanta. It has a diversified mix of service and manufacturing industries, and has grown its population by 6.2 percent since 2010, with residents drawn by economic opportunity and a cost of living below the U.S. average. Portland is Maine's largest city and its metro area is home to 535,000 people, having increased 4.2 percent since 2010. It benefits from its proximity to Boston and enjoys spillover effects in the fields of technology and finance, as well as tourism around its historic port.

Additional market data from the *Emerging Trends* survey and district council focus groups are available at **knowledge.uli.org/et20** and include:

- Sector rankings;
- Ratings of the local economy, local availability of debt and equity capital, and local public/private investment;
- Strengths of local markets, as reported by ULI district council focus groups; and
- Investment prospects ratings, 2005–2020.

Exhibit 2-12 **Economy**

	2020 population			Population distribution % of total population				Business costs					2020 total employment		Industry location quotient**			
Market	Total (millions)	5-year annual projected % change	5-year projected annual net migration (000s)	Ages 0–24	Ages 25–44	Ages 45–64	Ages 65 and older	2020 real GMP per capita	Real GMP per capita 5-year projected annual % change	Real per-capita income	Real per-capita income 5-year projected growth	Cost of doing business*	Total (000s)	5-year annual projected % change	STEM	Office-using	Goods-producing	Tourism
United States	**332.40**	**0.7**	**1,077.42**	**31%**	**27%**	**25%**	**16%**	**$58,348**	**0.86**	**$51,365**	**1.7**	**100**	**152,941.48**	**0.6**	**1.0**	**1.0**	**1.0**	**1.0**
Albuquerque	0.93	0.8	3.91	31%	27%	24%	17%	$44,348	0.66	$42,910	2.0	98.7	403.10	0.9	1.1	1.0	0.8	1.0
Atlanta	6.11	1.2	92.65	33%	29%	25%	13%	$63,286	0.83	$51,377	1.8	97.0	2,903.92	1.1	1.2	1.2	0.8	1.0
Austin	2.28	2.2	43.88	35%	31%	23%	11%	$66,692	0.81	$53,521	1.4	99.6	1,118.25	2.0	1.7	1.1	0.9	1.1
Baltimore	2.81	0.3	-2.17	30%	27%	27%	17%	$66,187	1.33	$56,124	2.0	110.4	1,445.54	0.5	1.4	1.1	0.8	0.9
Birmingham	1.16	0.3	3.08	31%	27%	26%	17%	$53,892	0.90	$54,507	1.8	88.8	552.52	0.4	0.8	1.0	1.0	0.9
Boise	0.76	1.6	6.42	33%	27%	24%	15%	$45,985	1.00	$45,848	2.0	95.6	351.28	1.4	1.1	1.0	1.2	1.0
Boston	4.94	0.5	11.31	29%	27%	27%	17%	$88,457	1.02	$66,039	1.9	117.5	2,819.19	0.5	1.6	1.2	0.8	0.9
Buffalo	1.13	-0.3	-4.94	28%	25%	27%	20%	$51,023	0.64	$51,274	1.7	98.4	572.56	-0.2	0.9	0.9	1.0	1.0
Cape Coral/Fort Myers/ Naples	1.17	1.8	47.69	25%	22%	25%	27%	$39,708	0.84	$63,698	2.0	100.7	442.76	1.7	0.4	0.9	1.1	1.5
Charleston	0.81	1.4	8.25	31%	28%	25%	16%	$50,831	0.80	$49,574	1.9	98.4	381.76	1.4	1.0	0.9	1.0	1.2
Charlotte	2.66	1.4	56.92	32%	28%	26%	14%	$64,152	0.85	$52,981	1.8	95.0	1,260.14	1.3	1.1	1.2	1.1	1.1
Chattanooga	0.57	0.6	5.50	29%	25%	27%	19%	$46,417	0.70	$49,665	1.4	90.0	268.33	0.4	0.7	0.8	1.3	1.0
Chicago	9.49	0.1	-32.78	31%	28%	26%	15%	$68,726	0.61	$57,666	1.8	105.5	4,841.91	0.3	0.9	1.2	1.0	0.9
Cincinnati	2.21	0.3	3.32	32%	26%	26%	16%	$60,084	0.66	$57,588	1.6	92.2	1,138.51	0.3	1.0	1.1	1.2	1.0
Cleveland	2.05	0.0	-7.80	28%	25%	28%	20%	$65,156	0.62	$58,214	1.6	92.7	1,089.91	0.0	1.0	1.0	1.2	0.9
Columbus	2.15	0.8	10.75	33%	28%	25%	14%	$60,637	0.72	$53,491	1.7	94.3	1,128.44	0.8	1.2	1.2	0.8	0.9
Dallas/Fort Worth	7.81	1.6	89.15	35%	29%	24%	12%	$69,678	0.81	$52,077	1.4	99.3	3,853.14	1.4	1.2	1.2	1.0	1.0
Daytona Beach/Deltona	0.68	1.2	20.18	26%	21%	27%	25%	$25,132	0.91	$42,442	1.4	99.0	209.50	0.8	0.4	0.7	1.0	1.5
Denver	3.01	1.2	19.43	31%	31%	25%	14%	$72,188	0.74	$56,295	1.5	107.7	1,545.71	1.1	1.5	1.2	0.9	1.0
Des Moines	0.68	1.3	7.46	34%	29%	24%	13%	$78,124	0.83	$56,149	1.9	95.1	385.46	1.1	1.1	1.4	0.9	0.9
Detroit	4.33	0.0	-7.37	29%	25%	28%	18%	$57,132	0.68	$53,121	1.8	96.1	2,053.46	0.0	1.6	1.2	1.3	0.9
Fort Lauderdale	1.99	0.9	28.80	27%	28%	27%	18%	$53,260	0.96	$45,327	1.9	111.2	880.78	1.2	1.6	1.2	0.7	1.0
Gainesville	0.29	0.4	3.70	37%	25%	22%	16%	$43,045	1.23	$44,128	2.3	97.3	147.96	0.5	0.9	0.7	0.5	1.0
Greenville, SC	0.92	0.7	9.57	31%	25%	26%	18%	$43,471	0.79	$46,091	1.7	91.5	437.97	0.8	0.9	1.0	1.4	1.0
Hartford	1.21	0.0	0.11	30%	24%	28%	18%	$72,575	0.90	$60,214	1.7	105.2	644.91	-0.1	1.2	1.1	1.1	0.8
Honolulu	0.98	0.1	-0.40	30%	28%	23%	19%	$65,586	0.58	$45,516	1.9	135.7	484.35	0.3	0.8	0.9	0.6	1.4
Houston	7.23	1.6	68.46	35%	30%	24%	11%	$74,069	0.91	$52,203	1.5	102.7	3,224.73	1.4	1.1	1.0	1.3	0.9
Indianapolis	2.09	0.9	10.24	33%	28%	25%	14%	$64,350	0.83	$56,376	1.6	93.3	1,100.05	0.9	1.0	1.1	1.0	0.9
Inland Empire	4.75	1.4	-12.43	35%	28%	24%	13%	$33,451	0.59	$36,205	1.4	109.4	1,550.96	1.3	0.5	0.6	1.1	1.0
Jacksonville	1.59	1.3	23.64	30%	27%	26%	17%	$48,235	0.86	$49,576	1.9	98.6	733.75	1.3	0.8	1.2	0.8	1.1
Jersey City	0.68	0.6	-0.97	30%	34%	25%	12%	$60,927	0.74	$50,591	2.0	118.0	286.75	0.4	1.0	1.4	0.4	0.7
Kansas City, MO	2.18	0.7	-0.94	32%	27%	25%	15%	$59,071	0.98	$54,253	1.7	95.4	1,117.77	0.7	1.2	1.2	0.9	0.9
Knoxville	0.90	0.6	6.77	29%	25%	26%	19%	$45,675	0.93	$49,151	1.3	89.9	413.56	0.7	1.0	1.0	1.1	1.0
Las Vegas	2.32	1.4	48.59	31%	29%	25%	15%	$47,134	0.99	$45,325	1.9	100.9	1,058.75	1.8	0.5	1.0	0.7	2.6
Long Island	2.83	-0.1	-4.49	28%	25%	28%	18%	$63,304	0.77	$62,108	1.9	120.0	1,366.88	0.1	1.8	0.8	0.9	0.9
Los Angeles	13.34	0.3	-16.56	29%	30%	26%	15%	$78,263	1.02	$51,511	1.8	120.4	6,263.39	0.4	1.0	1.0	0.9	1.1
Louisville	1.31	0.6	4.21	30%	27%	26%	17%	$54,129	0.41	$51,760	1.6	91.4	681.08	0.4	0.8	0.9	1.3	0.9
Madison	0.67	0.7	0.78	33%	27%	25%	15%	$72,828	1.07	$57,551	1.9	98.2	410.96	1.0	1.8	0.9	1.0	0.9
Memphis	1.36	0.5	3.08	33%	28%	25%	14%	$51,180	0.70	$49,367	1.5	91.4	662.63	0.5	0.6	0.9	0.8	1.0

Sources: IHS Markit forecast, U.S. Census Bureau, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics.

*Cost of doing business: national average = 100.

**Industry location quotient measures industry employment concentration by market—metro industry employment as a percentage of metro total divided by national industry employment as a percentage of national total.

Exhibit 2-12 **Economy**

	2020 population			Population distribution % of total population				Business costs					2020 total employment		Industry location quotient**			
Market	Total (millions)	5-year annual projected % change	5-year projected annual net migration (000s)	Ages 0–24	Ages 25–44	Ages 45–64	Ages 65 and older	2020 real GMP per capita	Real GMP per capita 5-year projected annual % change	Real per-capita income	Real per-capita income 5-year projected growth	Cost of doing business*	Total (000s)	5-year annual projected % change	STEM	Office-using	Goods-producing	Tourism
United States	**332.40**	**0.7**	**1,077.42**	**31%**	**27%**	**25%**	**16%**	**$58,348**	**0.86**	**$51,365**	**1.7**	**100**	**152,941.48**	**0.6**	**1.0**	**1.0**	**1.0**	**1.0**
Miami	2.80	0.7	28.80	28%	28%	27%	18%	$54,547	0.87	$42,993	1.9	111.2	1,237.96	0.8	1.7	1.1	0.6	1.1
Milwaukee	1.58	0.0	-2.03	32%	26%	26%	16%	$62,938	0.89	$56,932	2.0	96.3	889.45	0.3	1.0	1.0	1.3	0.8
Minneapolis/St. Paul	3.70	0.7	18.16	32%	28%	26%	15%	$68,802	1.01	$58,768	1.9	102.7	2,044.86	0.7	1.3	1.1	1.1	0.8
Nashville	1.99	1.2	16.95	33%	28%	25%	14%	$67,110	0.86	$58,827	1.4	95.4	1,057.69	1.2	0.8	1.1	1.0	1.1
New Orleans	1.28	0.2	1.34	30%	28%	26%	17%	$62,718	1.10	$52,294	1.8	94.5	590.95	0.4	0.7	0.9	0.9	1.4
New York–Brooklyn	2.57	0.0	-11.43	32%	31%	24%	14%	$57,733	0.74	$42,335	1.7	130.0	836.79	0.4	2.1	0.6	0.5	0.7
New York–Manhattan	1.63	0.1	-2.07	24%	37%	23%	16%	$371,378	1.33	$149,829	2.4	150.0	2,607.22	0.3	1.4	1.9	0.2	1.1
New York–other boroughs	4.16	0.0	-5.81	30%	29%	26%	15%	$53,609	0.61	$37,990	1.4	125.2	1,246.30	0.3	0.4	0.5	0.6	0.7
Northern New Jersey	6.72	0.3	-3.26	30%	26%	27%	17%	$65,527	0.70	$56,071	1.6	118.0	3,111.07	0.1	2.0	1.1	0.8	0.8
Oakland/East Bay	2.86	0.8	8.70	29%	29%	26%	16%	$68,765	0.99	$57,854	1.6	120.0	1,215.37	0.8	1.8	1.0	1.1	0.9
Oklahoma City	1.43	0.9	3.73	35%	28%	23%	14%	$54,278	0.96	$51,543	1.8	93.5	668.87	1.0	1.0	0.9	1.0	1.0
Omaha	0.96	0.9	2.44	35%	28%	24%	14%	$62,794	0.85	$57,638	1.8	95.1	516.13	0.6	1.1	1.1	1.0	0.9
Orange County	3.22	0.7	-7.34	29%	29%	26%	16%	$85,407	0.99	$56,588	1.8	120.4	1,687.81	0.8	1.9	1.3	1.2	1.2
Orlando	2.69	1.7	71.11	31%	29%	25%	15%	$50,027	0.77	$42,099	1.8	101.8	1,370.72	1.9	0.8	1.2	0.8	1.8
Philadelphia	6.13	0.2	-4.39	30%	27%	26%	17%	$70,601	0.95	$59,195	1.7	108.1	3,002.10	0.3	1.1	1.1	0.8	0.8
Phoenix	5.05	1.5	91.64	33%	27%	24%	16%	$49,682	0.89	$45,019	1.7	100.2	2,215.36	1.5	1.1	1.2	1.0	1.0
Pittsburgh	2.32	-0.1	3.74	26%	24%	28%	21%	$63,592	0.86	$58,105	1.6	99.5	1,202.45	0.0	1.1	1.0	1.0	0.9
Portland, ME	0.54	0.3	0.90	26%	25%	29%	21%	$56,762	0.64	$53,602	1.7	106.9	290.25	0.2	1.0	1.0	1.0	1.1
Portland, OR	2.53	1.0	17.50	29%	30%	25%	16%	$64,772	0.44	$53,096	1.7	103.0	1,238.79	0.9	1.4	1.0	1.3	0.9
Providence	1.63	0.2	0.41	29%	25%	27%	18%	$48,666	0.89	$52,287	1.8	105.5	747.41	0.3	0.8	0.9	1.0	1.0
Raleigh/Durham	2.69	1.3	56.36	33%	27%	25%	15%	$57,830	1.09	$52,715	1.7	97.0	1,258.48	1.3	1.7	1.0	1.0	1.0
Richmond	1.33	0.8	5.54	31%	27%	26%	16%	$60,161	0.63	$56,856	1.7	97.5	694.08	0.7	1.1	1.2	0.8	0.9
Sacramento	2.41	1.2	7.60	32%	27%	25%	16%	$53,475	0.95	$52,592	1.6	105.1	1,040.53	1.2	1.2	0.9	0.8	1.0
Salt Lake City	1.26	1.3	2.85	36%	30%	22%	12%	$68,557	0.93	$48,977	1.7	99.3	761.45	1.2	1.3	1.2	1.1	0.8
San Antonio	2.61	1.6	24.25	34%	28%	24%	14%	$49,544	0.85	$46,567	1.4	94.5	1,099.45	1.5	0.8	1.1	0.8	1.2
San Diego	3.39	0.7	1.46	31%	29%	24%	15%	$68,631	1.04	$50,261	1.9	120.7	1,526.49	0.8	1.5	1.1	1.0	1.2
San Francisco	1.67	0.4	5.84	25%	32%	26%	17%	$188,424	1.69	$96,129	2.6	137.0	1,197.84	0.8	2.2	1.6	0.6	1.1
San Jose	2.02	0.9	2.33	31%	29%	25%	14%	$148,064	1.18	$75,833	2.2	130.9	1,163.52	0.9	3.3	1.2	1.5	0.9
Seattle	3.12	1.0	25.08	29%	31%	26%	14%	$106,510	0.67	$68,368	2.0	118.0	1,786.20	0.8	1.9	1.0	1.2	0.9
Spokane, WA/Coeur d'Alene, ID	0.76	1.1	5.75	30%	26%	25%	19%	$44,543	0.51	$45,128	1.2	96.8	329.02	0.9	0.8	0.8	1.1	0.9
St. Louis	2.81	0.1	0.05	30%	26%	26%	17%	$54,991	0.87	$57,473	1.6	93.1	1,405.79	0.2	1.0	1.0	1.0	1.0
Tacoma	0.92	1.2	6.31	32%	28%	25%	15%	$48,186	0.78	$43,880	1.2	110.0	332.74	0.9	1.5	0.7	1.0	1.0
Tallahassee	0.39	0.7	4.59	37%	26%	23%	15%	$40,717	1.00	$44,732	2.2	96.5	189.90	0.8	1.0	0.8	0.5	1.0
Tampa/St. Petersburg	3.24	1.1	55.41	27%	26%	27%	20%	$45,533	0.99	$45,314	1.9	102.0	1,402.30	1.2	0.9	1.3	0.8	1.1
Tucson	1.06	0.7	14.33	30%	24%	24%	22%	$36,932	1.06	$43,447	1.8	97.4	393.80	0.9	1.2	0.9	0.9	1.1
Virginia Beach/Norfolk	1.74	0.6	3.36	32%	26%	25%	16%	$52,362	0.84	$50,088	1.8	99.1	802.64	0.5	1.2	0.9	0.9	1.1
Washington, DC–District	0.72	0.8	0.36	29%	38%	21%	12%	$186,653	0.81	$66,071	1.9	126.0	807.10	0.6	1.5	1.2	0.2	0.9
Washington, DC–MD suburbs	1.70	1.1	5.55	32%	29%	26%	13%	$56,885	1.11	$47,786	1.8	118.0	675.78	1.2	1.4	0.9	0.9	1.0
Washington, DC–Northern VA	2.66	0.9	7.92	31%	30%	26%	13%	$86,062	1.14	$58,657	1.8	120.0	1,345.87	1.1	1.8	1.7	0.4	0.9
Westchester, NY/Fairfield, CT	1.91	0.0	-2.40	30%	25%	27%	17%	$87,603	1.07	$89,518	1.9	125.2	890.14	0.0	1.1	1.1	0.8	0.9
West Palm Beach	1.52	1.1	43.20	25%	24%	25%	25%	$54,545	0.91	$69,592	1.9	111.2	658.23	1.2	1.9	1.2	0.7	1.3

Exhibit 2-13 **Housing**

	Households		Median home prices				2020 single-family home metrics as % of previous cycle peak					Multifamily metrics	
Market	2020 total (000s)	5-year projected annual growth % change	2020 price	2019–2020 % change	2020 as % of previous cycle peak	Affordability index*	Permits	Starts	Completions	Sales	Walk Score	Rent/cost of ownership**	Rent as % of household income
United States	**128,461.08**	**1.1**	**$276,150**	**2.3**	**124%**	**153.0**	**50.3%**	**51.2%**	**51.3%**	**75.7%**	**54**	**0.8**	**33.4**
Albuquerque	363.56	1.2	$221,156	3.3	111%	145.3	26.8%	27.4%	24.8%	55.0%	43	0.6	18.8
Atlanta	2,285.93	0.8	$206,533	2.1	121%	179.4	39.5%	43.6%	40.6%	86.5%	49	0.9	21.0
Austin	816.25	1.6	$296,329	0.4	161%	145.8	80.1%	79.2%	77.8%	88.6%	40	0.6	18.4
Baltimore	1,090.92	2.5	$285,450	3.4	100%	169.1	55.2%	54.1%	47.0%	50.7%	69	0.7	18.1
Birmingham	454.64	0.7	$209,180	2.5	127%	158.2	43.4%	41.8%	37.2%	87.6%	35	0.6	18.7
Boise	274.78	0.5	$225,052	0.6	109%	155.5	53.2%	52.5%	55.0%	59.6%	40	0.7	22.3
Boston	1,893.71	1.7	$499,134	3.2	122%	112.3	71.8%	72.7%	76.0%	109.9%	81	0.7	30.7
Buffalo	499.53	0.8	$153,609	4.1	150%	243.4	32.3%	38.6%	56.5%	57.1%	68	0.9	18.6
Cape Coral/Fort Myers/Naples	486.88	0.6	$318,823	1.3	89%	113.0	25.8%	26.5%	27.9%	60.8%	38	0.6	21.9
Charleston	323.00	2.2	$271,569	1.0	126%	140.1	64.1%	66.3%	60.8%	127.0%	40	0.6	21.2
Charlotte	1,020.77	1.9	$228,914	1.1	147%	156.9	60.6%	62.5%	59.8%	88.3%	26	0.8	21.0
Chattanooga	228.93	1.6	$194,985	2.1	115%	191.3	48.6%	50.9%	48.0%	82.3%	29	0.7	17.9
Chicago	3,571.61	0.6	$278,105	3.2	101%	150.7	25.5%	24.9%	21.5%	63.7%	78	0.8	22.3
Cincinnati	886.17	0.5	$170,297	3.1	117%	232.5	43.4%	42.8%	42.7%	66.1%	50	0.8	16.4
Cleveland	892.30	0.7	$158,273	3.4	114%	231.9	39.2%	38.9%	38.5%	81.3%	60	0.9	19.8
Columbus	851.21	0.4	$196,018	2.4	131%	197.6	41.8%	40.9%	37.0%	88.8%	41	0.7	16.3
Dallas/FortWorth	2,743.35	1.8	$260,868	1.9	174%	147.0	61.8%	64.2%	59.5%	94.7%	46	0.6	18.2
Daytona Beach/Deltona	299.31	1.3	$202,070	1.3	100%	147.7	31.7%	33.1%	27.7%	68.3%	37	0.8	26.4
Denver	1,167.82	1.8	$408,360	-0.4	164%	111.2	68.2%	69.4%	64.2%	93.0%	61	0.5	20.2
Des Moines	266.88	1.6	$200,140	1.7	134%	191.5	77.2%	63.9%	66.3%	73.7%	45	0.7	14.5
Detroit	1,758.66	1.5	$185,256	3.6	100%	200.6	37.7%	39.8%	40.2%	66.7%	55	0.8	20.0
Fort Lauderdale	741.72	1.8	$295,737	-0.3	80%	115.2	27.6%	28.1%	23.0%	74.1%	59	0.8	30.7
Gainesville	115.22	0.5	$203,287	2.4	88%	180.0	41.8%	43.6%	39.1%	70.3%	34	0.8	27.0
Greenville, SC	363.87	1.5	$201,869	2.3	132%	163.4	74.0%	77.5%	73.6%	104.7%	41	0.7	20.1
Hartford	474.30	1.3	$266,468	6.3	102%	188.8	42.6%	44.1%	39.8%	85.8%	71	0.7	18.6
Honolulu	317.64	1.0	$799,618	3.0	125%	61.8	27.8%	30.9%	30.5%	72.1%	64	0.3	25.8
Houston	2,519.17	1.1	$238,567	1.6	157%	161.7	65.7%	67.3%	65.2%	74.9%	49	0.7	18.2
Indianapolis	824.27	0.4	$176,617	2.1	144%	217.2	49.4%	49.6%	47.3%	102.2%	30	0.7	16.5
Inland Empire	1,449.00	1.3	$366,438	2.2	91%	91.5	33.1%	36.8%	31.9%	59.9%	41	0.6	24.8
Jacksonville	615.22	1.3	$237,590	1.0	111%	158.5	49.7%	51.8%	55.8%	81.1%	27	0.7	19.9
Jersey City	268.68	0.4	$386,276	5.8	100%	88.1	95.0%	108.6%	92.9%	68.7%	87	0.8	14.4
Kansas City, MO	859.86	0.9	$208,303	2.6	134%	193.8	42.7%	40.8%	34.4%	78.6%	34	0.7	16.3
Knoxville	362.13	1.0	$183,466	2.3	118%	173.7	55.5%	57.0%	56.7%	82.6%	31	0.6	16.2
Las Vegas	874.57	1.9	$257,523	1.0	81%	126.1	31.4%	35.2%	32.1%	120.5%	41	0.7	22.4
Long Island	964.94	0.5	$511,239	3.5	108%	114.0	44.6%	43.8%	42.5%	54.8%	95	0.6	24.1
Los Angeles	4,426.49	1.1	$637,907	5.9	111%	57.5	47.2%	50.6%	54.8%	54.2%	67	0.5	32.5
Louisville	527.18	1.0	$179,605	2.3	131%	195.7	40.4%	43.5%	43.1%	44.4%	33	0.7	15.8
Madison	287.50	1.0	$277,456	1.9	122%	164.0	43.8%	43.8%	46.3%	81.7%	49	0.6	18.4
Memphis	518.57	1.0	$177,395	2.9	125%	180.1	33.2%	35.0%	31.3%	67.3%	37	0.7	18.4
Miami	959.71	0.5	$347,871	-0.7	91%	78.3	28.3%	29.4%	26.1%	68.3%	79	0.7	34.2

Sources: IHS Markit forecast, U.S. Census Bureau, walkscore.com, Reis Inc., U.S. Bureau of Economic Analysis.
*Affordability index is the percentage of the median home price that can be purchased with the median household income in that market.
**Market apartment rent divided by the median mortgage payment, including estimated taxes, insurance, and maintenance.

Exhibit 2-13 **Housing**

	Households		Median home prices				2019 single-family home metrics as % of previous cycle peak					Multifamily metrics	
Market	2020 total (000s)	5-year projected annual growth % change	2020 price	2019–2020 % change	2020 as % of previous cycle peak	Affordability index*	Permits	Starts	Completions	Sales	Walk Score	Rent/cost of ownership**	Rent as % of household income
United States	**128,461.08**	**1.1**	**$276,150**	**2.3**	**124%**	**153.0**	**50.3%**	**51.2%**	**51.3%**	**75.7%**	**54**	**0.8**	**33.4**
Milwaukee	646.64	1.1	$255,896	2.5	116%	153.7	46.7%	46.1%	43.2%	82.7%	62	0.6	20.2
Minneapolis/St. Paul	1,425.64	2.1	$272,720	2.6	117%	166.9	41.6%	42.5%	44.4%	77.3%	69	0.7	19.0
Nashville	789.93	0.4	$255,145	1.0	138%	144.7	61.3%	63.1%	62.3%	88.5%	28	0.7	19.6
New Orleans	498.50	1.1	$212,240	3.5	123%	158.3	46.3%	45.8%	42.7%	78.8%	58	0.8	24.3
New York–Brooklyn	960.60	0.6	$699,388	5.1	123%	42.8	48.9%	38.3%	105.5%	69.5%	89	0.7	24.7
New York–Manhattan	802.37	1.0	$905,777	4.1	82%	51.1	44.7%	24.5%	62.2%	69.9%	97	0.7	51.0
New York–other boroughs	1,481.75	1.4	$498,560	4.6	107%	66.4	54.7%	56.2%	98.2%	59.9%	78	0.8	23.5
Northern New Jersey	2,485.13	2.2	$406,268	4.7	100%	122.3	95.1%	93.4%	88.2%	73.3%	80	0.8	27.4
Oakland/East Bay	1,017.92	1.2	$849,432	4.6	118%	64.9	59.5%	63.7%	59.4%	59.7%	72	0.4	26.4
Oklahoma City	545.16	1.2	$159,408	2.6	120%	214.0	61.9%	65.5%	62.1%	78.0%	33	0.6	13.3
Omaha	376.91	1.9	$185,261	2.4	134%	207.4	49.4%	46.3%	42.2%	81.8%	45	0.7	15.6
Orange County	1,067.21	0.8	$846,472	2.8	120%	57.2	51.6%	54.3%	58.8%	53.1%	54	0.3	25.0
Orlando	994.96	0.6	$244,656	0.7	91%	134.9	51.8%	55.2%	51.9%	80.6%	42	0.8	25.2
Philadelphia	2,386.62	1.9	$256,731	4.4	110%	176.5	54.5%	61.9%	66.3%	74.1%	79	0.8	22.5
Phoenix	1,846.50	0.3	$253,815	1.2	95%	137.9	42.0%	45.5%	42.7%	71.7%	41	0.6	19.2
Pittsburgh	1,039.50	0.7	$159,151	3.0	123%	249.4	38.4%	46.7%	39.4%	97.5%	62	1.0	20.7
Portland, ME	226.17	1.5	$401,279	2.2	136%	147.3	56.9%	59.7%	72.7%	72.2%	61	0.7	21.4
Portland, OR	996.64	0.3	$289,961	3.1	119%	106.5	56.6%	60.1%	59.5%	66.7%	65	0.5	20.5
Providence	649.47	2.1	$315,131	4.0	108%	127.2	68.5%	51.8%	42.3%	79.2%	79	0.7	23.5
Raleigh/Durham	1,066.83	1.7	$238,628	1.8	132%	161.9	63.2%	66.1%	62.8%	79.3%	30	0.7	20.0
Richmond	502.96	1.6	$280,270	3.7	120%	146.9	51.8%	52.5%	49.4%	77.5%	51	0.5	16.3
Sacramento	866.42	1.7	$395,027	4.9	105%	106.7	47.0%	49.5%	46.6%	75.0%	47	0.5	21.7
Salt Lake City	430.69	1.9	$310,449	1.8	134%	132.5	66.2%	72.7%	72.9%	66.9%	57	0.5	15.7
San Antonio	869.85	1.0	$218,969	1.8	143%	152.7	56.7%	59.1%	51.8%	96.4%	38	0.6	18.3
San Diego	1,185.86	1.0	$666,676	4.1	111%	64.2	40.1%	42.2%	40.7%	78.0%	51	0.4	26.4
San Francisco	650.85	1.1	$1,376,514	7.5	154%	47.1	33.6%	35.3%	36.5%	53.4%	86	0.3	29.5
San Jose	674.09	1.5	$1,341,676	6.5	161%	50.3	65.6%	70.7%	81.5%	56.7%	51	0.3	25.2
Seattle	1,253.30	1.4	$544,219	3.2	132%	98.4	54.5%	57.1%	52.4%	89.2%	73	0.5	22.9
Spokane, WA/Coeur d'Alene, ID	299.15	1.5	$240,520	2.4	114%	136.5	52.1%	51.9%	54.1%	82.3%	48	0.6	19.5
St. Louis	1,134.77	1.8	$187,858	3.0	128%	208.7	45.6%	44.7%	40.7%	70.8%	65	0.7	16.8
Tacoma	341.76	1.2	$337,770	2.7	112%	113.0	48.1%	50.6%	43.9%	90.1%	53	0.5	18.3
Tallahassee	151.84	1.4	$198,380	1.9	110%	192.1	34.5%	37.0%	33.1%	65.7%	32	0.7	21.5
Tampa/St. Petersburg	1,302.54	0.5	$228,638	0.8	102%	148.8	43.9%	46.0%	48.1%	87.0%	50	0.7	24.2
Tucson	423.72	1.1	$222,519	3.1	91%	134.6	32.1%	35.9%	31.5%	74.9%	42	0.5	17.1
Virginia Beach/Norfolk	667.46	1.2	$247,889	4.2	102%	149.6	50.5%	50.4%	45.1%	72.0%	33	0.6	18.3
Washington, DC–District	305.06	1.0	$552,970	4.2	122%	79.8	50.5%	50.4%	45.1%	79.7%	77	0.5	29.5
Washington, DC–MD suburbs	587.90	1.4	$366,162	1.7	90%	145.9	71.7%	65.8%	90.1%	54.4%	69	0.6	20.1
Washington, DC–Northern VA	965.39	1.3	$472,058	2.8	105%	131.3	67.2%	68.1%	61.4%	45.9%	60	0.6	30.4
Westchester, NY/Fairfield, CT	705.53	0.4	$489,132	6.9	94%	113.1	85.6%	82.6%	67.5%	61.8%	68	0.7	32.6
West Palm Beach	606.76	1.0	$354,007	1.4	94%	112.5	31.7%	32.4%	29.7%	92.8%	42	0.7	28.7

Sources: IHS Markit forecast, U.S. Census Bureau, walkscore.com, Reis Inc., U.S. Bureau of Economic Analysis.
*Affordability index is the percentage of the median home price that can be purchased with the median household income in that market.
**Market apartment rent divided by the median mortgage payment, including estimated taxes, insurance, and maintenance.

Property Type Outlook

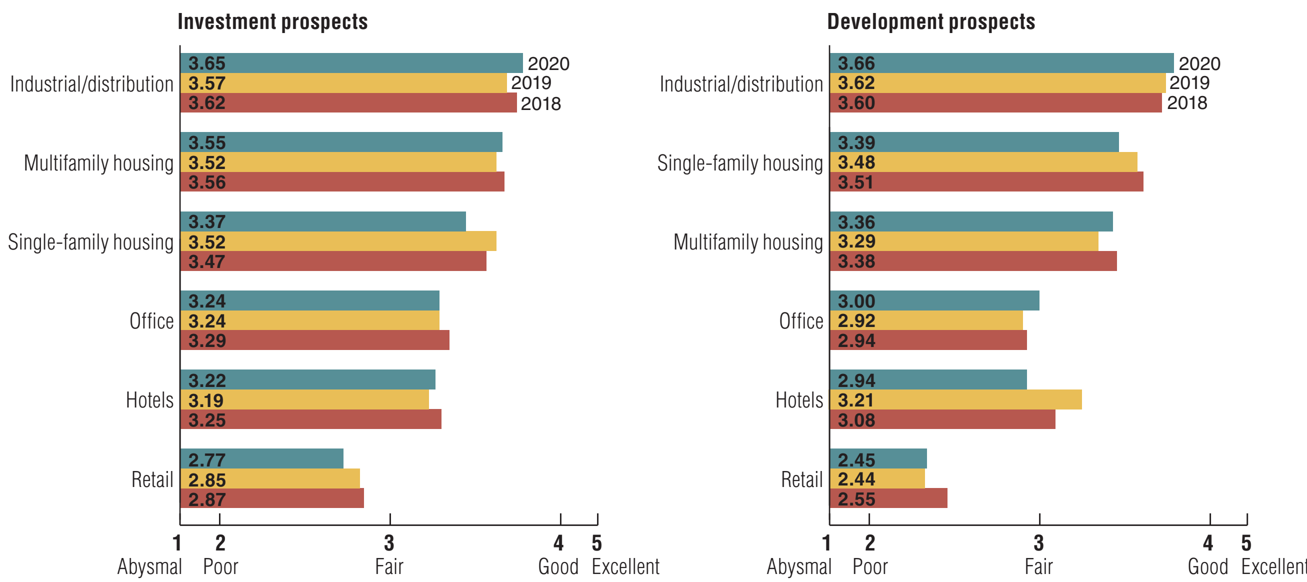
"It is fascinating how all of the property sectors are melding together. They have so many more issues in common than they have had in the past."

An argument might be made that there is no such thing as a real estate industry, other than as a catch-all term for the myriad functions relating to property. The ubiquity of real estate, by sheer scale, demands segmentation in analysis if any meaningful insights are to be gained. One of the most common methods of gaining focus is to consider the array of property types that relate to functionality, how real estate is used.

We find a recurrent theme linking discussion of the property types: "bending the cost curve." The decades-long tendency of development costs to rise at a faster rate than general inflation is making "affordability" a factor in housing and well beyond housing. Retail has bifurcated into value shopping and luxury shopping, leaving a missing middle not only for merchants but also for mall owners. Even the booming industrial sector worries about the escalation of replacement costs on market rents.

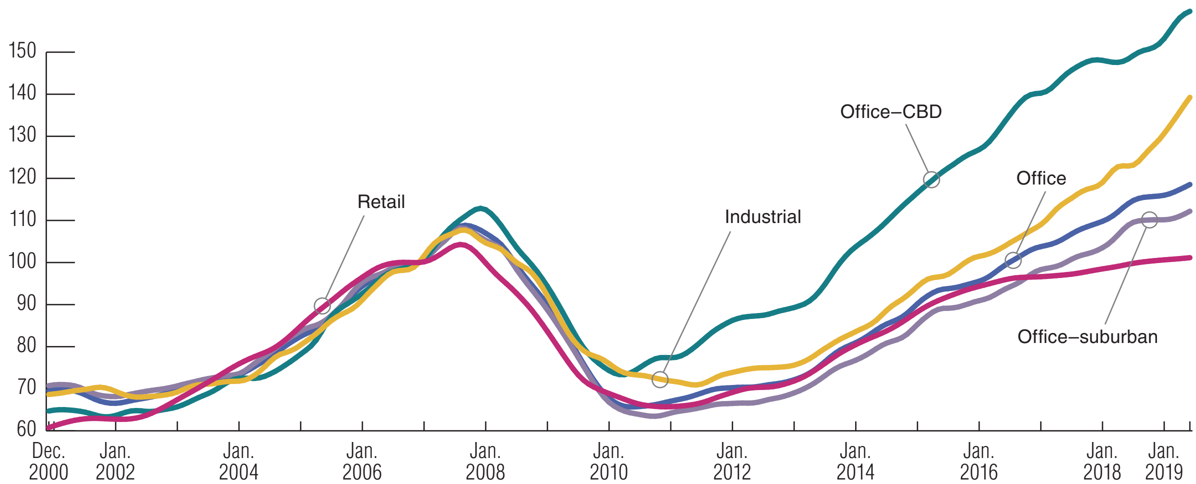
A separation between properties where an exceptional value proposition can absorb costs, versus assets where costs translate into demand reduction, creates winners and losers. Even in solid property types like logistics and multifamily such a spread exists. In an era when cap rate compression has

Exhibit 3-1 **Prospects for Major Commercial Property Types, 2018–2020**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

Exhibit 3-2 **RCA Commercial Property Price Index, by Sector**



Source: Real Capital Analytics.
Note: Data through June 2019.

become virtually universal, there is a risk that—market-to-market and across property types—exposure to the end of a long economic expansion may find some investors overextended. Economics that have led to the overproduction of high-end housing and a shortfall in workforce housing have set the stage for residential rent control, and many in the industry fear this will spread in the future.

The cumulative effects of this post–Great Recession expansion, entering its record-setting 11th year, are largely responsible for a paradox: strong confidence in present markets and an increase in risk-taking in the face of an admittedly uncertain future. Practitioners are adopting strategies based upon sophisticated selection and an increased reliance on big data. The rise of property technology (proptech) has been rapid across all real estate sectors, and it is expected to intensify as competitive conditions intensify.

The technical side of real estate is being balanced with attention on its human side. In office space, housing, retail, and hospitality, the term experience resounds. The power of "community" is cited in both coworking office spaces and in more traditional corporate facilities. Retail is shifting as the mix of offerings morphs from goods to be carried home to activities that are enjoyed on site. Multifamily specialists note "the ever-stronger flow of free choice among older adults who want a home and community untethered from the responsibilities of homeownership."

We are hearing more frequently the term complex being used to describe the conditions being anticipated in 2020 and beyond. Binary perspectives and one-dimensional approaches are giving way in favor of approaches with a broader context. As the adoption of ESG in the investment community has taken root, users express a similar mind-set: "Social sustainability and environmental sustainability [are] one integrated system." That thought is shaping sophisticated plan Sning for investors, developers, and operators into the decade ahead.

Industrial

Total return outperformance and a compelling growth outlook kept logistics real estate the consensus overweight in 2019 and 2020. The logistics real estate story is built on structural transformations within each of the three vectors that drive values: demand, supply, and capital markets.

E-commerce, which continues its a double-digit growth in North America, catalyzed a broader evolution at the consumption end of supply chains. For logistics real estate occupiers, the ability to offer convenience, choice, and ***speed*** form the basis of revenue generation, while the ability to manage risk and optimize costs with leasing decisions amplifies the importance of a strategically designed distribution network. As a result, the value proposition of logistics real estate surged, just as availability reached its lowest point in recorded history. Occupiers have had to navigate a challenging environment for expansion, while investors received opportunistic returns for core risk.

In spite of the progress made thus far, the underlying shift in the value of logistics real estate to its users should continue to resonate through market fundamentals into the future, as supply chains gradually adjust to this new paradigm. At the same time, technological advancements should add even greater complexity to evolving supply chains. Owners, investors, and developers should take into account the same factors determining efficacy of logistics real estate locations and building features that cutting-edge users do in order to stay ahead of supply chain trends.

Demand: Healthy Up Ahead after Red-Hot 2018

In late 2018, three forces combined to produce surging logistics real estate demand. First, U.S. economic growth accelerated, driving a faster flow of goods. Second, users of logistics real estate continued to expand distribution networks in order to satisfy rising service-level expectations. Finally, volatile trade policies pulled import activity forward and boosted inventory levels. As a result, 2018 net absorption reached its second-highest annual total of the last 10 years with 277 million square feet. Following a frenzied pace of expansion in late 2018, demand returned to a normal, healthy pace of growth in early 2019.

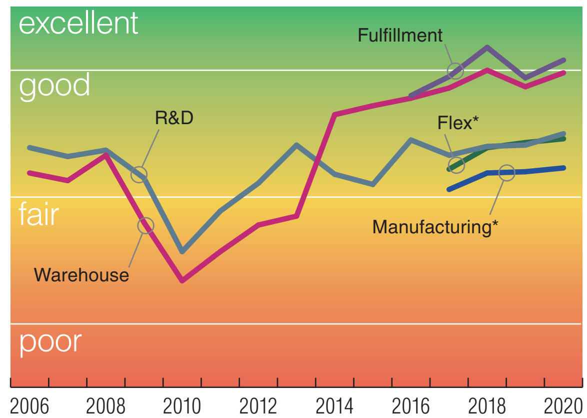
Looking ahead, structural shifts in supply chains should continue to add tailwinds to demand. Several large users of space have publicly declared billions' worth of investment in their distribution networks as mission critical. As this seismic shift continues to play out, users should incorporate new insights on operational risks and opportunities—including global supplier concentrations, labor availability and costs, and new technological advancements—into leasing decisions.

Supply: The Usual Suspects

There also have been structural changes on the supply side, which are causing investors, owners, and users to reassess logistic real estate's traditional reputation as being relatively easy to build. Rising barriers to new supply broadly have kept aggregate supply behind or in line with demand. These factors include the following: a lack of developable land, particularly plots that can accommodate today's larger buildings; increased regulatory barriers to new supply; and a more institutionalized mix of developers and capital partners with an eye toward preserving net operating income (NOI). However, a long expansion, strong operating conditions, and an influx of capital combined to allow for an increase in construction activity in locations with lower barriers to development.

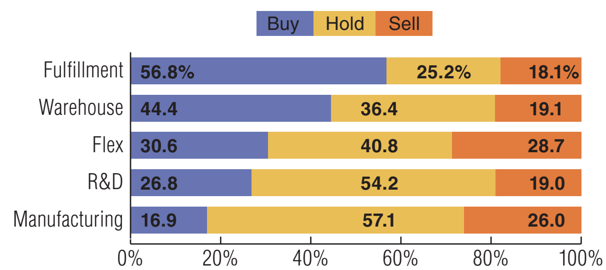
During this expansion, there have been only six dominant markets for new supply: Dallas, California's Inland Empire, Pennsylvania, Atlanta, Chicago, and Houston. Over the past five years, these markets accounted for roughly 45 percent of all new completions and, as of the second quarter of 2019, represented more than 50 percent of the pipeline of space under construction. Within these markets, big-box submarkets such as South Dallas, Inland Empire East, Central Pennsylvania, and I-80 in Chicago received the bulk of the market's new supply.

Exhibit 3-3 **Industrial/Distribution Investment Prospect Trends**



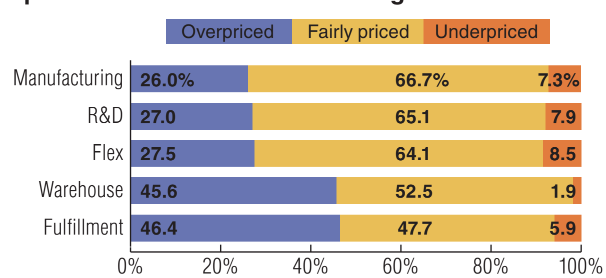
Source: *Emerging Trends in Real Estate* surveys.
*Fourth year in survey.

Industrial/Distribution Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Opinion of Current Industrial Pricing



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Data Centers

"I'm looking at alternative property types in hopes of finding an opportunity to get higher returns." This is a sentiment echoed by multiple *Emerging Trends* interviewees. One niche property type that is drawing an increased level of interest is the data center sector. While the typical data center looks very much like any other office or industrial building from the outside, what goes on inside the property is very different.

Data centers house key components of mission-critical IT infrastructure for corporations, governments, and other organizations. This infrastructure has extremely specialized requirements related to power consumption, redundancy, and security. These structures house all the networks that allow users to feel like the internet is truly everywhere. The global increase in the development and implementation of new technologies has provided a secular increase in the need for data centers. Cisco estimates that internet traffic has increased by 20 times since 2007. The same report projects that the level and pace of the rise in internet traffic will accelerate in the next few years and could more than double by 2021. The increase in current and projected demand led to a record number of new deliveries in 2018 as properties were added to meet the needs of major cloud services providers.

The growth in demand for data centers has been impressive. Will the implementation of 5G technology and the expected myriad uses that go along with it be a boost to data center demand? The early speculation is that the answer is yes, but the benefit will not be equal to all data centers. The success of 5G technology is based on providing high-bandwidth mobile broadband, support to machine-to-machine communications that far exceeds what exists today, and ultralow-latency communications that make it possible for machines to make split-second decisions and for humans to operate equipment remotely in real time. The increase in the amount of data generated by these uses should have a broad business benefit for the IT infrastructure industry that is the key tenant for data centers. Interconnection is the component critical to allowing 5G to facilitate all the promised benefits. Data centers that can offer that interconnection will benefit from the advent of 5G while more wholesale data centers will see a more limited increase in demand.

The rollout of 5G could also affect the required location of datacenters. With 5G, there is a dependence on an extremely dense network of smaller sensors placed in relative proximity. Providing the required level of network interconnectedness could increase the number of data centers required near large population and business centers. Green Street Advisors reports that 62 percent of data centers owned by real estate investment trusts (REITs) are located in only seven large metropolitan areas. Will this inventory be able to handle the expansion of 5G across the United States?

Emerging Trends survey respondents have taken notice of the increased level activity in the sector. In this year's survey, data centers were the top niche property type in terms of both development and investment. It is likely that respondents were intrigued by the data center sector's nearly 27 percent year-to-date total return for 2019, although the sector returned a negative 14.11 percent in 2018. The positive demand story boosted by the potential of 5G could make this a sector to watch over the next five years.

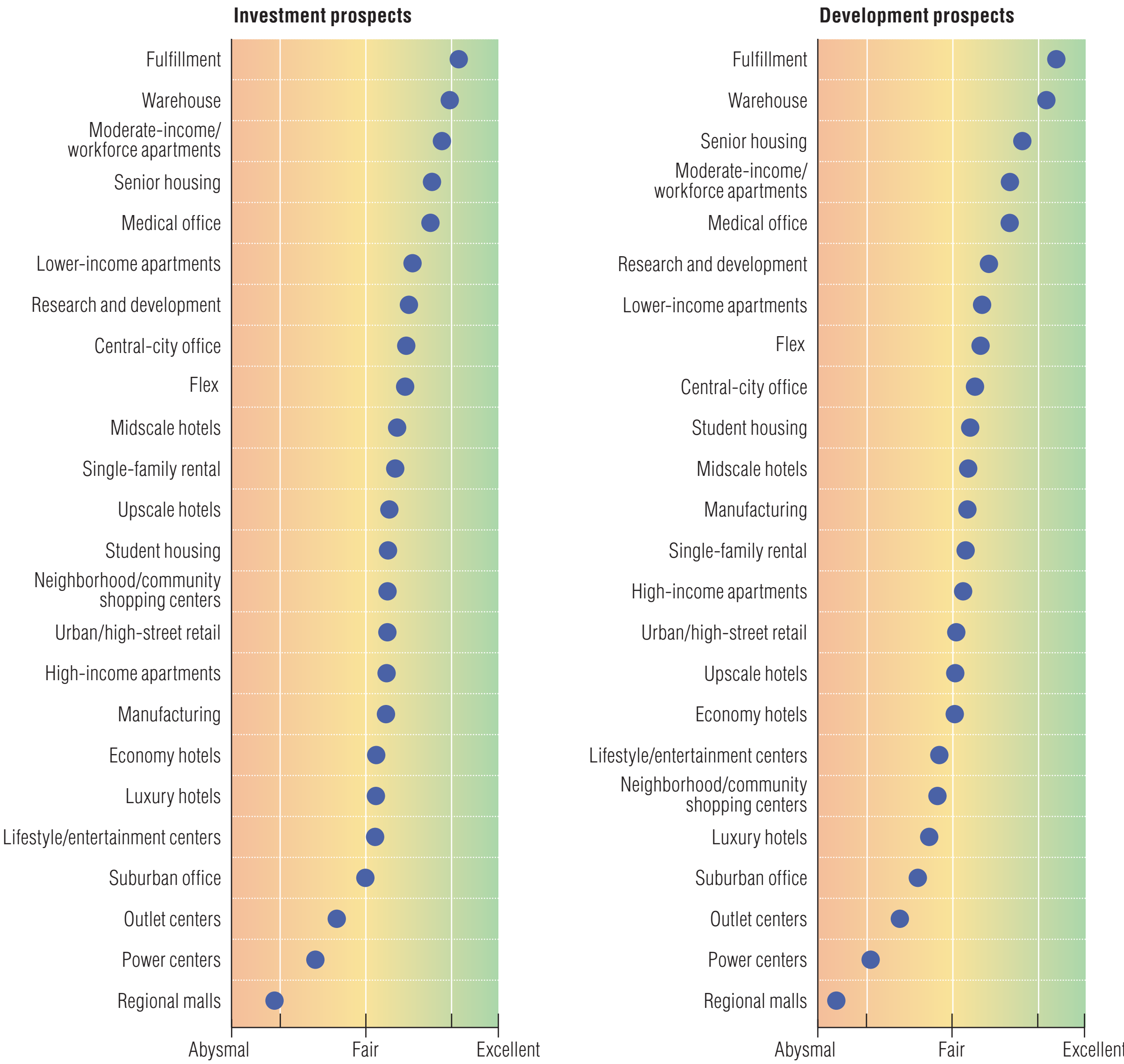
While demand growth for larger, modern facilities has been robust, this concentration of development activity represents a risk to local pricing power going forward. Overall, strong preleasing in the pipeline and elevated build-to-suit activity suggest limited supply risk to aggregate fundamentals in the near term.

Vacancy and Rents: Widening Spread between Markets

Rising replacement costs continued to put upward pressure on rental rates across a wide swath of markets as costs for land, labor, and materials all increase simultaneously. However, the combination of sustained strong demand and a growing pipeline of new supply caused a widening dispersion of performance outcomes by market, submarket, and size. While vacancies remain historically low across most markets, lingering big-box supply has pushed vacancy rates up in the aforementioned submarkets with low barriers to new supply. In the most affected locations, rising vacancy weakened pricing power, with concessions rising and headline rent growth stalling.

On the other hand, new supply continues to fall behind demand in the largest markets as a result of high barriers to new supply. As of the second quarter of 2019, vacancy rates were below 3 percent in Los Angeles, Toronto, and New Jersey/New York City. In these areas, competition for limited availabilities caused users to bid up rental rates at a strong pace again through the first half

Exhibit 3-4 **Prospects for Commercial/Multifamily Subsectors in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

of 2019. In the United States as a whole, the vacancy rate stabilized at a historic low of 4.5 percent during the same period, with net effective rent growth decelerating slightly from 2018's 8 percent pace. Because of the variance in supply and vacancy trends, however, the gap between the best and worst markets for rent growth reached its widest level of this cycle to date.

Investment Trends: More Fuel for the Fire

Even as cap rates continued to reach new lows, investor interest in logistics real estate investment remained robust. Total investment volume reached a new peak of $97 billion in 2018, according to Real Capital Analytics. The combination of several large entity-level transactions announced year-to-date and continued value gains should combine to drive another robust year of sales activity in 2019. A positive outlook for values and under-allocation to the sector continue to attract new institutional sources of capital to logistics real estate and push pricing higher.

Today's buyers see further potential for long-term gains, built on the structural trends that have driven recent outperformance. Results from the *Emerging Trends* survey echo this sentiment: more than 80 percent of respondents would recommend Buy or Hold for both fulfillment and warehouse product. The outlooks for both operating conditions and investment trends lean positive. Sustained demand tailwinds should keep occupancy at an elevated level even as new supply comes online. The spread between in-place and market rents is historically wide, which should drive NOI growth as leases roll and are marked to market. Income growth should be the primary force behind future increases in values. Finally, the institutionalization of logistics real estate as an asset class has reduced risk premiums in a long-term, structural manner, which should limit pressure on cap rates should interest rates rise.

Outlook: Supply Chains as a Competitive Advantage

Because of the dramatic structural shift in supply chains from a functional necessity to a source of competitive advantage, it is difficult to overstate the gap between the distribution networks of the most cutting-edge occupiers and the rest of the market. This shift, which has been gradually playing out, has boosted demand at the consumption end and created entirely new requirements, such as Last Touch® distribution facilities and return centers. Looking forward, it is unlikely that consumer expectations reverse: choice, reliability, and fast delivery times will determine winners and losers. The need for speed, in particular, should add to demand for space near consumer populations, as well as for large, modern facilities well positioned for high through-put operations. In addition, the current volatile political environment has highlighted supply chain risks, including overreliance on a single source of origin for imports. Together, these trends point to persistently higher inventory levels and decentralized distribution networks, which should boost demand for logistics real estate.

Investment Outlook: Location Selection Is Key

An interesting contradiction—despite *Emerging Trends* survey respondents placing fulfillment and warehouse properties at the top of the list for investment prospects, a higher proportion of respondents feel that fulfillment and warehouse properties are more overpriced than any other sector. This tension suggests that the market is still determining what risk compensation is appropriate given the new structural forces at play in the logistics real estate industry, which have produced nearly across-the-board strong returns in recent years. Looking ahead, differentiation in property-level performance should become increasingly apparent.

Although institutionalization of both the developer and investor universes generally lends itself to a more conservative market-wide approach to risk going forward, there are signs of some participants venturing out on the risk spectrum: higher development volumes, cap rate compression in secondary/tertiary markets, and a focus on opportunistic/value-add investment. In order to ride the wave of change created by shifts in demand and supply, proximity to consumer populations and insulation from new competitive product are critical for continued outperformance. At the same time, modern supply is needed, especially considering the potential for new technologies to alter the way that warehouse work is done. Increasingly, investors and operators are focused on both disruption potential and ESG integration throughout the entire supply chain; for example, a shift toward renewable energy sources and fleet electrification can change the utility requirement for tomorrow's buildings. Careful location selection and building design for the future of supply chains should pave the way for continued outperformance.

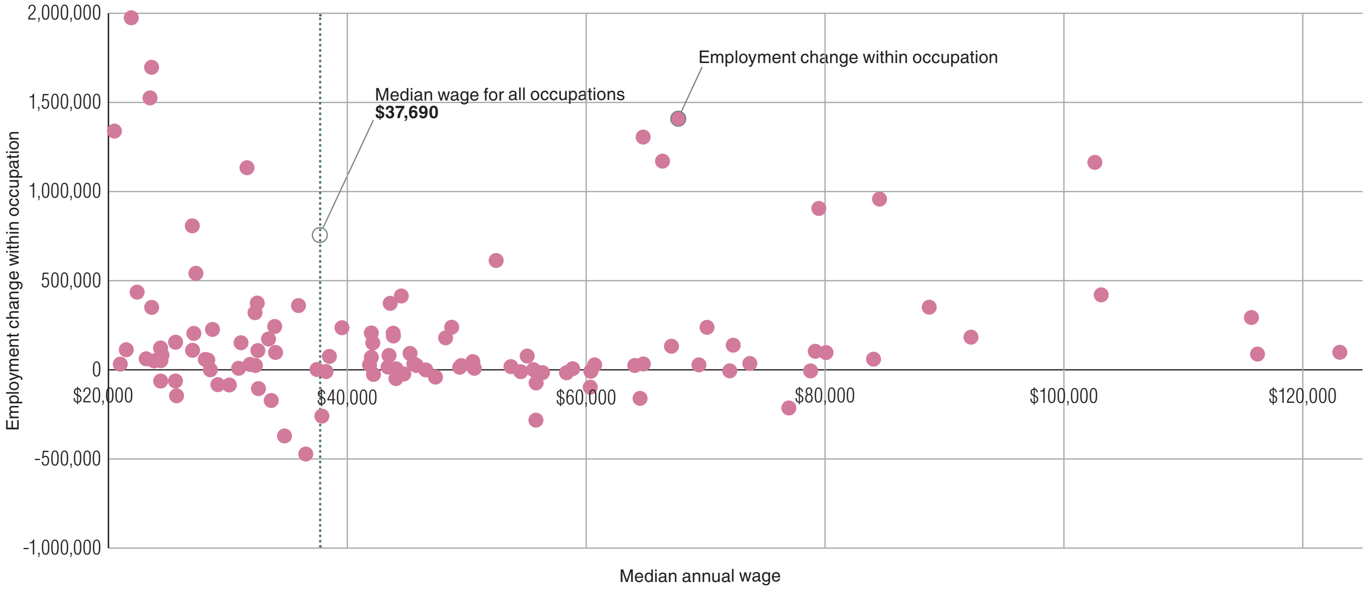
Apartments

Multifamily Crossroads: Can America's "Affordable Housing" Become More Attainable?

- Fundamental demand for new apartment development is shaping a new geography of opportunity, as demographics and rent-by-choice cohorts expand selectively.
- Rent growth shifts to rent compression as market focus pivots to absorption and ingestion of new and added-value inventory.
- Construction and operating cost—offset by emerging tech solutions—affect buy-and-hold valuation.
- Local rent-control and other regulatory tactics have surfaced as transformational business wildcards.
- Disruption from property technology (proptech) players emerges as young households explore new home preference options.

If the laws of supply and demand applied as the dominant drivers of investment and business outcomes in rental housing they are commonly thought to be, apartment developers, owners, and property managers would be sitting pretty on the

Exhibit 3-5 **Employment Change by Occupation Wage, 2009–2017**



Sources: Axios; U.S. Bureau of Labor Statistics.

Note: Each data point represents a category of occupation.

cusp of a new decade. Bumper-crop-level opportunity to meet demand estimates that range to upwards of 1 million new renter households a year surely lies ahead—growing populations, expanding preference for the flexibility of rental living, and an incipient future-of-work economy, where three out of four new jobs in the economy are low-paying, appearing to lean toward producing more renters than homeowners.

Only things do not tend to work all that simply in real-life housing development, management, and investment. Basic equations and assumptions of Economics 101 are apt only to play an ensemble role, rather than that of a superstar or a solo act, as a host of other actors meaningfully shape both the narrative tension and plot line for the apartment asset class. Such other players—including a worrying and widening gap between what workers take home in pay and monthly rent trends that reflect developers' spiraling costs—are why predicting the next chapter is difficult. Furthermore, they are the reason that what actually happens can often be more fascinating than most of us can imagine ahead of time.

That said, on margin, most leaders in the apartment business ecosystem—despite a slew of nameable sources of uncertainty, frustration, and risk that have cropped up on the horizon of an operating environment that has grown leaps and bounds for over nine years—express encouragement that they are in a sector that can and should prosper well into the 2020s.

Why?

Structurally expanding demand on the demographics front, for starters. Millennials—now ages 23 to 38—continue to create first- and second-time households at a normal clip now, after having lagged expectations for a few years after the Great Recession. Among young adults, most new households are rental, and new rental household formation is clocking in at rates approaching 1 million new rentals a year. On top of sheer population growth, the U.S. economy has kicked it up a notch in the past two years—after a long, lackluster, languishing growth trajectory—and has continued to expand payrolls, lower unemployment rates, and even put some pep in the step of household wage increases in recent months.

Apartment developers—especially those who have brought on line chic, urban, walkable, vertical high-end new neighborhoods in the nation's most vibrant new-economy business and professional metro areas over the past several years—have mostly seen the rewards of having been in the right place at the right time. Occupancy rates remain high; vacancy rates remain low, in the 5 percent range or lower; rent power at a run rate of about 3 percent, although decelerating, is still tracking positive;, lease-ups mostly occur at an expected pace; and renewal rates are running at record highs of about 53.2 percent according to RealPage data.

Moreover, multifamily players have been and continue to be direct downstream beneficiaries of ongoing high financial barriers to entry for homeownership, especially among early-career, student-debt-burdened young adults whose take-home pay and ability to save for downpayments price them out of a near-term path to owning. This has been a win for both multifamily and single-family for-rent business models, both of which have risen with a tide of demand among recently formed adult households economically not yet able to cross over into homeownership.

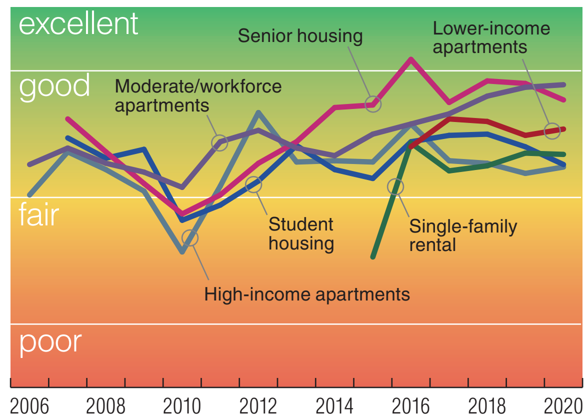
The National Multifamily Housing Council and National Apartment Association estimated that, to meet structural demand, apartment developers would need to add an average of 325,000 new unit completions annually between 2017 and 2030. On pace to exceed that figure in 2017, 2018, and 2019, developers believe they are still releasing pent-up demand from the Great Recession years between 2009 and 2014, when production plummeted well below historical average starts of 344,000 units annually.

Streaming into the confluence of these fundamentally constructive secular trends, capital investment has continued to buoy both further development and higher valuations, as both a flight to safety and a need for yield motivate both current and new players to find comparatively sound returns in apartments.

"About 65 percent of the new business we've seen come in the door in the past 12 months has been from developers who need help entering the multifamily space," said the chief executive of one of the nation's top-25 multifamily community property management organizations. "They've been in commercial real estate, or hotels, or even single-family for-sale, and they're attracted to the apartments asset class as an investment," this executive adds.

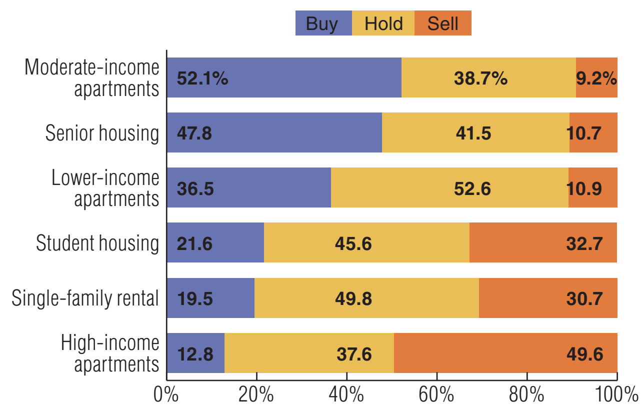
Evolving challenges to that wide-open spigot of capital attraction from both endemic veterans of the space and newcomers—economic, policy-related, and consumer-influenced—represent risks to both the reliability and the magnitude of returns on their investments. Insiders are keeping a weather eye on their effects. Supply-side constraints on labor capacity have driven up construction costs, regulators' local rules squeeze property owners' ability to raise rents to keep pace with their operating and management costs, and both capital and jobs could suffer negative

Exhibit 3-6 **Apartment Investment Prospect Trends**



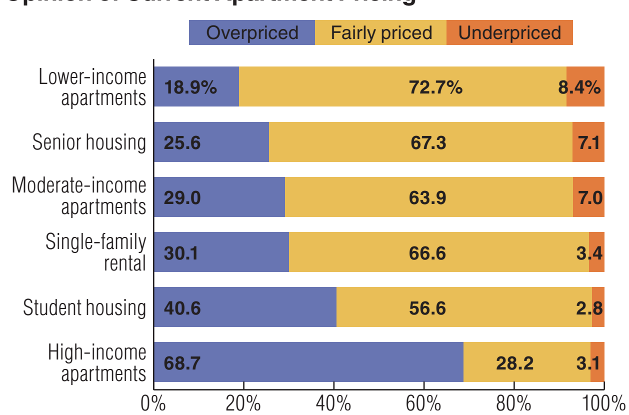
Source: *Emerging Trends in Real Estate* surveys.

Apartment Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Opinion of Current Apartment Pricing



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Senior Housing: An Update

Strong investor returns, portfolio diversification, and rising liquidity continue to dominate the headlines for senior housing when discussing opportunities. On the challenges side, continued growth in inventory and ongoing labor shortages are often referenced.

Challenges

Supply/demand imbalances exist in some—but not all—markets across the United States. Indeed, due to supply outpacing demand in the first quarter, a very wide 13-percentage-point difference was recorded between the occupancy rates for the most occupied (San Jose at 94.4 percent) and the least occupied (Houston at 81.4 percent) senior housing markets, according to the National Investment Center for Seniors Housing & Care (NIC) MAP Data Service. Supply has been a more notable issue in many of the Sun Belt metropolitan markets, and less remarkable in the higher barrier-to-entry markets such as Northern California.

In general, demand for the aggregated NIC MAP 31 markets has been solid—just not solid enough to absorb all the new inventory being built. For example, net absorption reached a record high level in the fourth quarter of 2018, buttressed by a robust economy and positive consumer sentiment. However, inventory growth has been stronger for a longer period. As a result, the occupancy rate for senior housing stood at 88.1 percent in the first quarter of 2019, a near seven-year low.

The second challenge is the labor market. Commonly and frequently, operators are reporting labor shortages in all occupations across their operating platforms, ranging from care managers to executive directors. With the national unemployment rate at 3.6 percent in May 2019, the challenge of recruiting and retaining employees is significant. Shortages in the health care professions as well as in other industry sectors, such as the construction trades, are putting upward pressure on wage rates. In the first quarter of 2019, average hourly earnings rose 4.6 percent for assisted-living employees on a year-over-year basis, according to the U.S. Bureau of Labor Statistics.

Opportunities

First, private-equity returns for senior housing properties continue to outpace those of other commercial real estate on a 10-, five-, three-, and one-year basis (except for industrial). According to first-quarter 2019 National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index (NPI) results, the total return for senior housing on a 10-year basis was 11.73 percent—far outpacing the overall property index of 8.51 percent and apartment returns of 8.64 percent. And on a one-year basis, the total return for senior housing was 8.50 percent, beating the NPI (6.83 percent) and the apartment sector (5.90 percent).

Second, with nearly two of every three properties built before 2000, the inventory of senior housing properties is relatively old, and often a property refresh is needed for design, functionality, and efficiency.

Third, senior housing is increasingly recognized as a critical part of the solution for population health management and health care cost containment—a growing social, economic, and political reality. Indeed, operators are increasingly becoming involved with or creating their own managed Medicare organizations.

Fourth, investment in senior housing provides diversification because the sector is not as cyclical as other property types

Projected Supply Needed in 2029 to Fill Middle-Market Senior Housing Demand at Current Costs

Annual rent	Medical out-of-pocket	Total cost	Number of middle-income seniors who can afford the total cost (millions)	Percentage of middle-income seniors who can afford the total cost	Units needed at different penetration rates	
					11%	14%
$40,000	$5,000	$45,000	10.2	71%	1,145,088	1,431,360
$40,000	$10,000	$50,000	9.0	63%	1,008,000	1,260,000
$55,000	$5,000	$60,000	6.6	46%	739,200	924,000
$55,000	$10,000	$65,000	5.3	37%	593,600	742,000
$75,000	$5,000	$80,000	2.9	20%	324,800	406,000
$75,000	$10,000	$85,000	2.1	15%	235,200	294,000

Sources: National Investment Center and NORC.

Middle-Income Seniors Ages 75 and Older with Health, Cognitive, and Mobility Limitations, 2029

	Seniors ages 75 and older		Ages 75–84		Ages 85 and older	
	Number (millions)	Percentage	Number (millions)	Percentage	Number (millions)	Percentage
All middle-income seniors	14.35		10.81		3.54	
Prevalence of chronic conditions						
3+ chronic conditions	9.61	67.0%	6.97	64.5%	2.64	74.6%
Activities of daily living limitations (ADLs)						
0–3 ADLs	13.11	91.4%	10.17	94.1%	2.94	83.1%
3+ ADLs	1.24	8.6%	0.64	5.9%	0.60	16.9%
Cognitive impairment	1.15	8.0%	0.63	5.8%	0.52	14.7%
Mobility limitations	8.66	60.3%	6.09	56.0%	2.57	73.0%
Mobility limitations and cognitive impairment	0.84	5.9%	0.41	4.0%	0.43	12.0%
High needs	2.90	20.0%	1.73	16.0%	1.17	33.0%

Source: National Investment Center, *The Forgotten Middle: Middle Market Seniors Housing Study*, May 2019.

and was shown to be recession-resilient during the global financial crisis (GFC). Its "needs-based" demand characteristics allowed assisted living to withstand many of the downwind recession pressures faced by other commercial real estate sectors. Fifth, transparency and understanding of the sector continue to grow, which provides a more knowledgeable and disciplined capital market. Information about market fundamentals and capital market conditions is readily available from sources such as the NIC MAP Data Service and Real Capital Analytics (RCA), as well as Wall Street analysts' reports on health care real estate investment trusts. As a result, banks are paying more attention to market conditions before providing proceeds to borrowers and opportunities are being scrutinized and have been turned down due to market conditions. And lastly, as transaction volumes increase, investors have become more comfortable knowing that multiple exit strategies are likely.

Taken in its entirety, it continues to be a time for a cautious near-term approach in the senior housing sector. At present, some operators in select metropolitan areas face challenging market conditions since supply has outpaced demand. Operators and investors who underwrote deals with 90 percent or 95 percent stabilized occupancy rates a few years ago are facing pressures as they open into markets with 85 percent or lower occupancy rates. In a time of rising expense pressures, where average hourly earnings for assisted living operators are increasing at a 5 percent annual clip, achieving net operating income (NOI) expectations may be difficult.

On the other hand, investors who have partnered with solid operators located in strong markets are seeing outsized investment returns today. And for those who are not yet seeing these returns, they can perhaps draw comfort from the prospects of the demographics coming, although perhaps not immediately. For those investors with capital, holding money on the sidelines may be a good near-term strategy, as a growing number of distressed deals need capital infusion, recapitalizations, and new partners.

Middle-Market Opportunity

In May 2019, the NIC released the results of its study called *The Forgotten Middle*. The purpose of the study was to draw attention to a significant pool of unmet demand by a large and growing cohort of seniors. The cohort includes those seniors who have too much in financial resources to qualify for government support programs such as Medicaid, but not enough to pay for most private-pay options for very long. This "middle income" group of seniors is defined as those individuals with annual financial resources ranging from $25,000 to $74,000 for people ages 75 to 84 and $24,000 to $95,000 for those ages 85 and older in the year 2029.

The study found that with the aging of the baby boom generation, the total number of middle-income seniors 75 and older will grow 82 percent from 8 million in 2014 to 14.4 million in 2029. According to the research, middle-income seniors will be more racially and ethnically diverse, with minorities increas-

continued next page

Senior Housing: An Update *continued*

ing from 9 percent of the population 75 and older today to 16 percent in 2029. Furthermore, more middle-income seniors will be college educated. Growing levels of education will result in a higher average income for future seniors. In addition, by 2029, the proportion of seniors who are married is expected to decline, with marriage rates expected to fall from 61 percent of people 75 and older in 2014 to 52 percent in 2029. In terms of health conditions, cognitive impairments and mobility limitations will be significant among this group—60 percent of seniors are expected to have mobility limitations, while 8 percent will have cognitive impairments.

Taken as a whole, these conditions and characteristics suggest a need for many seniors to transition out of their homes to assisted-living settings as it becomes increasingly difficult to navigate their traditional residential homes independently. The study estimates that 46 percent of the nation's middle-income seniors (6.6 million) will have sufficient financial resources (which includes income and nonhousing assets) to pay for projected average annual costs a decade from now of $55,000 for assisted-living rent and $5,000 for out-of-pocket medical costs, when they include the equity of their homes. Still, at an 11 percent penetration rate, an additional 700,000 senior housing units would be needed to be built by 2029 if this new demand is to be satisfied. If the penetration rate were to rise to 14 percent, more than 900,000 units will be needed.

The NIC study was not a solutions study. It did not prescribe specific ways to address the middle-market seniors' housing needs. Early conversations with stakeholders suggest that innovative financial structures and operating models will be needed to provide care and housing options for America's cohort of middle-income seniors.

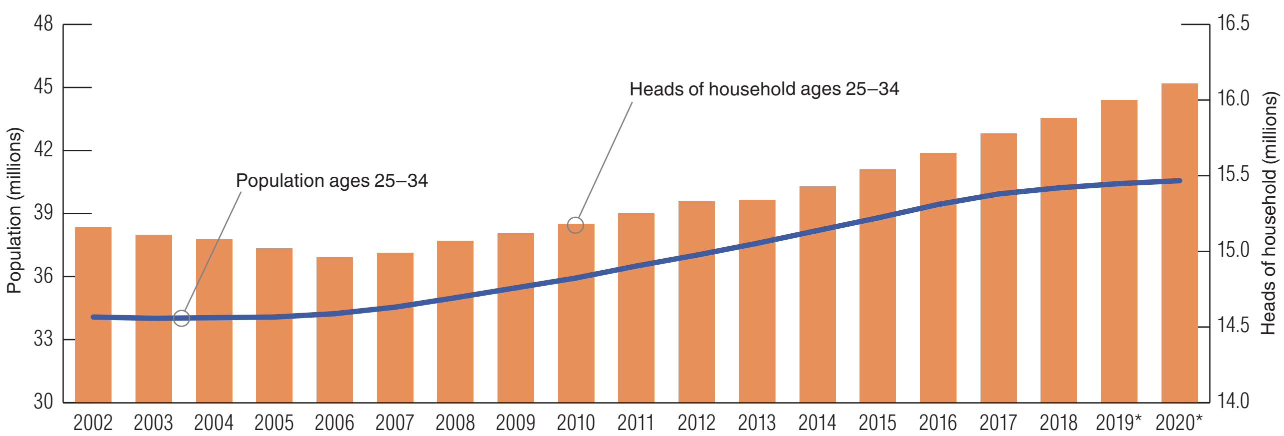
—National Investment Center for Seniors Housing & Care (NIC)

fallout if trade disputes with both our hemisphere neighbors and allies and partners around the world persist.

One of the biggest risks for vested and invested operators in the apartment space may be psychological and perceptual, as well as a business reality: forfeiture of legitimate claim to designation as "America's affordable housing." That is because the real vulnerability of investment thesis, strategic intent, and business viability for apartment players today comes in the class B and—and to an even greater degree—class C property types that have foundationally supported that claim. Significantly, exhibit 3-8 illustrates a downward trend in apartment affordability among households who earn 50 percent of area median incomes and below.

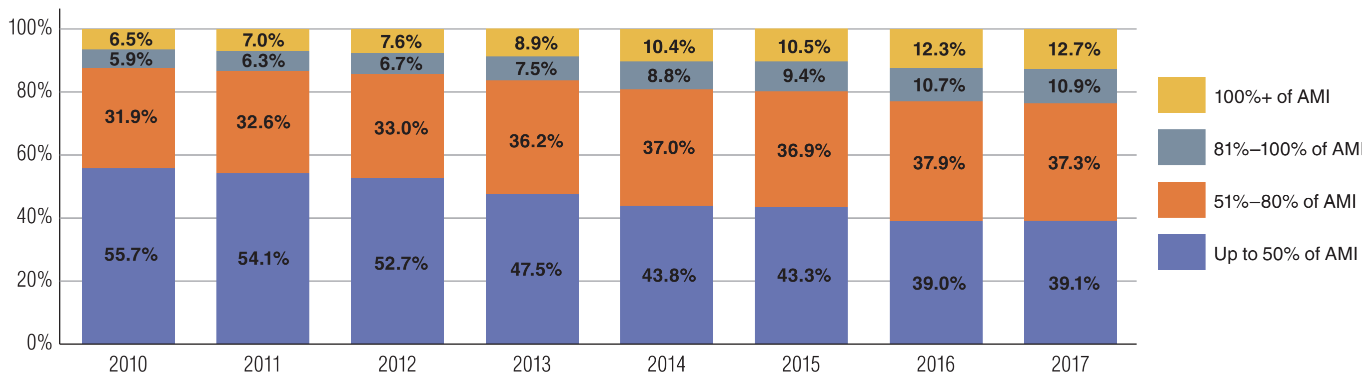
Key trends for business leaders have to do with their respective ability to "bend the curves" of cost, regulation, and moving-target consumer preferences to provide attainable apartment

Exhibit 3-7 **Young Adult Population and Heads of Household, 2002–2020**



Source: IHS Markit estimates based on U.S. Census Bureau data.
*Forecast.

Exhibit 3-8 **Metro-Level Multifamily Housing Supply by Affordability Category**



Source: Freddie Mac tabulations of 2010–2017 American Community Survey PUMS (Public Use Microdata Sample) data.
Note: AMI = area median income.

neighborhoods for an expanding range of household income levels via sustainable business and operations models.

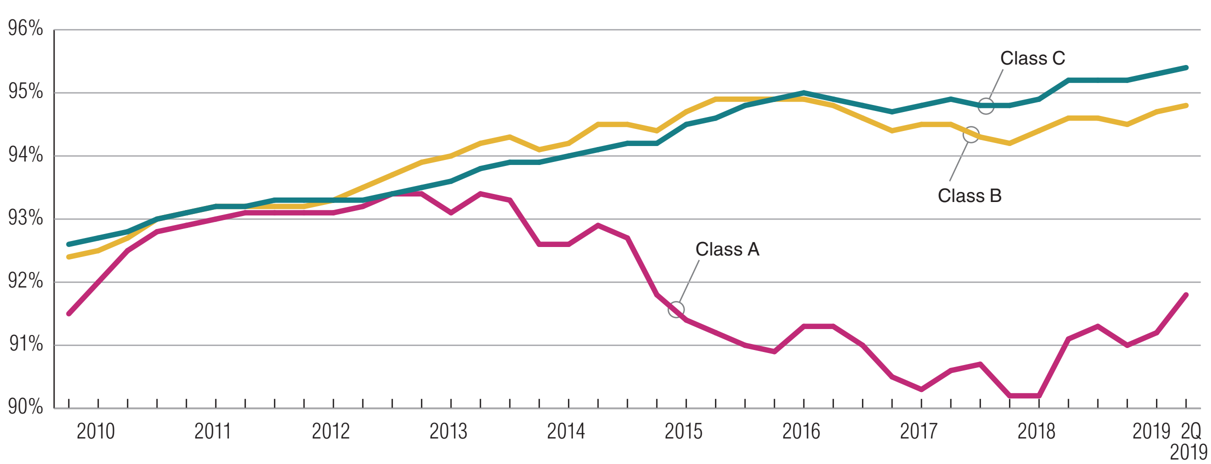
The Devil in the Submarket Details of Apartment Investment

Success and opportunity, on average, may be likely for the multifamily asset class and for the collective of businesses taken as an industry that says it needs more than 4 million new units of rental apartments between now and 2030. But whose business actually operates and generates value "on average"? Exactly, nobody's. Average is unhelpful.

The lion's share of success, opportunity, and bright prospects in multifamily accrues disproportionately to the few, the precisely invested, the operationally efficient, the deep-pocked, the technologically sophisticated, and the superbly positioned vis-à-vis customer segments in fast-growing markets among professional-level and other high-earning occupations.

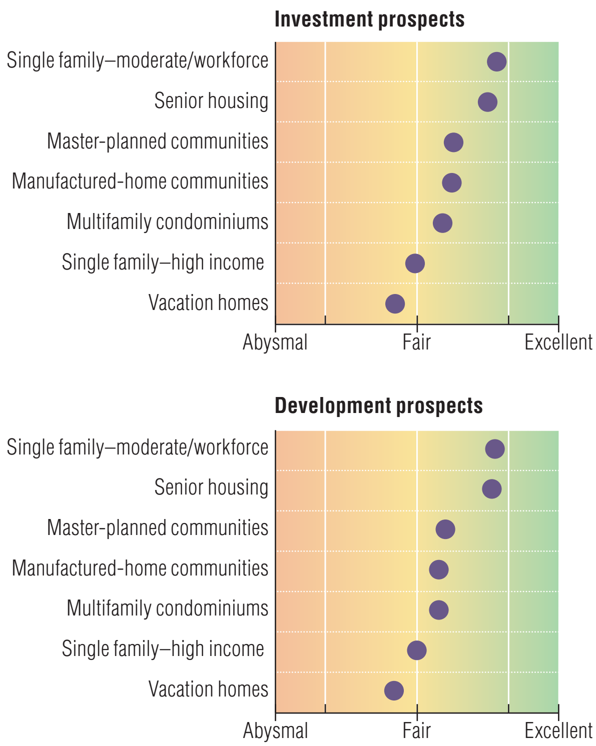
This is why class A properties located in fast-growth, mostly Sun Belt local economies—i.e., in Florida, Texas, California, and Arizona—attractive to highly educated up-and-comer earners, have been driving development and investment portfolio activity among the savviest multifamily power players over the past eight or nine years.

Exhibit 3-9 **Multifamily Occupancy by Building Class, 2009–2019**



Source: CoStar Realty Information Inc.

Exhibit 3-10 **Prospects for Residential Property Types in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

This trend's momentum springs from a well that consists of two streams of demand that have allowed multifamily developers to prosper wildly for the past six or seven years. One comes from economic necessity on the part of young, early-career adults who have not yet pivoted into serious family-formation households. The other is an ever-stronger flow of free choice among older adults who want a home and community untethered from ties to and responsibilities of homeownership.

Still, there is a reason many of the sector's analysts, experts, and strategic leaders expect a tamping of the brakes over the next couple of frames, to a period of rent compression. It has largely to do with the finite limits of that more price-elastic group that can tolerate pass-along costs in their monthly rents, versus a far-larger and much faster-growing universe of people whose household incomes set lower rent tolerance levels.

For an illustration of this, one need only look at vacancy rates among class B and class C rental properties, which have continued to hover at record lows while class A property vacancies have begun to climb over the past 24 to 36 months, especially in urban cores like New York; Los Angeles and Orange County, California; Washington, D.C.; Seattle; and a few Florida metro areas.

"The largest percentage of new jobs our economy has been creating since the beginning of the recovery, and a big share of the 1.5 million or so of new households we're going to see formed in 2019, is coming at the workforce housing level," says a senior-level executive of one of the apartment industry's most active deal-makers. "The struggle is that we're just not building enough units of workforce rental housing, and there's been no really good solution to that."

Bending the Cost Curves

The big challenge for incumbent players in apartments is the squeeze between their costs—upfront and ongoing—and what households in this day and age are willing and able to pay.

The other big challenge that goes with this one is that this dynamic never stops changing, as cost and rent increase inflation outpaces household income growth.

Taken together, these two challenges mean that as cost pressures continue to mount, and regulatory and policy measures tighten, consumers—particularly at the lower and middle rungs of the social, economic, and educational mobility ladder—are left to fend for themselves, i.e., adults living with their parents, seeking dorm-style co-living spaces, doubling and tripling up in apartments, and so on.

The result is the kind of vicious-circle business environment we are currently in: scarcity of available rental inventory—overmatched by demand—increases rent pricing power. This "prices out" potential middle-level renters, which can suppress investment in new supply.

To break the hold of the vicious circle, developers, owners, and property managers have begun to turn in earnest to technology, data optimization, automation, artificial intelligence, and robotics. Cost curves become bendable—which makes attainable market-rate apartment development business models make more sense—when developer-owners build what consumers want, where they want it, within a fast-enough time frame that they can make rents attainable to renters, and at operating costs that reflect sustainable net operating income for the owners.

Modular, factory-based off-site construction; concierge, Open Table–style property management and rental office apps; robust, friction-free payment and self-service customer care

Student Housing

The overarching theme for student housing performance is one of stability. The number of new beds delivered over the past five years has held remarkably steady, and annual rent change has remained similarly stable. But even taking into consideration student housing's steadfastness of late, evolving trends are worth further exploration.

The headline numbers are similar, but key drivers are different today than in years past. Here are the key evolving trends.

Supply is consistent, but the composition of that supply continues evolving.

Over the past five years, overall supply figures have not deviated much. What we have seen, however, is a changing composition of what that new supply looks like. In 2010, just 8 percent of new beds were delivered in high-rise buildings. In 2019, that figure jumps to about 26 percent, meaning that roughly one in four new beds delivering in the United States will be in high-rises.

The impact of that density can be seen when analyzing proximity of new supply to campus. In 2010, new properties were delivering a little more than half a mile from campus, on average. That distance has consistently decreased through the decade. In 2019, the average distance from campus is about one-third of a mile. There is more to come on why that has been evolving.

Some schools continue to see lots of development while others see less.

Florida State University, Texas A&M University, and Texas State University are just a few of the universities that have had what seems like a never-ending stream of new beds servicing the student body. Texas A&M University and Florida State University have both delivered well over 10,000 new beds this cycle. By the start of the fall 2019 semester, Texas State University is poised to join that group.

But some schools that had been stalwarts on the delivery leaderboard have since fallen off. Texas Tech University, the University of Missouri, and Louisiana State University are three schools that—until the past two years—were on a similar trajectory as the aforementioned group. More recently, developers have steered away from these schools.

When it comes to new beds delivering, the dominance of Sun Belt schools has remained prevalent, particularly in Texas and Florida. This will likely remain a common theme in the near term, since both of these states continue to pull in lots of new students.

Distance from campus is still critical when comparing performance.

Increasing desire to build closer to campus continues to drive changes in composition of new supply. The reason for this is simple: properties closer to campus outperform their more distant counterparts in terms of rent growth and occupancy.

Supply levels might suggest that properties closest to campus are spreading their demand pool too thin. Consider that of the 424,000 new beds delivered during this cycle, approximately 313,000 have delivered within a half-mile of campus. In other words, almost three in four new beds delivered since 2010 have been located within a half-mile of campus.

Outperformance among that cohort of properties suggests that demand has been—and will continue to be—stronger for properties closest to the schools they serve. Properties further from campus are by no means doomed to fail, but there is a clear trend for those properties closer to campus to post stronger fundamentals.

Investor appetite remains robust—and is forecast to remain so for some time.

Student housing cap rates have continued to compress as the average price per unit increases and the pool of potential investors remains robust. Investment volumes continue increasing.

The overall volume of conventional multifamily investment is still far more than in the student housing space, yet the ever-increasing volume of investment in the student housing marketplace suggests that more and more investors see student housing as a viable alternative.

Enrollment growth yields a mixed bag of results.

In recent years, enrollment growth has pulled back as the millennial population—by far a larger cohort than its predecessors, the generation Xers—has mostly aged out of the typical college age range. Meanwhile, the cohort following the millennials—the centennials, or gen Zers—is smaller, but not by much, and remarkably consistent. Furthermore, the share of high school graduates enrolling in college is steadily rising.

continued next page

Student Housing *continued*

What this leads to is the expectation that enrollment growth will remain tempered from the peak levels experienced during the Great Recession. Still, a contingent of schools will continue experiencing healthy enrollment growth. Early indications suggest that enrollment growth will continue to favor the larger state-funded schools and some private universities with larger endowments. In addition, some two-year schools will continue adding students at a slightly faster pace than what was seen over the past 10 years, although this will not hold true across the entirety of that two-year college base.

RealPage

systems; and big-data funnel marketing processes are among the ways that developers and owners are exploring taking costs out of their overheads and operations as an opportunity area to produce and run communities that may rent for less.

"Where we are focused on technology, we're talking about reducing the number of people we need in our organization," says the CEO of one of the top 10 multifamily REIT developer-owners. "When 30 percent of our workforce goes away, and the use of technology and data is making up for that, our business model and the talent we need [are] on a different plane."

Sudden Impact: Rent Control Mania

The housing affordability crisis has become a kitchen-table issue—the root equation being that prices and rent power have outrun household incomes—sparking a local regulatory backlash, rent control. So much so that local elected and appointed officials in ripple-effect fashion around the United States are staking vote-getting campaigns on their ability to pass measures that lock market-rate multifamily rental property owners into artificial annual increase caps and ceilings on what they charge for rent.

Strict economics argue against rent control as a means to achieve what its advocates seek: more affordable rental housing. Still, the issue has taken on emotional proportions and an us-versus-them dynamic that often pits local activists against the interests of "big, powerful, unfair" developers. The upshot is that most developers expect the trend—new rent-control initiatives in more and more urban markets where housing is expensive—to spread. Most apartment owners, developers, property managers, and investors see the issue as a "major challenge" that could affect both opportunity and risk profiles for the apartment asset class for years to come.

Not minimizing the real risk to their business models, some multifamily leaders have begun to focus beyond projections of the risk, toward trying to calculate the business impact.

"On a scale of one to 10 important issues I lose sleep over, it's number one and we're going to be the victims here," says the CEO of one top-10 multifamily developer and property owner. "Given the level of difficulty these elected officials would have to try to develop economic opportunity to raise wages, it's easier for them to cap our rents. We'll gravitate away from cities and states that put our business at risk, and try to work with pro-building cities, ones that—like us—are big proponents of inclusionary zoning, density bonuses, and other programs that allow us to invest in more housing and expand infrastructure. To me, it's a battle, city by city."

Single-Family Homes

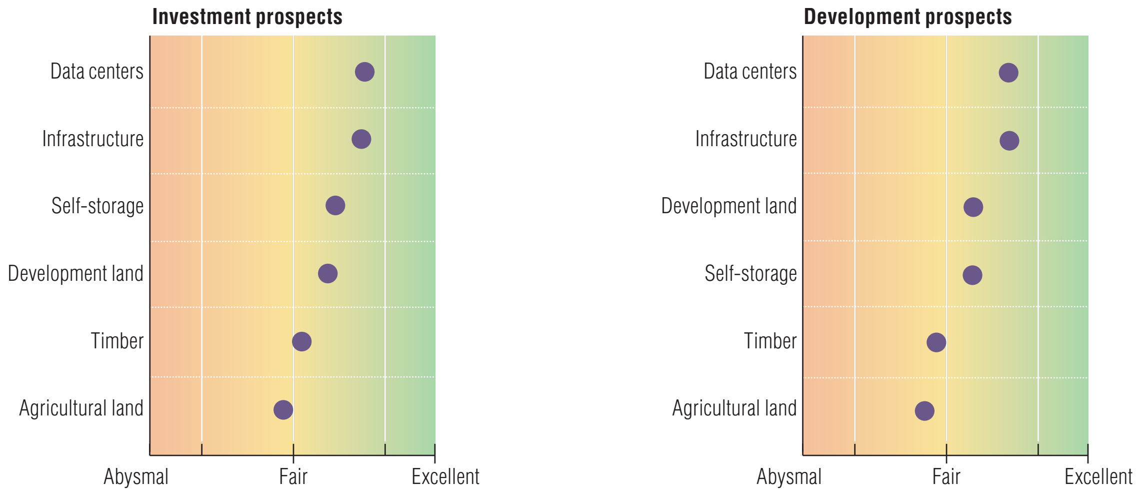
More for Less: Late-Cycle Dynamics Favor Leaders over the Rest of the Pack

- Pan-cyclical resilience is Plan A for the most well-resourced firms.
- Can market-rate builder-developers expand the buyer universe ever again to include new starter homes?
- In a 5G world, what do consumers want their homes to be?

Three shifting macro force fields—economics, policy, and technology—are gathering velocity, running at swift crosscurrents with historic demographic tides that are behaving typically in their glacial pace of change. The confluence of these dizzying and slow-moving dynamics makes predicting what is next in 2020 and the near term beyond for new residential real estate's timing and trajectory a dicey venture. Upwards of a half dozen bellwether signals crisscross in diagonally opposing directions.

Constructive trends include fundamentals—including age demographic patterns, job growth, as well as household formation, and income growth. In addition, broad domestic macroeconomic health, a central bank leaning into more accommodative monetary policy, coupled with a barrage of pricing and value incentives, discounts, options and upgrades among builders, and a long-in-coming "mix-shift" to less costly homes and communities—smaller, denser, more attached, more distant from job centers, and more repeatable in design.

Exhibit 3-11 **Prospects for Niche and Multiuse Property Types in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Against this favorable backdrop, headwinds aplenty cast a broad, looming backdraft of uncertainty. A few issues—such as labor capacity constraints, homesite availability, and readily accessible capital—are tightening their grip. Others include more topical but potentially as meaningful challenges, like the menacing fallout—the calculus of which is still unfolding—of ongoing global trade disputes, the recently emerging drag of state and local tax law changes that came in with 2017's major federal income tax reform, a growing number of cities eliminating single-family zoning, as well as the deadweight effect on consumer and business confidence of what is setting up to be a blistering, polarizing presidential campaign and election year in 2020.

Into that mix add a relatively unknown unknown: households whose adult residents have the means to own homes but who choose to rent.

Exponentially evolving economics, policy, and technology appear to figure ever more in ways that matter in how people want to live in their homes, and what that means for the future of homeownership as a bastion of the American dream.

When in Doubt, Think Positive Thoughts

Stakeholders in the business of new single-family for-sale homebuilding, development, and investment look ahead as if two entirely plausible, yet self-canceling, scenarios could play out. One outlook is marginally benign, and the other is moderately adverse. Optimists that they tend to be, they suspect that the 12 to 18 months ahead, like the current year, will be relatively flat with 2018 measures and benchmarks, which saw very modest gains in single-family starts, permits, demand, and supply.

The National Association of Home Builders (NAHB) economics department projects single-family starts over the next couple of years to hold barely flat in 2019 versus 2018, with a bit of an increase in 2020, and an even more negligible single-digit gain the following year. A senior analyst who covers the new residential construction investment and development space notes, "There's a lot of uncertainty as to whether or not unit demand will be up in 2020 or down. When you see that sort of wide range of potential expectations, the safest and easiest thing to do is to pick a middle course, which is that it should be up a little bit."

And that would be good news for a few, but it would make for harrowing times ahead for most.

Why?

Amid a pervasive uneasy sense that housing's decade-long recession may be ready to expire of old age, flat may be the "new up" for those with deep pockets and rich resources. However, it is a potential showstopper for builders and their capital partners who sell—and pay back their lenders—on value and a predictable cadence of units with profit margins that match up to forecasts.

The reason is that choppy, spotty, iffy markets—which is what a relatively steady, even-handed, middling recovery has devolved into over the past 12 months—invariably pick winners and losers. Winners in such fickle circumstances will be the well-scaled superpowers that have time and the ability to withstand profit-margin compression on their side, the super nimble, and a handful of disruptive insurgents gathering at the fringes.

"After the interest rate–spurred scare late last year, consumers have come back in, thinking it's a better time to buy now," says the chief executive officer of a top-20-ranked multiregional private homebuilding enterprise. "We've tempered expectations, but we feel that if we make pricing adjustments, we can cadence our pace at a pretty solid level. Of course, that's going to pressure margins."

The losers go to sleep at night with personal guaranties on their loans; they awake to worries about delivering homes on time and on budget; they spend the day fighting fires to keep workers on job sites; and they spend evenings at planning, zoning, and city and town commission meetings trying to prevent delays and extra fees from getting heaped onto their projects. The losers have neither time, nor nimbleness, nor disruption of their legacy practices to get ahead of the tug of gravity.

The upshot for homebuilders and an ecosystem of related business partners is that, right now, in a limbo of uncertainty, their investment decisions need to factor in both considerable risk and material opportunity, which in itself is a risk due to supply and capacity constraints that can run up costs at warp speed. Between the end of 2018 and the beginning of 2020, a demarcation line now separates (mostly smaller, less well-capitalized) firms that are anchored to a late-stage cycle, and those that have used the 11-year recovery to introduce pan-cyclicality into their business, investment, and operational models.

- The weaker of the two groups must gird themselves for a deceleration cycle.
- The stronger can focus on inoculating their models from harm, and gear for growth in the next upturn.

We will explore here why that means a few dozen major players in single-family for-sale development and construction retain a strong sense of agency in the face of a mixed-signals marketplace—meaning, they believe that their actions can and will affect what happens next for their stakeholders—while a far greater majority of firms are left to try to cope with where the markets haul them.

The Demise of New Starter Homes?

Broadly, one logical explanation—apart from its 11-year duration—accounts for suspicions that the most-tepid-ever housing recovery may be nearing its end is that it fell too far short of expanding the qualified buyer universe to include aspiring first-time owners. Together, analysis from the Joint Center for Housing Studies of Harvard University's *The State of the Nation's Housing 2019* and an NAHB data point help put this explanation in quantifiable terms.

"Since 1974, annual additions to the housing supply exceeded household growth by an average of 30 percent to accommodate replacement of older housing, additional demand for second homes, population shifts across markets, and some slack for normal vacancies. According to Joint Center for Housing Studies estimates, annual construction—including both single-family and multifamily starts—should now be on the order of 1.5 million units, or about 260,000 higher than in 2018."

That variance—the gap between household formations and new construction—is now a three-year-plus pattern that totals now to a pent-up deficit of nearly a million new units of construction. Meanwhile, the NAHB Housing Opportunity Index may reveal clues as to who is missing out most in that million-unit deficit. Since 2016, new homes have ranged in affordability from just over 40 percent of households based on those making median wages, to a current low point of about three in 10 households—meaning that just 35 percent of median earners can afford median-priced new homes.

What these figures expose in sharp relief is a first-time-ever phenomenon for housing recoveries, which is a housing expansion that occurred to a greater degree with new-home purchase activity among current homeowners versus the rapid inclusion of first-time buyers.

Toward a New Home Value Chain

The implications here are clear. The spoils—material opportunity over the next several-year stretch where the 75 million–plus baby boomers cycle through the 55-and-over customer segment band, and the 75 million–plus millennial adults cycle through their first-time buyer customer segment band—go to players who can "bend the cost curves" of labor, materials, lots, and capital to serve would-be buyers who have been priced out of the market to date. At both ends of the age-demographics "barbell," price tolerance levels have been stretched, and winners will be the ones who can price homes and communities well within those levels.

For sector leaders, they will look to achieve that via deeper market penetration and operational scale in their geographical market areas, through mergers and acquisitions, through operational and management upgrades, through stronger-handed vertical integration and procurement, and through smoothed, repeatable, standardized kit-of-parts floor plans and building-cycle times.

The endgame strategy among residential new construction's most powerful bloc of players involves future-proofing their value-creation models in the face of economic, technological, and policy transformation. Ultimately, companies need a fifth-generation value chain that allows them to engage with customers—not just current homeowners, but a vastly larger pool of would-be first-time owners—in their journey of choosing how they want to live in their homes, now and in the future. In a 5G world, technology changes how people live in their homes exponentially; people, in turn, change their demands and expectations for technology in their lives, equally exponentially.

Office

Workplaces are shifting from an efficient, tech-driven place where people had to be to an effective, people-focused place where employees want to be. It is now time for a new workplace narrative: one about how to create a great experience focused on how people work. Employers and developers have an opportunity to step up their game and redefine what a great work experience means.

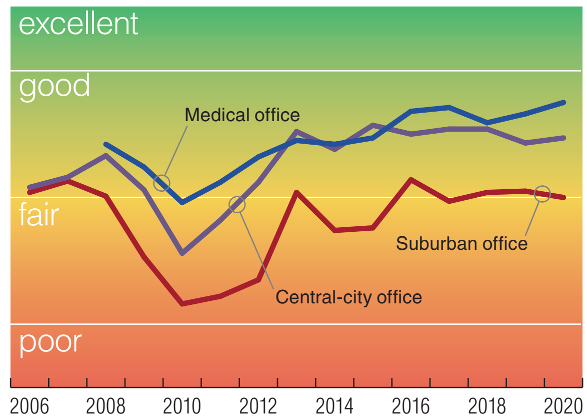
How People Are Working

Decades ago, Peter Drucker predicted that how human beings work will have the biggest change on our society. He was right. How we work is going through a fundamental shift. The developers and corporate users interviewed agree. "Expect to see continued informality in terms of work settings, how teams are organized and work together, artificial intelligence, and robotics. What's taking place is revolutionary. Technology has allowed us to work entirely differently. And it's only getting started. . . ."

Gensler's U.S. Workplace Survey 2019 found that we spend 45 percent of a typical week working alone and almost the same amount of time collaborating with others—either face to face and/or virtually. Focused work is a quiet activity and collaborating is noisy, so we should not expect both to happen well at the same desk. People need to balance both focus and collaboration. To do that well demands more than one type of work setting.

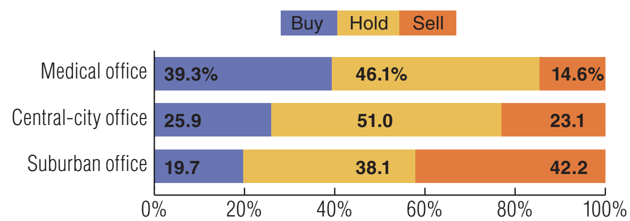
It is time to stop the debate about open plan versus private, since it is far more nuanced than that. There are degrees of

Exhibit 3-12 **Office Investment Prospect Trends**



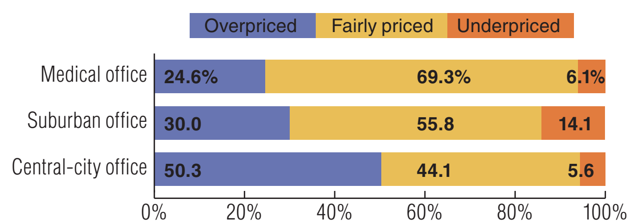
Source: *Emerging Trends in Real Estate* surveys.

Office Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Opinion of Current Office Pricing



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

openness ranging from totally open to totally enclosed and everything in between. In the U.S. Workplace Survey 2019, respondents said that their ideal work environment was "mostly open plan, with on-demand private spaces when needed."

One large company recently surveyed its own employees and found that 85 percent of them say that they have their best ideas in a flexible workspace that provides a choice of work settings. Despite that, the U.S. Workplace Survey 2019 found that only 44 percent report having that choice in their workplace. Choice in a work setting may range from traditional desks to soft seating to enclosed focus rooms. A variety of meeting and collaboration areas provide choices for teams, since they may collaborate in very different ways even within the same organization.

Coworking Brings Change, but Maybe Not the Way You Think

Coworking members report liking being part of a community and enjoy the amenity-rich environments. But the overwhelming consensus of enterprise users interviewed is that they are using coworking differently than entrepreneurial members and startup companies.

Larger enterprise users report using coworking space either as a specific solution for select individuals who cannot easily come into their primary office or as a short-term lease for fluctuating space needs. One enterprise user explained that "we are seeing a shift from owned to leased office space. As a result, we are

Medical Office

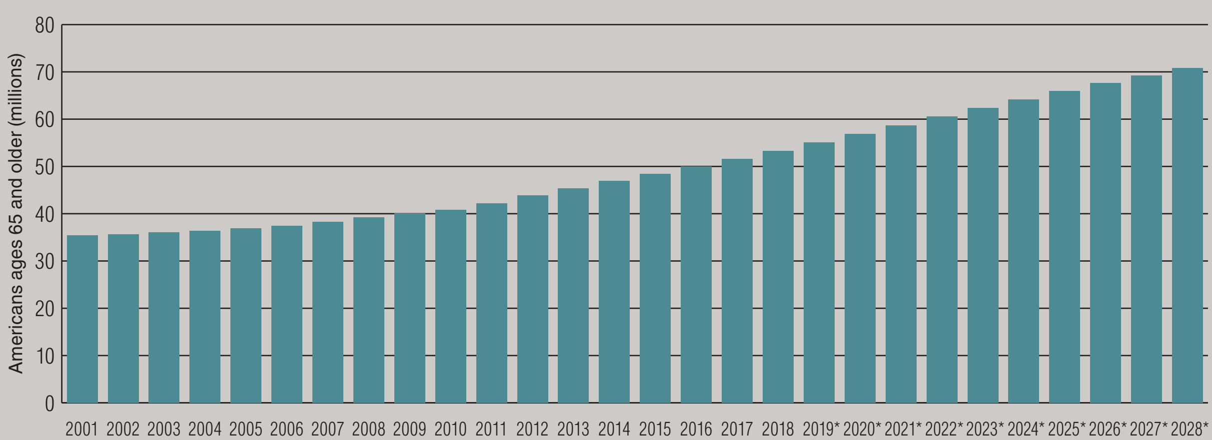
Health care innovation is spurring medical office transformation while investment demand is bolstered by the demographic outlook: **Positive forces align to support medical office.** The aging population, an increased number of people with medical insurance, and cost-reduction strategies by insurance companies that favor outpatient care have converged to bolster medical office space demand. In conjunction with a limited development pipeline, these factors point to continued momentum for purpose-built medical office space.

Demographics an integral part of health care demand. Making up nearly 18 percent of gross domestic product (GDP), health care spending has advanced 3.7 percent per annum since 2010, as reported by the Centers for Medicare and Medicaid Services. More than 10,000 U.S. baby boomers celebrate their 65th birthday each day—an important medical milestone—since people 65 and older require medical services nearly seven times per year. According to the Kaiser Foundation, people over the age of 65 represent 36 percent of total health-related spending. When combined with increased insurance coverage due to expanded access to Medicare and Medicaid and higher health care spending by this age group, the aging of America suggests that medical services delivered at medical office facilities will continue to rise.

Patient care improves as technology enhances diagnostic precision. Advancing technology, both in terms of medical equipment and electronic medical records, supports faster, more accurate, and more personalized patient care that incorporates people's medical histories. The use of big data, based on the collective gains from larger patient samples for similar health-related conditions, also has bolstered care services. **Improved health care is helping people live longer, heathier lives, but also extends the need for health care services over a longer time span and strengthens the doctor/patient relationship.**

The rise of outpatient procedures and technology drive demand for medical office absorption. As technology has enhanced the quality and speed of surgical procedures,

Demographic Tailwinds Underpin Medical Office Demand



Sources: Marcus & Millichap Research Services, U.S. Census Bureau, Moody's Analytics.
*Forecast.

exploring 25 percent of our real estate portfolio as 'flex space' to dynamically respond to the ups and downs."

But several others report a fear of losing great talent if they encourage use of third-party coworking space that does not reinforce their brand, mission, and purpose. In fact, while one in seven employees working for companies of 100 people or more use third-party coworking space, the vast majority use it for only one day or less per week. If such spaces are used more than a day a week, both experience and effectiveness drop off. Third-party coworking is a supplement, not a replacement for a great workplace experience.

The Power of Community, the Power of Amenities

The war for talent is a key business driver. Most developers and large enterprise users interviewed are using the workplace as

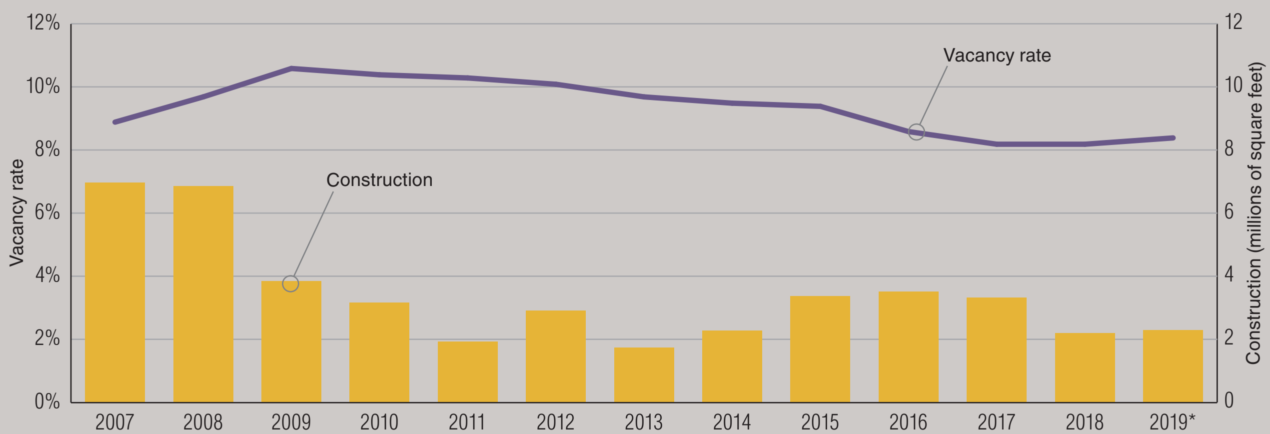
outpatient clinics and facilities have benefited dramatically due to the shift in consumer health care spending from hospitals to specialists. Historically, many invasive procedures generated numerous hospital days for recovery, but they have rapidly shifted toward home rehabilitation with specialist assistance via technology and occasional outpatient visits to nearby medical office locations. In addition, new procedures enhancing patient mobility, such as robotic appendages, mobility scooters, and exoskeleton stabilizers, are dramatically shifting industry costs away from hospital systems and toward specialist providers.

The moderating pace of development sustains compressed vacancy rates. Over the last 10 years, medical office completions have averaged 13 million square feet per year, but in 2018 just 9.6 million square feet was completed. This has sustained tight vacancy rates, with the U.S. average at 8.5 percent in the first quarter of 2019. Compared with the 13.3 percent average vacancy rate of traditional office space, medical office continues to outperform. That said, medical office rent growth has been moderate, increasing by 2.7 percent over the last year to a national average of $23.46 per square foot. This pace is slightly ahead of traditional office rent growth of 2.4 percent in 2018. The combination of positive demographic trends, increased outpatient services, and the rising number of medical school graduates—up 19 percent since 2009—is expected to sustain growing medical office space demand in coming years.

Low interest rates power investor appetite. The rapid decline of the 10-year Treasury rate to the low–2 percent range has reopened yield spreads for medical office investors. Cap rates for premier spaces can hit the high–4 percent range, yet most assets will begin with first-year returns in the mid–5 percent to mid–6 percent range. Overall, prices per square foot average about $240 nationally. **Buyers have primarily looked at the ongoing secular demand story**, which remains bright for the next several decades. This has resulted in consistent deal flow and dollar volume in the sector, particularly for on-campus assets backed by hospital systems or other high-credit quality tenants. Off-campus properties generally price at a moderate discount to the sector average, spurred primarily by tenant mix and overall creditworthiness.

—Marcus & Millichap

Limited Medical Office Development Supports Tight Vacancy



Sources: Marcus & Millichap Research Services, CoStar Group Inc.

*Vacancy as of the first quarter of 2019.

a differentiator. As coworking spaces have shown, common spaces, amenities, and community have become important components of a memorable workplace experience.

Today's office workers expect convenience to work smarter and faster, their work life to be more integrated with their nonwork life, and to build community with others who share the same purpose, mission, and values. This demands a curated experience—one that is "memorable, but driven by convenience."

One large enterprise user explained that "community is a part of our DNA," so how can we create office workspace where people are encouraged to reengage with each other, a purpose-driven place where employees can collectively contribute and "be a part of something bigger" than working on their own? Another described it as "geo-rationalization"—a drive to get people back to the office to increase physical presence to harness the power of collaboration and the power of people connections.

In the words of one corporate user, "We are competing with tech companies that are raising the bar in terms of amenities. As our workforces ages, the types of amenities that we provide are shifting. It's no longer about Ping-Pong tables, but different types of amenities to better suit an aging workforce that [is] at different life stages."

But not all amenities are worth the investment. In the U.S. Workplace Survey 2019, people valued amenities that optimize work by helping people do their work better, not escape work. And *Emerging Trends* interviewees observed that for urban workers in their early 20s and 30s, the office doubles as the place not only to work, but also to socialize and connect with colleagues throughout the day. These employees may value gaming areas, dog daycare, or free beer. For workers in different life stages such as young parents, or suburbanites dealing with long daily commutes, amenities such as meditative space, a mother's room, on-site dry cleaning, or dinner pick-up may be more highly valued. Expectations appear to vary by geography, with well-being amenities such as nap pods, reflection/quiet rooms, and fitness centers still expected in some locales or office developments. In many urban markets, landlords are expected to provide on-demand concierge services.

Sustainability Is an Expectation

In office space development, sustainability used to be a differentiator; today, it is simply a given. One developer said that sustainability "continues to gain in traction driven by investors as governance, not by tenants." But others thought it is driven both by investors and tenants, explaining that some clients are very passionate about it and want to push boundaries; others simply expect it. In the words of one large corporate user interviewed, "Issues around climate change and global warming have not slowed down—it's more urgent than ever and the scale is bigger." Another explained that "social sustainability and environmental sustainability [are] one integrated system." Many corporate users feel that "it is not only the responsible thing to do," but include their sustainability initiatives as a subset of their employee well-being program.

The Role of Offices in Shaping the Future of Cities

Developers and businesses see themselves as corporate citizens and a vital part of their community. In the words of one corporate user, "Politics and governments change, but corporations have a vested interest in a long-term strategy to create well-being for the entire population." Another explained that "we all have a responsibility for the betterment of our cities. We can make our communities better by investing in our properties to create vital, vibrant communities."

One interviewee explained that they had a choice to build a brand-new headquarters campus, but realized that investing in the properties they already occupied was a far better solution for their organization, their employees, and their city.

Transportation was top of mind for most of the developers and corporate end users interviewed. Almost all are involved in local or regional initiatives to reduce the friction for their employees to travel and to get to work on a daily basis. Examples ranged from high-speed rail, to more direct flights, to shuttle services, to transportation as a service. At least two interviewees mentioned that they are partnering with Uber for stations and hubs at key properties for quicker service and to create destinations. "Shuttle services are inefficient and clog our already overcrowded roadways with only partially filled vehicles." Still, in the words of another interviewee, "We are living in such a fast-paced world that spending time commuting and physically moving from place to place just can't work anymore. We need to be part of a community without physically being there. Great technology solutions will transport us in the future."

At the other end of the journey to work, several of those interviewed believe that "workforce housing is emerging as the number-one problem to solve in the future."

Smart Buildings, Smart Offices

How artificial intelligence (AI) and robotics will change the workplace in the future is hard to predict since "we are still in the early innings." But we can see the potential impact. Robotics will likely reduce the size of organizations and reduce the amount and type of real estate required. "Businesses will continue to get smaller due to technology and robotics. The most desirable talent in the future will be knowledge based and will need 'omni-channels' to work across an organization and drive alignment across functions."

We need to better understand how people are using space to really make a difference. AI will allow continual learning of how we use space, resulting in increased use of space. In the words of one interviewee, "Place plus space drives human behavior. We know this can enhance people's lives, improve productivity, improve mental states, improve health, and improve happiness." In the future, "space will shift from reacting to predicting work patterns," such as where to park based on your first meeting location of the day, or automatic desk reservations, both based on your digital calendar, or even voice-activated or sensor technology noting whether your meeting is over in the reserved conference room and now available to the next user.

Despite excitement surrounding integrated technology and interconnected building systems and big data, one interviewee pointed out that "there is a continued disconnect of focusing on the long-term possibilities before solving today's realities." People are still challenged "to get the technology that we already have to work—to start a video conference call, share content, or collaborate virtually," but acknowledged that office environments that are responsive and predictive will inevitably be in our future as technology continues to be developed.

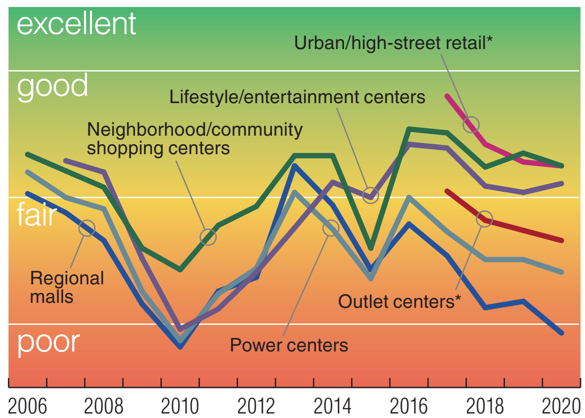
Retail

"When you're in the middle of a storm, you're not quite sure when it's going to end," said one interviewee who oversees leasing for a large portfolio of regional shopping centers, continuing, "Turning on a dime is tough when undergoing the kind of shift this industry faces."

The shifting retail picture is notably more complex than other property types. The integration of new concepts, formats, channels, and inventory management systems all cloud retail's future, as does a broader economy-wide shift from goods to services. As a result, traditional shopping centers are transforming into "**consumer centers**" with a new mixture of uses. Another consumer need met: Kohl's announced this summer that its stores will be Amazon return centers—and they will package and send back items for free.

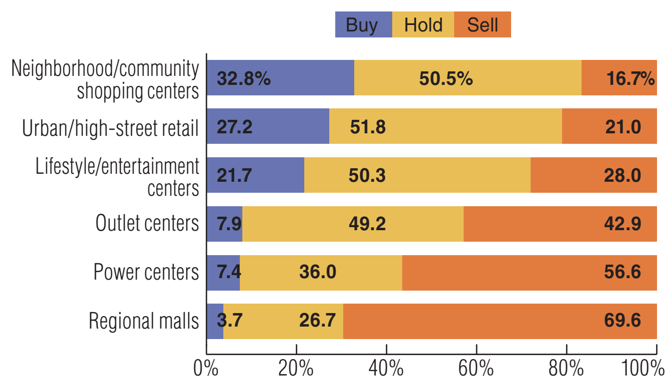
The era of "one size fits all" seems to be ending. Shopping centers now have the ability to become hyper-customized, due in

Exhibit 3-13 **Retail Investment Prospect Trends**



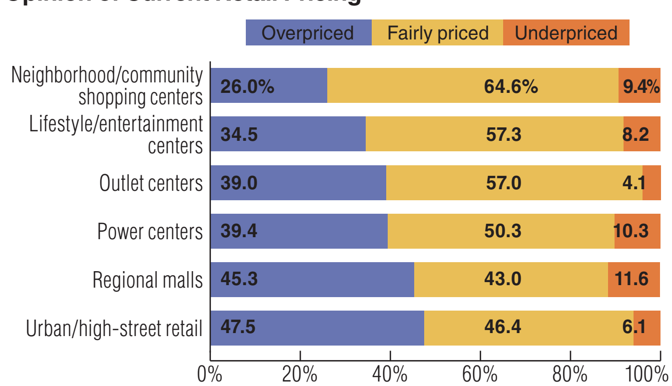
Source: *Emerging Trends in Real Estate* surveys.
*Fourth year in survey.

Retail Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

Opinion of Current Retail Pricing



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on U.S. respondents only.

part to advances in technology. These make it possible to tailor merchandising and engage with brands, uniquely targeting individual and local preferences.

The Good News

There are bright spots within the sector: some interviewees are noticing stabilized rents and strong leasing activity across a wide spectrum. Some see retailers at an expansionary inflection point. As one respondent representing research services at a large commercial brokerage firm indicated, "Over the past several years, many retailers have directed their capital investments toward digital platforms. . . . Now, with more competitive omni-channel strategies, they could be poised to proceed with needed reinvestment in their physical footprint."

Shopping center owners have also become more creative about filling spaces and taking opportunities to creatively remake centers into hybrid formats that incorporate new elements and experiences. As one interviewee involved in research services noted, "We've gotten through a 'use evolution' where landlords are no longer simply seeking to fill plain-white-vanilla boxes." A commercial real estate investment adviser noted, "This was not the case just two to four years ago." Said another involved retail market researcher, "This is creative destruction, or rationalization, where the death of one use brings about the rebirth of another."

This rebirth responds to generational shifts in spending. As baby boomers edge closer to retirement, they are spending less on goods and directing more of their purchases toward medical needs, dining, and experiences. And millennials, as one real estate adviser noted, "also seem to be looking for less 'stuff' and more experiences." On the other hand, generation X consumers have entered "full-on family mode," spending more like past generations on children and homes. One expert indicated that "while this increase in spending has been delayed compared to previous generations, they are one of the stronger cohorts right now."

What's Growing

Tenant turnover requires shopping center owners to learn about whole **new classes of tenants**. Never before have there been as much appetite and need to experiment with new uses to build traffic. Even the best-performing assets will require significant future capital investment to reach a stabilized mix with a broader array of uses.

A new crop of retailers have recognized the importance of physical stores and they are slowly building out a brick-and-mortar footprint. Within top-tier assets, **online brands** are expanding further into brick-and-mortar spaces while legacy brands waver. As one representative of a large real estate investment trust (REIT) indicated, "They are coming in a meaningful way and expanding beyond their initial 'high street locations.' But, diversifying our mix from weaker stores into a new collection of brands takes time." It was also noted that the process for deal-making has become longer and property net operating income (NOI) can lag in the interim.

New **experiential and entertainment uses**, centered on one-of-a-kind activities, such as art, amusements, or food, are continuing to push the boundaries of what is supportable in shopping centers. CoStar Group reports that the share of space devoted to restaurants, fitness centers, and entertainment has doubled over the past 10 years, while the share of apparel space continues to decline. "Ever-higher thresholds seem to be achievable, especially where there is a substantial influx from tourism," said one respondent in real estate services.

Related to the trend toward experiential and entertainment uses is an ever-growing **food and beverage category**. There have been noticeable increases in food uses across retail venues, including food halls, which now seem ubiquitous in some areas. Not surprisingly, several respondents pointed to a potential glut in the food category (and more specifically food halls). However, there seems to be consensus that increases in food uses are likely. A trend toward healthier and more convenient food options also is evident as an alternative to conventional fast food.

A third and growing component within shopping centers today is the increasing presence of **fitness, health, and wellness uses.** They may take the form of gyms (both boutique and value), but also high-end workout equipment dealers. Related to health and wellness, medical offices and clinics also are rapidly expanding their presence.

A last area attracting widespread attention has been the introduction of **coworking and shared office space** within malls. Despite a flurry of fairly recent announcements over the past year or two, this phenomenon is still considered to be in its infancy and shows signs of strong growth potential. As one developer contact noted, "The idea is here to stay, although there could be a shakeout." Shopping centers have built-in amenities to support them, including unused space, parking, complementary food uses, and perhaps even a gym or workout facility. "It's a win/win," said one mall operator.

Promising Subsectors

Certain classes of assets continue to capture interest, most notably class A super-regional centers, grocery-anchored neighborhood centers, and urban high street locations.

As a real estate investment analyst noted, malls are a "mixed bag," with the field essentially divided between top **class A malls** and "everything else." The top assets tend to be better occupied, providing more favorable returns. "The 'flight to quality' continues where 'must-have' assets are becoming stronger." These are the centers where almost all categories perform well, and not only luxury brands.

There also are opportunities in owning **daily needs–driven** neighborhood and community centers. These can be anchored by food-and-beverage or service uses, particularly in walkable neighborhoods and well-located infill projects. Many interviewees see strong prospects for future growth, especially with grocery anchors that are visibly making investments in their businesses and building an online platform. That platform can help keep centers relevant despite **online grocery sales**. While online grocery sales currently represent a very low share of total grocery sales in the United States (thought to be only 1 to 2 percent), one real estate services consultant stated, "This is an overlooked risk in the U.S.," suggesting that we not be complacent about the potential impact. Said another retailer contact, "This is a thing. It's the future. But, it's almost impossible to make money at it at this point."

Most believe that it still will be several years before a meaningful proportion of grocery sales move online, and physical stores will continue to play a role in distribution. Grocers in the United States do appear to be approaching it in a disciplined way, and the severe disruption that has occurred that has in other channels seems less likely to occur in grocery.

The Clouds

As in previous years, retail real estate lies at the bottom in comparison with other property types, both in terms of investment and development prospects (exhibit 3-1). Retail real estate remains challenged as the sector continues through a transformation.

Most interviewees concur that reducing the number of physical stores is a "good thing" and alleviates the overabundance of retail space in the United States, which needs to be rationalized or absorbed by future population growth.

More closings and a "tough slog" appear to be on the horizon: according to data from Coresight Research as of June 2019, U.S. retailers have announced over 7,000 store closures this year, more than all of 2018 (which saw about 5,900 closings). The net effects are mitigated by store openings (approximately 3,000 so far in 2019, compared with just over 3,200 openings in 2018), but the result is a reduction in the number of physical stores.

What's Declining

Several conversations discussed an "expanding **void in the middle**," noting that consumers are trading up to luxury goods and experiences, or down to value and off-price. Said one expert, "The middle is getting smaller. At the lower end is a value play, and higher end a luxury play. The gap between the 'haves' and 'have nots' is growing."

Another important factor repeatedly mentioned was a lack of reinvestment by many retailers. Whether brought on by high debt loads after corporate buyouts or a general lack of capital, companies have been unable to reinvest in aging assets and maintain competitiveness.

The greatest disruption is in mall-based retail, particularly lower-tier class B and class C assets. Many agree that a good number of regional malls will disappear entirely, and that this is needed: one expert in commercial real estate services suggested that this is not as much a "decline of malls" as a "decline in **'superfluous' malls**." Still, suggestions that as many as three-fourths of shopping malls (roughly 900 of today's approximately 1,200 malls) could close seem highly exaggerated.

A few experts suggest that **department store** mainstays are now all but obsolete. Their one-time role as a source for discovery and product research has been replaced by online browsing. Other interviewees still see relevance in the department store sector; however, it will be much smaller in size and number of units.

Similarly, inline **apparel** shops are weakening as other sectors strengthen. The chart below illustrates a notable shift away from apparel toward other uses: over a 10-year period, apparel's share of gross leasable area (shown along with general retail, including department stores) has declined from 36 percent in 2007 to less than 29 percent in 2017.

These categories' weakness may extend across price points. One retailer interviewee pointed out, "The overabundance of space extends across channels and even discounters could experience 'rightsizing' and future consolidation."

Virtually every retailer will be required to adapt and change, resulting in both winners and losers. This fundamental shift needs to occur, although we cannot overlook the importance of physical stores in providing opportunities to discover and interact with retail brands.

Technology and Flexibility

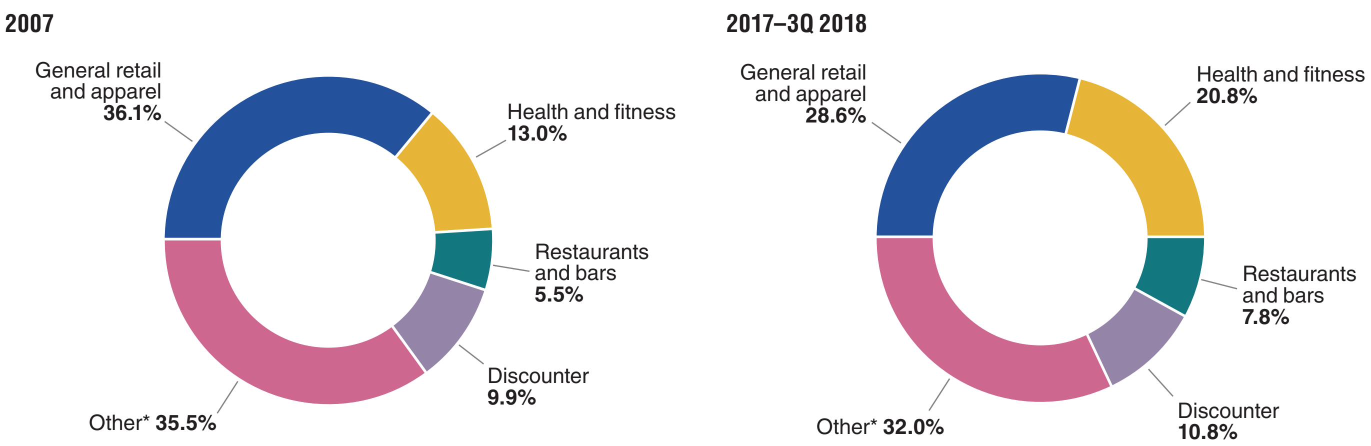
One universal theme among interviewees is the unrealized opportunity that landlords and tenants have to share information about their business, including the vast amount of **customer data** each is now able to collect. Observed one shopping center investment adviser, "Technology will be a differentiator that further reshapes retail in the future, especially in how 'big data' will help retailers understand their customers and their behavior." Using analytics to enhance customer experiences will define winners and losers in the coming years. Increasingly, retailers are relying on technology to anticipate consumer needs, fine-tune selections, and smooth pain points in the purchase process, thereby creating differentiating guest experiences.

Some have suggested that the digitally native online retailers have more to give here and, thus far, have been more transparent. There remains a perception that more traditional "legacy retailers" are more guarded about sharing insights. All believe that it is in our best interest to be more transparent and look for new mechanisms to better value physical stores and the role they play in a consumer's path to purchasing.

"Clearly, the old metrics don't work anymore," noted one interviewee working in leasing for a developer. "We need to find other ways to value the importance of physical stores." A retail insights researcher said, "The era of percentage rent is dead." There also is evidence that we may be seeing progress in terms of lease flexibility. As one interviewee from a real estate services firm noted, "Landlords seem much more willing to accept shorter and more flexible contracts now."

One specific future trend is unfolding in digital payments, rapidly moving toward an era of **frictionless retail**. As Amazon Go pioneered the experience of shopping without checkouts, it is considered to be only a matter of time before other retailers follow suit (and customers come to expect it). It will likely become the norm in a relatively short period of time, moving us closer to where, as one retailer noted, "Shoppers will be able to get what they want, where they want it, and how they want it, regardless of channel or format."

Exhibit 3-14 **Share of Shopping Center Gross Leasable Area Leased by Tenant Type, 2007 versus 2017–3Q 2018**



Source: CoStar Realty Information Inc.

*Includes entertainment as well as drug and other miscellaneous retail stores.

Hotels

This asset class is generating cautious optimism among investors, both from a return-on-investment and a development perspective. The impact of slowing economic growth and operational performance suggests that the industry is at an inflection point. This realization is shifting the current "status quo" mentality of many hotel investors, as attempts are made to mitigate potential headwinds.

A deceleration in top-line revenue growth, trade implications, rising labor costs, and political uncertainty will remain top of mind for hotel investors as we move through 2020. Investors will benefit from seeking opportunities that capitalize on shifting customer preferences and technological innovations, and allow for differentiation in an increasingly challenging operating environment.

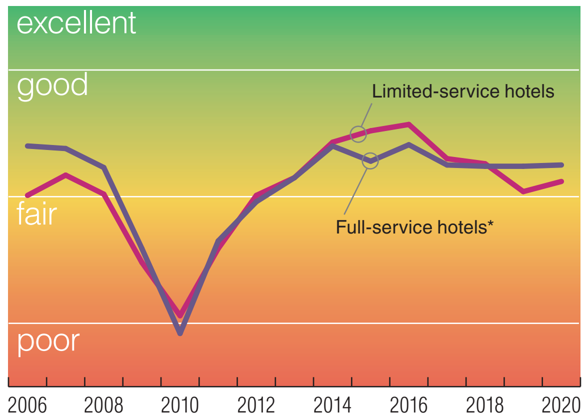
Implications of Waning Operational Performance

Hotel investors continue to highlight a deceleration in top-line growth as a concern for 2020. Given that 2019 has seen lower-than-expected increases in revenue per available room (RevPAR), the underlying factors that drive average daily rate (ADR) and occupancy, such as distribution channel, customer mix, and revenue management, are areas of focus.

In recent years, RevPAR growth has been driven by ADR, which continues to increase, despite flattening to slightly declining occupancy levels. Hotel investors noted that the industry's ADR growth is likely due, in part, to deployment of more sophisticated revenue management practices and conscious decisions to shift business to higher-rated customer segments. While group demand is faltering in several historically strong markets, some hotels have had the opportunity to strategically shift their guest mix to other segments, like business transient or the leisure traveler. Some investors attributed this success to leveraging online travel agencies (OTAs) more effectively to fill gaps in their business.

With occupancy acting as a counterweight on RevPAR, demand has become increasingly analyzed. The increase in hotel room supply has outpaced demand growth, resulting in occupancy declines. It was noted by some investors that they do not expect occupancy levels to increase in the near term, suggesting that occupancy may have already reached its peak in this economic cycle.

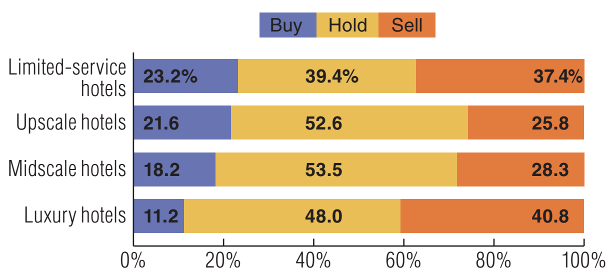
Exhibit 3-15 **Hotel Investment Prospect Trends**



Source: *Emerging Trends in Real Estate* surveys.

*Starting in 2017, results are the average of investment prospects for three categories—luxury, upscale, and midscale hotels. Previous years' results are based on investment prospects for a single category—full-service hotels.

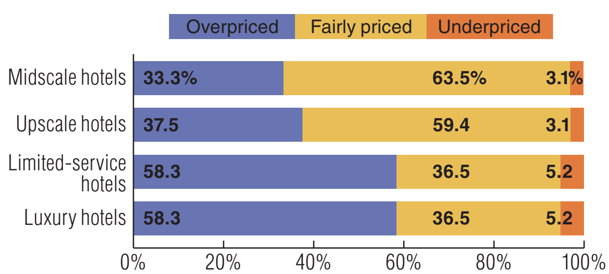
Hotel Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Based on U.S. respondents only.

Opinion of Current Hotel Pricing



Source: *Emerging Trends in Real Estate 2020* survey.

Note: Based on U.S. respondents only.

Looking ahead to 2020, there is an expectation that RevPAR growth will be the lowest in a decade. Occupancy is expected to decline slightly and ADR is forecast to grow only marginally.

Headwind Pressures

Lodging demand is closely linked to economic performance, with cyclicality disproportionately influencing lodging demand relative to other real estate classes. With the recent deceleration in growth suggesting a potential downturn looming, lodging investors are attempting to forecast its time frame and severity, while looking to the past to inform strategies going forward.

A number of economic factors are expected to influence hotel performance in 2020, including a deceleration in GDP growth, increasing labor costs, slowing of consumer spending, and continued trade tensions and tariff implementation. Lodging investors noted that although interest rate cuts may stimulate GDP, they do not believe that the cuts will be impactful enough to prevent further economic slowing. Current pressures on GDP revolve around the uncertainty of external factors, including the global trade environment, upcoming U.S. elections, and the impact of Brexit. The U.S. hotel industry is already experiencing negative effects from elevated construction costs, in part due to increased tariffs. If the trade armistice continues or worsens, investors worry that not only will these tensions affect hotel development and operational costs, but also will increasingly influence international travel into the United States, with potential implications for some of the key gateway markets that rely heavily on inbound travel demand. Likewise, although investors noted that businesses have generally benefited from the Tax Cuts and Jobs Act of 2017, the results of the 2020 election are expected to influence how business-friendly the environment continues to be. The eventual impact of Brexit also is yet to be seen, with investors also noting that, in addition to the future impacts on the United Kingdom, a strong U.S. dollar is making it more expensive for international travelers to come to the United States.

Unemployment has a twofold relationship with the hotel industry. With unemployment rates at historical lows, hotel investors are increasingly concerned about the growing cost of labor putting pressure on operating margins. Moreover, if future immigration policies become more stringent, it will decrease the available workforce for this sector, and create even more of a labor shortage of hourly workers. On the other hand, low unemployment typically has a positive impact on lodging demand. With increased job security and more people employed, transient business—in theory—should increase as discretionary income becomes allocated to things like travel and leisure. Having the labor available to service this increasing discretionary spend is becoming a greater concern.

Hotel investors also noted that a level of unprecedented uncertainty surrounds the current political climate, both domestically and abroad. Policies that have the potential to dissuade inbound international travel and commerce threaten the U.S. hotel industry. China and other countries have released travel advisories for the United States to dissuade travel, citing high crime rates. This political stance, as well as the devaluation of the yuan, is likely to have continued effects on Chinese inbound tourism. Investors indicated that shifting demand has already been felt in markets where international tourism is a large component of its business, like New York City. Yet, the long-term impact of these political implications is yet to be fully seen.

Ultimately, hotel investors are largely predicting that although uncertainty exists, a cautious "business as usual" approach is warranted for now. If economic headwinds escalate, the resulting impacts on the hotel industry will be more pronounced and investors may have to rethink their approach.

Changing Lodging Landscape

Although the broader economic environment weighs heavily on the sector, hotels have seen shifts in the lodging landscape that present opportunities to differentiate and capitalize on demand-driven trends.

- Resort and urban fees have become increasingly popular in the industry as a way to monetize service offerings, like access to wi-fi and the fitness center. Pending litigation regarding the display and communication of these fees, however, has been an area of concern. While investors and industry participants continue to speculate on how to best facilitate these fees, there is widespread consensus on the positive impact of these fees on hotel operating margins.
- Brand proliferation has been an area of interest for some investors, as recent brand introductions have taken a page out of boutique offerings of the past. Some of these new brands also present alternative models to the traditional hotel landscape, including home sharing and hostel-like accommodations.

Embracing Digital Transformation

The increasing use of technology in hotels remains a large opportunity for a considerable part of the industry. While some brands or properties are being early adopters of new technology, there remain barriers to adoption, including cost and implementation restrictions, as well as a lack of knowledge and experience. Yet, despite these barriers, momentum is growing to increasingly introduce and adopt new technologies, which are vital to driving both the guest experience and operational efficiencies.

Hotels are increasing the use of artificial intelligence (AI) and machine learning (ML) to create customer-facing chat bots, which streamline labor-intensive processes like ordering amenities to guest rooms, or connecting devices within guest rooms using the internet of things (IoT).

Capitalizing on Coworking

The phenomena of hotel lobbies and common areas being used to conduct business is commonplace. However, with “digital nomads” becoming increasingly more prevalent in today’s workforce, hotels are learning to capitalize on this trend. In addition to increasing examples of hotels becoming a “hub” for collaboration, physical seating and offerings in public spaces are becoming progressively more important.

To take things a step further, some hotels are even monetizing this trend by adapting the coworking model and dedicating space specifically designed to sell memberships or desks to fill the demand for nontraditional workspace. Hotels that have taken this approach offer these workers conveniences such as open and private workspaces, access to hotel amenities, community events, and even preferred room rates. These hotels benefit from this new layout by capitalizing on lower-revenue-generating space and creating a new group of loyal customers.

Considerations Going Forward

The hotel industry’s recent performance suggests that it is at an inflection point. With both economic and political uncertainties, hotel investors remain cautious as they approach 2020. However, there has been a shift in trends and guest preferences that allows for differentiation in the lodging marketplace. If adopted and expanded upon, these opportunities have the potential to create unique offerings as well as efficiencies to improve market share.

Emerging Trends in Canadian Real Estate

Laying the Foundation for a Customer-Driven Future

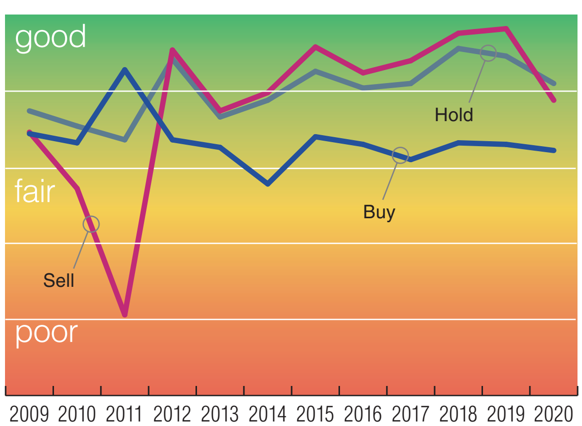
Putting Customers at the Heart of Reimagined Spaces

"While cash flows, cap rates, and NPV calculations are always important in real estate, focusing on the customer experience has become a significant priority."

A major part of the industry's success in building for the future lies in its ability to reshape real estate in response to changes in customer habits and expectations and evolving uses of space.

Changes are playing out in large and small ways across property types. As online shopping continues to grow in Canada, the need for dedicated space for deliveries, including cold storage for food deliveries, is an emerging trend in the multifamily residential sector. Some developers are looking to cut the amount of space otherwise dedicated to kitchens or even eliminate standard appliances like ovens.

Exhibit 4-1 **Emerging Trends Barometer 2020**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on Canadian investors only.

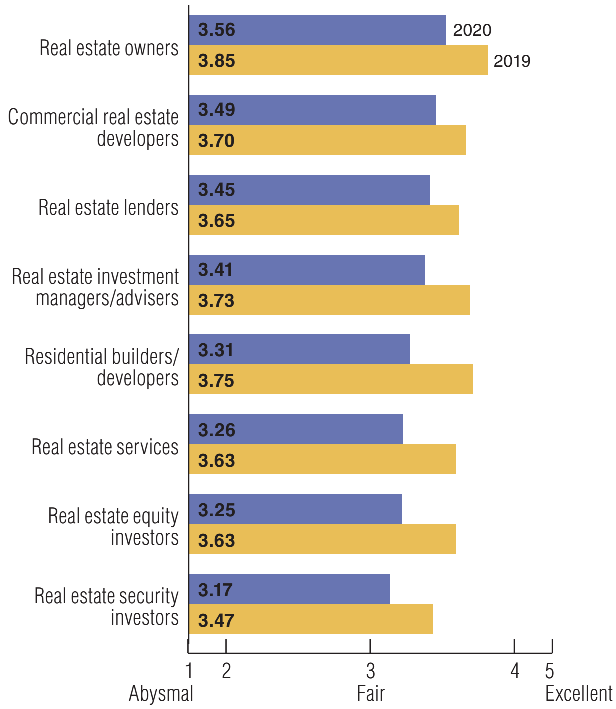
Co-living is another rising trend in Canada. Blending features of apartments, dorm rooms, and hotels, co-living accommodations offer residents the opportunity to have their own space within common living areas at a more affordable price. Some developers are developing multigenerational co-living projects, in which separate buildings accommodate the needs of a particular generation, but there also is common community space shared by all residents.

While some customers may be willing to give up space or certain features in the name of affordability or a preference for a more communal lifestyle, demand remains high for high-quality features and amenities that enrich residents' experiences, including services like housekeeping, curated events, and easy access to basic household supplies.

The trend toward shared spaces in the office sector, which has been ongoing for several years, offers yet more evidence of rising tenant and customer expectations. Beyond good gyms, more tenants (and their employees) are looking for features like proximity to restaurants and less tangible elements, such as a communal vibe.

"The work environment is becoming more playful, more livable," said one interviewee. "If you like going there, you're going to enjoy working there and you'll stay." In response to those trends, many building designers are also designing offices in ways that make people feel more at home. For example, they are introducing wood finishes and kitchen designs more typical of a residential setting.

Exhibit 4-2 **Real Estate Business Prospects, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on Canadian respondents only.

As living and working spaces continue to decrease in size, expect the demands for more communal offerings to continue.

The Rise of Real Estate as a Service

These rising expectations are driving major shifts in an industry that has long been seen as reluctant to change. Much like the introduction of cloud computing revolutionized the software sector, the rise of real estate as a service (REaaS) is transforming all areas of real estate. Although coworking is the most common example of REaaS, the concept cuts across property types. As the gig economy becomes more prevalent in Canada, all space—whether residential, office, or retail—will increasingly be viewed as a service that is rentable.

Consider the decreasing desire to own property on the residential side, particularly among millennials and baby boomers. According to Statistics Canada's latest census figures, homeownership rates in Canada remain very high, but the numbers have come down from their 2011 peak of 69 percent to 67.8 percent in 2016. And despite the continued desire of many people to own, much less stigma is attached to renting than in the past.

Reflecting on the growing movement toward temporary spaces, one interviewee spoke of the potential of subscription-based models for housing in which people would occupy different products at a particular stage of life. As another interviewee noted, many consumers are already focusing more on monthly costs than the total purchase price. While affordability is a factor, the REaaS trend also goes back to changing consumer behaviors as people look for more flexibility as their lifestyles and preferences evolve.

Blurring the Lines

Another important aspect of all these trends is the blurring of lines between property types and uses. In the past, for example, office space was designed and built to address traditional notions of office-based work. But the new environment, shaped by technology and customer preferences, is changing that approach significantly. With access to a good wi-fi connection, a traditional office is no longer necessary. Once again, flexibility is key as form follows function.

Some of the ways that traditional lines are blurring include the following:

- The evolution of retail spaces to become more of a distribution hub with smaller store footprints;
- The "surban" trend, in which suburbs are transitioning to include more urban elements with a live/work/play dynamic; and
- Partnerships among coworking companies, hotels, and retail centers to provide access to underused space as well as services and amenities.

The real estate industry is clearly paying attention to these trends as companies make major investments in more flexible business models. But these shifts also represent a significant challenge for many industry players. When it comes to embracing coworking arrangements in offices, for example, short-term leases can affect property valuations and add to costs when tenants change more frequently. This makes it even more crucial for established industry players to embrace the technologies, services, and modernized spaces that can help them compete with newer entrants.

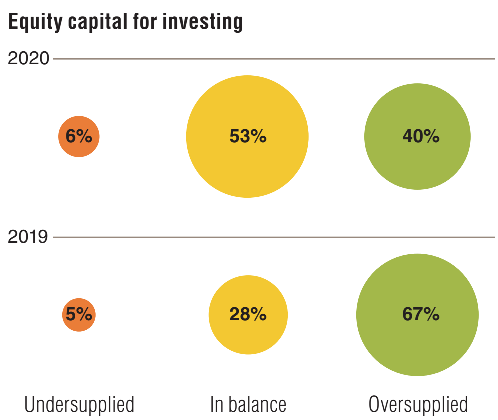
Powering Digital Transformation through Proptech

"Proptech will soon not be a novel concept. Technology will be embedded in all aspects of real estate."

Interviewees clearly recognize that they need to pick up the pace of digital transformation if they are going to drive efficiencies and adopt the innovative and customer-driven models that are key to remaining relevant and continuing to grow. Construction technology is a rising trend, as seen in survey results that ranked it the top real estate disrupter for 2020.

And while survey respondents are focusing on specific emerging technologies, like artificial intelligence (AI) and the "internet of things" (IoT), they are also paying more attention this year to the impact of more general trends, like the rise of more flexible business models and the sharing economy, on real estate. As noted, the growth of coworking and co-living concepts featuring modern, technology-enabled, and blended spaces only adds to the pressure on real estate players to be more innovative and digitally focused.

Exhibit 4-3 **Real Estate Capital Market Balance Forecast, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on Canadian respondents only.

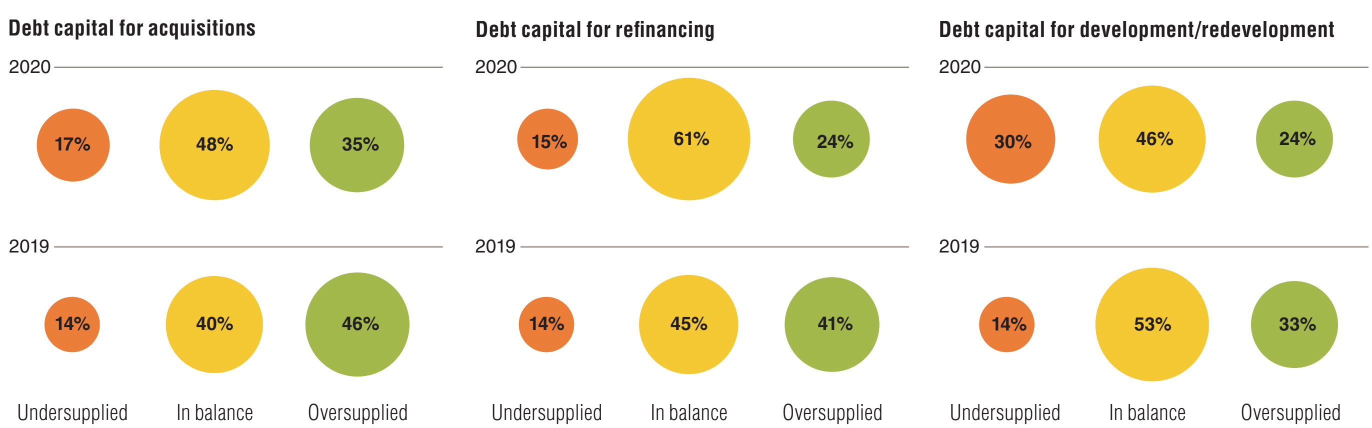
Proptech Practices and Possibilities

The proptech conversation has picked up significantly among interviewees in the past two years, with several pointing to activities already in the works. Some large players are making significant investments in technology companies—in some cases through investment funds or accelerators—and the amount of investment activity is rising quickly. According to data from CB Insights, global proptech investment is projected to reach a record US$6.3 billion across 382 deals in 2019. By comparison, the figures were US$4.5 billion and 399 deals, respectively, in 2018.

With customers looking for digitally enabled and mobile-friendly spaces, interviewees are introducing (or at least exploring) new applications across the technology spectrum. Much of the activity cited by interviewees also revolves around smart-home and smart-building applications aimed at energy efficiency, typically by embedding IoT-powered sensors into their systems.

And while tenant apps that help office workers navigate building services and inform them about promotions have been around for a few years, companies continue to add to their features. Some companies with mixed-use portfolios are using them to market services and promotions across their properties by, for example, informing residential or office tenants about nearby retail offerings.

Exhibit 4-4 **Real Estate Capital Market Balance Forecast, 2020 versus 2019**



Source: *Emerging Trends in Real Estate* surveys.
Note: Based on Canadian respondents only.

We are also seeing proptech developments in a number of areas, including the following:

- **Artificial intelligence/machine learning.** AI and machine learning are emerging in a number of areas of real estate. For example, interviewees referred to emerging AI applications that can increase the power of smart-building systems to boost energy efficiency, particularly when combined with sophisticated sensors.

- **Drones.** Some interviewees cited the use of drones in property management and inspections to perform infrared heat analysis on building roofs. One residential developer referred to using drones to wash windows on buildings. Other uses of drones include monitoring construction progress and conformity to plans, virtual site tours, and security surveillance.

- **Autonomous vehicles.** One interviewee is looking at designing a residential development with no garages to account for a future that includes autonomous vehicles. Many real estate players are thinking about what shared models of vehicle ownership will mean for the industry, with several planning developments with the ability to convert parking lots to other uses in mind as new trends take shape.

- **Robotics.** As noted, construction technology is a big focus for the industry, rising to the top of our list of real estate disrupters for 2020 from fourth place in last year's survey. Many companies are eager to explore automated solutions, like robots, to address labor shortages. While one interviewee said that it would likely take at least five years for such solutions to make their mark, products are in the works, including devices worn by workers that help them lift heavy materials and be more productive and robots that can pick up and install drywall.

- **3-D modeling and printing.** Three-dimensional modeling, used to plan, design, and construct buildings, is a major area of interest and opportunity. One interviewee noted that it allows engineers to catch construction issues faster and find solutions before building has even started. Interviewees also touted the benefits of technologies like 3-D printing of some construction materials.

- **Virtual reality (VR).** While much of the discussion revolves around using VR in marketing activities on the residential side to reduce reliance on presentation centers, some interviewees pointed to the benefits of integrating it into the planning and construction process. Improved visualization at the early stages can help improve decision making and reveal potential blind spots during construction.

A Growing Appetite for Data and Analytics

While many interviewees are saying that the next wave of technology investments in real estate could be in the construction sector, with the introduction of the digital twin and the advancement of modular homes, another promising area is the monetization of data that allows organizations to connect these various systems and tools to create intangible assets in an organization.

To make the most of investments in technology and innovation, companies are recognizing that they will also need to do more with data, which becomes particularly powerful when organizations combine information from different sources to create more meaningful insights.

Real estate companies are using data in a variety of ways. By using data sets from online sources, for example, companies can get a clearer picture of housing inventory in specific markets to make better decisions about future investment opportunities. One player in residential housing uses data to forecast closing issues, which helps prevent defaults. Another interviewee uses a platform that centralizes deals data to help manage workflow, track milestones, and generate analytics.

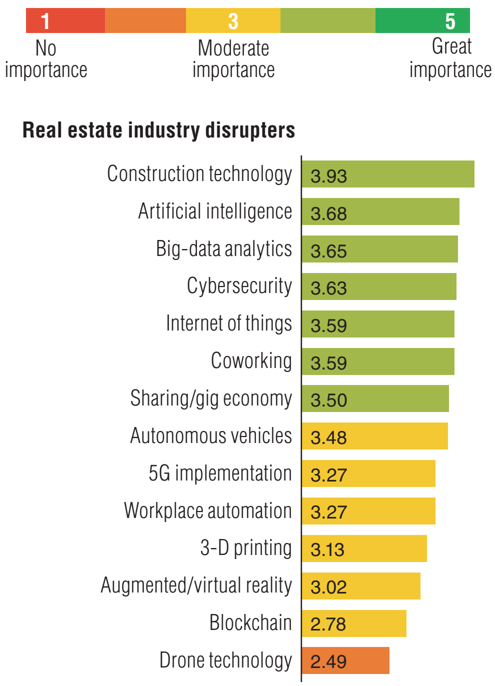
Even as many companies have data governance on their agendas, the real estate industry faces a number of challenges when it comes to making use of data. As one interviewee pointed out, much of the industry's data is unstructured, which makes it difficult to link systems to third-party market sources. Other challenges include privacy issues and an overall lack of trust in the data that companies have. Despite these concerns, the industry needs to quickly expand its investments in this area while carefully balancing the privacy issues at play.

Navigating Policy and Geopolitical Uncertainty

"How does the public sector partner with the private sector to create social impact?"

As our survey results show, costs, regulation, and political issues are among the top economic, social, and development concerns for the real estate industry in 2020. As discussions about housing affordability take center stage in the Canadian policy landscape, governments have stepped up their efforts to respond.

Exhibit 4-5 **Importance of Real Estate Industry Disrupters in 2020**



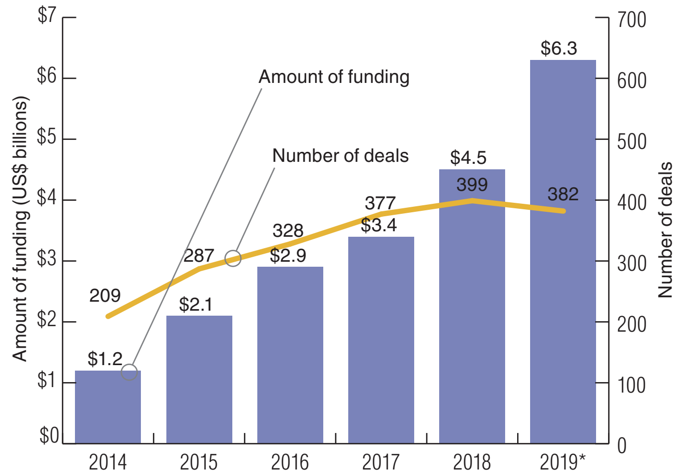
Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on Canadian respondents only.

At the federal level, debate has continued around the mortgage stress test, which has had the effect of restraining activity not only in expensive markets like Vancouver and Toronto but also in other areas where affordability is less of a concern.

In British Columbia, the province continued to introduce new policies affecting the housing market in 2019. They include the introduction of new taxes on homes valued at more than CA$3 million and plans to establish a new registry of beneficial property ownership to curb money laundering amid concerns about inflated home values.

While some of these changes can help moderate price increases by tempering demand, the real solution lies in making it easier to supply the market with new housing. In Ontario, the government has heard the calls to address supply. In 2019, for example, it passed Bill 108, which will restore some of the procedures of the old Ontario Municipal Board at the new Local Planning Appeal Tribunal. Interviewees believe that this will streamline decision-making and help alleviate some housing supply issues. The government has also introduced changes to

Exhibit 4-6 **Real Estate Tech Global Financing History**



Source: CB Insights, provided on July 10, 2019.
*Full-year projection.

legislation governing development charges and other fees paid by developers.

In Quebec, Montreal has taken a different approach with its proposed 20-20-20 plan. Under the plan, the city would require developers to set aside certain percentages of new residential developments for social, affordable, and family-oriented housing. In many cases, they can make a financial contribution in lieu of setting aside units.

The real estate industry has raised significant concerns about the cost impacts of the unintended consequences of these types of policies. While they may help create some new affordable units, but the added costs will likely worsen affordability overall.

Alleviating the Stress

When one looks at the mortgage stress test, one sees that it has helped dampen price increases, but it has done so by taking some homebuyers out of the market. It is time for the government to recognize that, aside from Vancouver, Toronto, and potentially a few rising markets, affordability is less of a concern in most cities and provinces, which should not be subject to the same rules.

Adding to the concern is the fact that an opaque and unregulated lending market has emerged that is creating the very risks that the stress test had tried to avoid. With traditional lending markets closed to some buyers, many have turned to private mortgage funds or the developers themselves to get the funding they need to close their homes, often at significantly higher rates. The end result is greater consumer and market risk.

Beyond the problem of unintended consequences, there also is the issue of inconsistency in government policies. While the stress test dampens demand, for example, the government is also boosting the pool of potential homebuyers by increasing immigration. At the same time, survey respondents rated construction, material, and land costs, along with approval processes, as the top development issues in 2020. Many of these are supply-related issues where governments can play a role.

Where governments are addressing supply issues, they are also finding ways to benefit more directly by pursuing transit-oriented development. While transit agencies have traditionally emphasized delivering infrastructure to the public without focusing on ways to subsidize the costs, they are now doing more to capture some of the new value created.

In June 2019, for example, the Ontario government announced that it was changing the planning rules in key areas of Toronto to permit greater density along existing transit lines. The move comes as the government pursues plans to build a massive expansion through the city as part of its spring 2019 announcement of CA$28.5 billion in funding for transit.

Other options to address supply include making public lands available through long-term leases to encourage the development of purpose-built rental housing. Pursuing more of these innovative solutions to supply constraints and affordability concerns is a better way forward than current attempts to temper demand.

Black Swans and "Legislation by Twitter"

Government intervention is one thing, but political and economic uncertainty is another. Despite recent Canadian progress on many trade-related issues with the United States, interviewees expressed continued uncertainty about the geopolitical environment, with several pointing to the possibility of what they called a black-swan event that could disrupt the economy. Populism and the related political risks are a major concern, as seen in a reference by one interviewee to the impact of "legislation by Twitter."

Whether it is tariffs and protectionism more generally or more specific issues like Brexit or the U.S. trade dispute with China (and the potential rippling effects on Canada), many interviewees see possible trouble on the horizon. Tensions in regions like the Middle East and potential military disputes involving the United States and several other countries are another concern.

Also on the policy front, Canadians will be going to the polls in a federal election in October 2019. The real estate industry will be paying particular attention to any impacts on or changes to the mortgage stress test. In Alberta, interviewees will be watching the discussion about pipeline developments given the importance of that issue to economic prospects.

Tackling Emerging Business Challenges

"If you're not the learner, you're the lesson."

As much as the industry faces pressure to embrace proptech and adapt to changing policies and expectations, companies also need to look inward to shift how they operate so that they can succeed in the future. If they are going to be more innovative, make full use of technology, and get ahead of customer trends, they will have to make sure that they have the right capabilities. That means addressing rising business challenges like shortages of labor and talent and the growing cybersecurity threat.

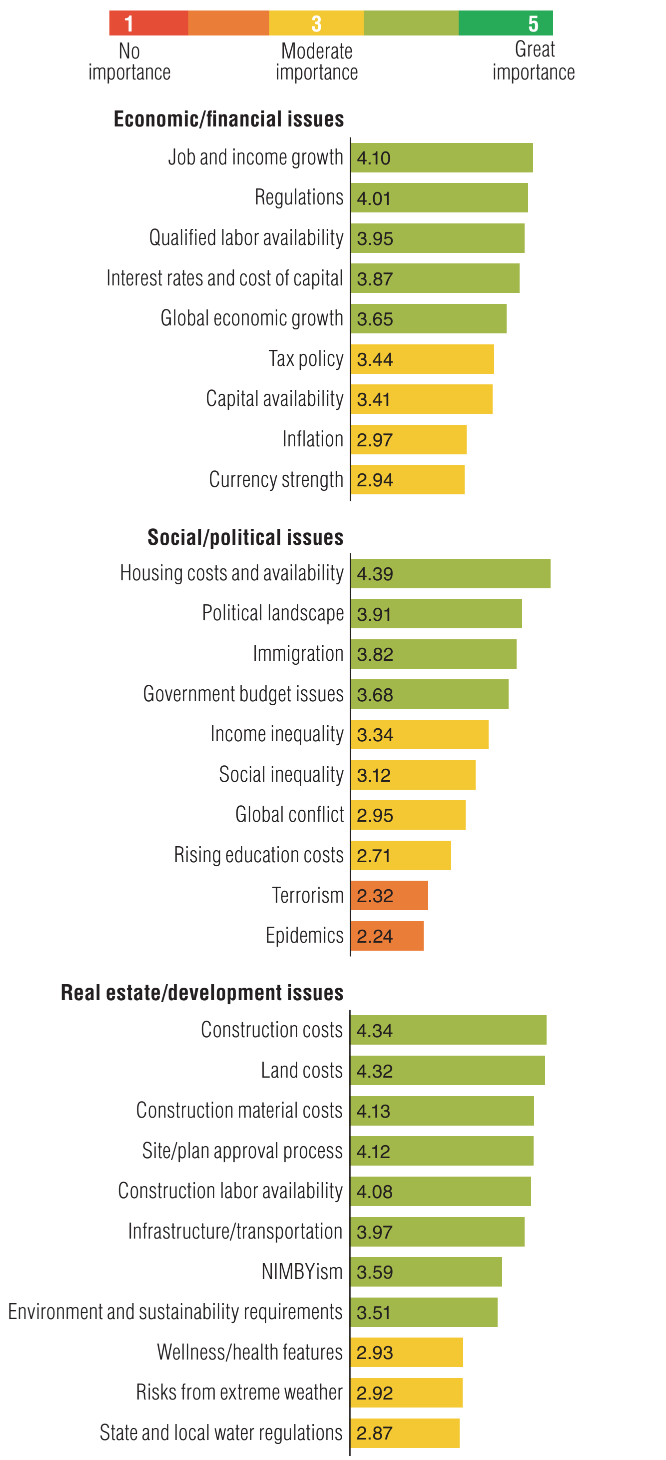
The Construction Industry's Missing Middle

Qualified labor availability is one of the top economic and financial issues cited by survey respondents for 2020, ranking just below jobs and income growth and regulations. Data from Employment and Social Development Canada predicts that while gross domestic product (GDP) growth is expected to stay relatively constant, employment growth will stagnate, decreasing to 0.9 percent through to 2026. Since the most experienced workers will start to leave the industry at an average rate of 58,000 per annum, a significant labor gap is expected.

The rising concern about labor and demographic issues came through in our interviews. "We're a family-owned business with very senior people who have been with us forever," said one interviewee. "We also have new young people, but we don't have anyone in the middle."

To address the shortages, some companies are setting up their own trade schools with guaranteed jobs for those who complete their courses. Others are turning to automation and modularization to begin addressing the labor and cost issues. While prefabricated components are not necessarily cheaper, technology solutions can at least address the labor gap.

Exhibit 4-7 **Importance of Issues for Real Estate in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on Canadian respondents only.

Securing Key Skills and Talent

Besides the rising concern about labor shortages, the industry is also seeing a rising gap around talent and skills. Interviewees noted that while the industry is seeing some success in attracting new talent—particularly when it comes to becoming more diverse as more women join real estate companies—many organizations are struggling to retain employees, develop their skills, and manage intergenerational differences.

Many companies are exploring the solutions available to them to attract and retain workers with the skills they need. When it comes to younger employees, interviewees emphasized the need to give regular feedback and recognition. “Constant feedback is everything, especially in a small family business,” said one interviewee. “We need to have that corporate energy to keep our millennial staff happy.”

Others cited the importance of workplace flexibility policies, attractive workspaces, and having modern tools and technology. Younger workers also crave inclusion and responsibility. “The decision-makers are becoming younger, partly because of technology and partly because of inclusive policies,” said one interviewee. “In order to attract and retain staff, you need to include them in meetings, mentor [them], and give them responsibilities earlier or you will lose them.”

Canadian business leaders have a tendency to think that they can hire their way out of a skills shortage (see “Evolve or dissolve: Economic reality check for Canadian CEOs” at www.pwc.com/ca), but there also is a need to “upskill” the workforce to address the missing middle. Some interviewees are acknowledging this need, with one emphasizing the company’s program of promoting from within by training promising staff.

The Urgent Issue of Cybersecurity

A separate but equally urgent issue for many interviewees is the challenge of cybersecurity. Digitization, including the rising use of the IoT-enabled sensors in buildings, creates added vulnerability for many real estate players. The issue ranked fourth on our list of real estate disrupters for 2020, and many interviewees report having been victims of cyberattacks.

“Our guys in IT are thinking about it every day,” said one interviewee. “All of us are feeling vulnerable.”

Another interviewee suggested that the real estate industry needs to step up its game. “The real estate industry is behind in learning about cyber crime and taking it seriously enough to either train or hire staff to combat it,” said the interviewee, who called for more industry education about the issue.

Cybersecurity is not only a technology issue; it is also a broader business concern. To support strategic goals, organizations need to reframe the roles of their cybersecurity professionals by embedding their teams within the business.

For organizations that have not been focusing on cyber crime, hiring more people is one way to start. But adding staff can go only so far in protecting new digital initiatives from emerging risks. A PwC study of hundreds of incidents of cyber and operational failures cited a common root cause in most cases: the dependence on a highly siloed and reactive approach to digital resilience. Businesses cannot count on an inconsistent web of solutions, policies, and procedures in a crisis, and certainly not when attacks are becoming more sophisticated and the window for the right response is getting shorter.

Those who look to build digital trust by equipping their people with the right digital skills and awareness, engage the right business processes across their organization, and put the right controls in place for safer adoption of new technologies will be more resilient to attacks.

Property Type Outlook

Retail

"Retail will continue to go through a metamorphosis. Also, with smaller houses and condos, nobody has room for stuff anymore. And what happens when people stop buying stuff?"

In a year that saw announcements of yet more closings of well-known names in the retail sector, it is not surprising that the subdued sentiment continues for that area of the real estate business. Once again, survey respondents rated property types like outlet centers, regional malls, and power centers at the bottom of the list of development prospects in commercial real estate.

Several interviewees pointed to the poor outlook for enclosed malls, suggesting that while investors may want to sell off portions of their holdings, they are reluctant to do so due to the impact on the valuation of their overall portfolios. Other areas of the retail sector, including lifestyle and entertainment centers, fared somewhat better in our survey, which is in line with the trend toward reinventing spaces to create better customer experiences. "People want a distraction," said one interviewee. "Everything else is delivered to you, so the only reason you are going out is for experiences."

Food-based offerings, like grocery stores and restaurants, are another bright spot for retail real estate. But how long that trend will last is not clear. According to data from Statista, the e-commerce penetration rate for food and beverages in Canada is predicted to be 43 percent in 2020.

The rise of e-commerce does not necessarily mean the end of a brick-and-mortar presence, particularly when retailers integrate their stores with their fulfillment operations. One interviewee suggested that the sentiment against the retail sector has gone too far since it remains an important solution to last-mile delivery, while others emphasized the opportunities in conversions to service-oriented uses like fitness centers and health facilities. Some online retailers, in fact, have been moving to open physical stores as their business models evolve.

Single-Family Residential

As the affordability conversation continues, the market for single-family housing has come under pressure. Survey respondents reflected the impact of the affordability issue, rating the investment and development prospects of moderately priced single-family housing well above those of higher-end products.

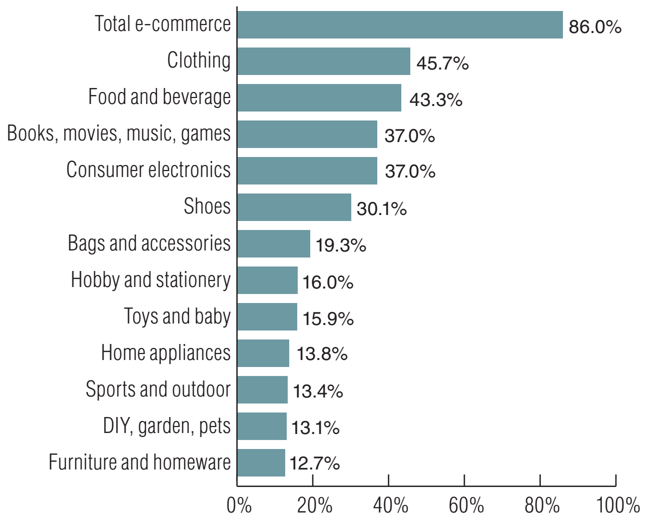
The challenges for single-family housing have been playing out in the market. Inventory under construction in 2018 was 46,747 units, according to the Canada Mortgage and Housing Corporation. That was down from more than 55,000 units in 2017. With demand for new homes softening, prices of single-family housing have been leveling off. According to RBC Economics Research, that led to a small improvement in the affordability of a single-family detached home in the first quarter of 2019.

So, what are the opportunities for those in the industry? One interviewee mentioned opportunities in cities outside major markets—particularly as people move further away from major cities like Toronto and Vancouver—while another emphasized the need to differentiate the product to succeed in selling single-family homes. As one interviewee noted, homebuyers are willing to compromise on certain features, like lot size or the need for certain spaces in a house, as long as the home meets their lifestyle needs.

Office

Office buildings continue to be a healthy area of the market, with survey respondents rating downtown properties sixth for development prospects in 2020. Canada's continued gains in employment and fast-growing technology sector have been positive for the office sector. While new construction is helping meet the demand, preleasing activities are keeping vacancy rates low. According to JLL Research, the vacancy rate for office properties in Canada was 10.5 percent in the second quarter of 2019.

Exhibit 4-8 **E-commerce Penetration Rates in Canada**



Source: *Statista e-Commerce Market Report*, accessed June 18, 2019.

Note: The penetration rate is the share of active paying customers (or accounts) as part of the total population (adults ages 16 and older).

Despite the healthy market overall, changing workplace practices—like remote and flexible working, the push for amenities, and the need to make office environments as attractive as possible to encourage employees to continue commuting to work and help companies retain their staff—are having a significant impact.

Many industry players are still figuring out how to respond to the coworking trend, with some looking to work with some of the big companies in that space and others seeing if they can emulate them. But emulating coworking companies is a challenge given the negative impact of short-term leases on property valuations.

According to one interviewee, the movement away from long-term leases means that lenders will need to think differently about office properties. "Lease terms of seven years will not be seen anymore."

Industrial

Warehousing and fulfillment remain the top prospects for development in 2020.

According to CBRE's *Canada Quarterly Statistics* (Q2, 2019) report, the industrial property market as a whole is very healthy, with a national availability rate of just 3.1 percent in the second quarter of 2019. Conditions are particularly tight in Vancouver, which had an availability rate of just 2.1 percent, and the Greater Toronto Area (1.5 percent). Rental rates also have been on the rise, and while new supply is in the works in many Canadian cities, CBRE expects continued high demand to keep industrial markets tight in places like Toronto for the time being.

In a region that has faced economic challenges in recent years, industrial property is a definite bright spot in Calgary. While interviewees were optimistic about Calgary's industrial prospects, they expressed a significant concern about a lack of land. Halifax also is doing well. One interviewee noted that there have been large portfolio transactions involving Halifax industrial land and suggested more are to come, with some assets sold off as smaller properties.

Future development trends to watch out for include vertical warehouses that require less space and the possibility of charging by cubic feet instead of square footage. Growth in self-storage facilities is another trend to watch as shrinking home sizes boost demand for that type of space.

Purpose-Built Rental

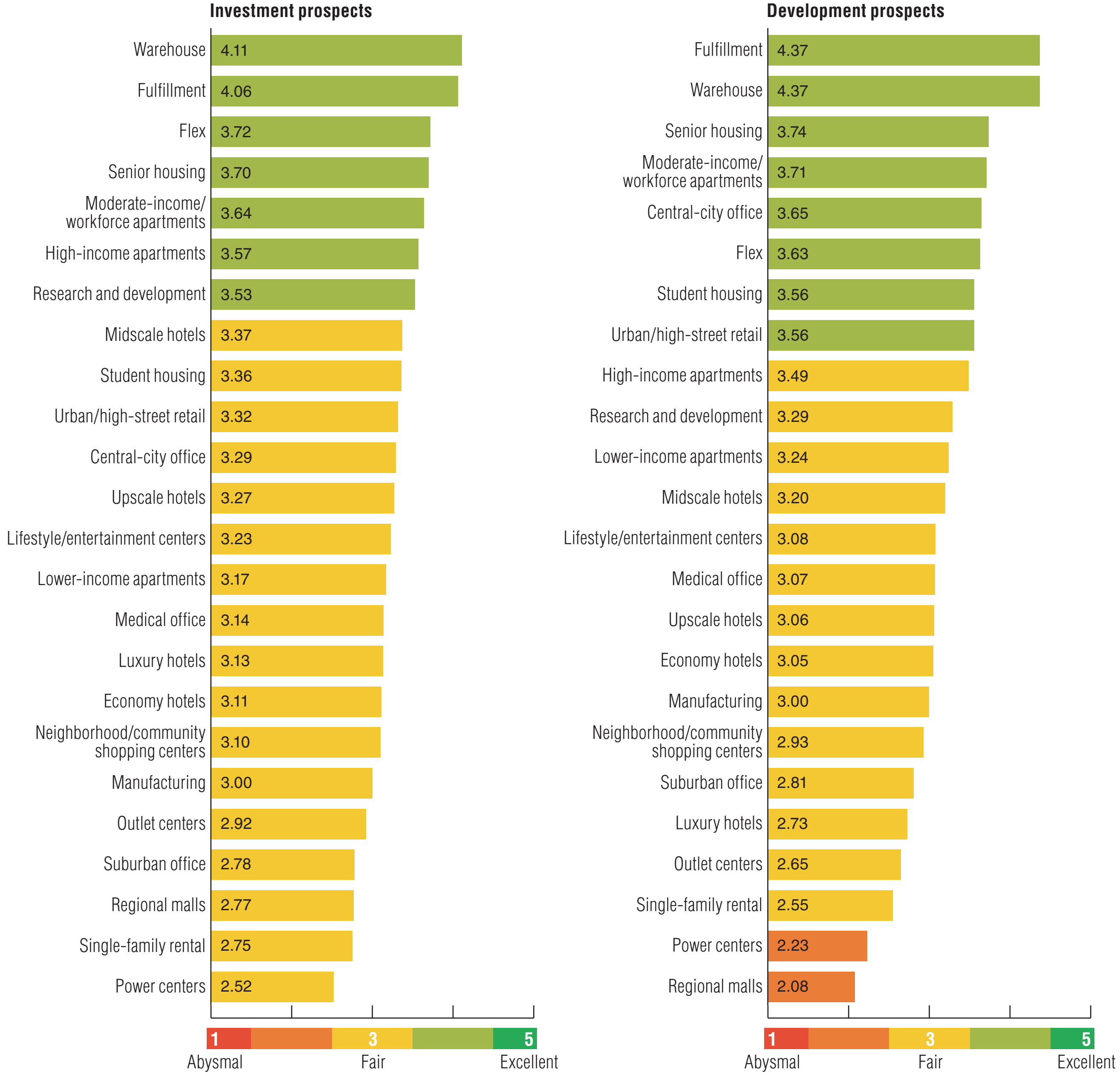
Demographic and economic trends continue to move the dial in favor of purpose-built rental housing in Canada, where the national vacancy rate was 2.4 percent in 2018. Many baby boomers looking to downsize are choosing to rent, as are some millennials who find it an attractive and potentially more affordable alternative to buying a home. Government actions that are suppressing demand on the homeownership side are pushing even more people to the rental market, which is helping boost the rents that landlords can charge. Conditions are especially tight in cities like Vancouver and Toronto, where the vacancy rate was 1 percent and 1.1 percent, respectively, in 2018.

Survey respondents are seeing the upsides, particularly when it comes to rental housing aimed at tenants with moderate incomes. There is less interest in high-income apartments, with 47 percent of respondents rating that area of the market as overpriced.

Adding to the tight market for renters is the rise of the sharing economy. A study released in June 2019 by researchers at McGill University that looked at the impact of Airbnb estimated more than 31,000 units had likely been removed from Canada's long-term rental markets. It is a significant number given that Canada had about 56,000 rental units under construction in 2018.

Many interviewees noted the evolving business model of incorporating different uses, particularly by adding a condo component, into projects to make rental housing more viable. The condo pays for the land, which helps make the numbers work, one interviewee said.

Exhibit 4-9 **Prospects for Commercial/Multifamily Subsectors in 2020**



Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on Canadian respondents only.

Exhibit 4-10 **Investment Recommendations for Commercial/Multifamily Subsectors in 2020**

	Buy	Hold	Sell
Moderate-income apartments	61.1%	30.6%	8.3%
Senior housing	53.1	37.5	9.4
Urban/high-street retail	48.0	36.0	16.0
Neighborhood/community shopping centers	44.4	40.7	14.8
Central-city office	43.3	33.3	23.3
Student housing	39.4	51.5	9.1
Lifestyle/entertainment centers	37.5	33.3	29.2
High-income apartments	34.3	48.6	17.1
Lower-income apartments	28.6	57.1	14.3
Medical office	23.3	70.0	6.7
Economy hotels	23.3	38.8	37.9
Upscale hotels	22.8	52.5	24.8
Midscale hotels	19.4	53.4	27.2
Suburban office	19.4	51.6	29.0
Single-family rental	18.8	43.8	37.5
Outlet centers	12.0	60.0	28.0
Luxury hotels	11.9	47.5	40.6
Power centers	8.3	41.7	50.0
Regional malls	0.0	56.0	44.0

Source: *Emerging Trends in Real Estate 2020* survey.
Note: Based on Canadian investors only.

Amenities and services also are increasingly important in the rental market. While people may be willing to sacrifice size and homeownership, many want units that meet their lifestyle needs and preferences. They may not get that from older stock, which means that a significant opportunity exists in developing more modern rental options, like co-living. Interviewees also pointed to the rising demand for more community-focused rental housing that offers opportunities—through activities like social events and in some cases under the guidance of so-called lifestyle curators or community coordinators—for tenants to meet and interact with each other.

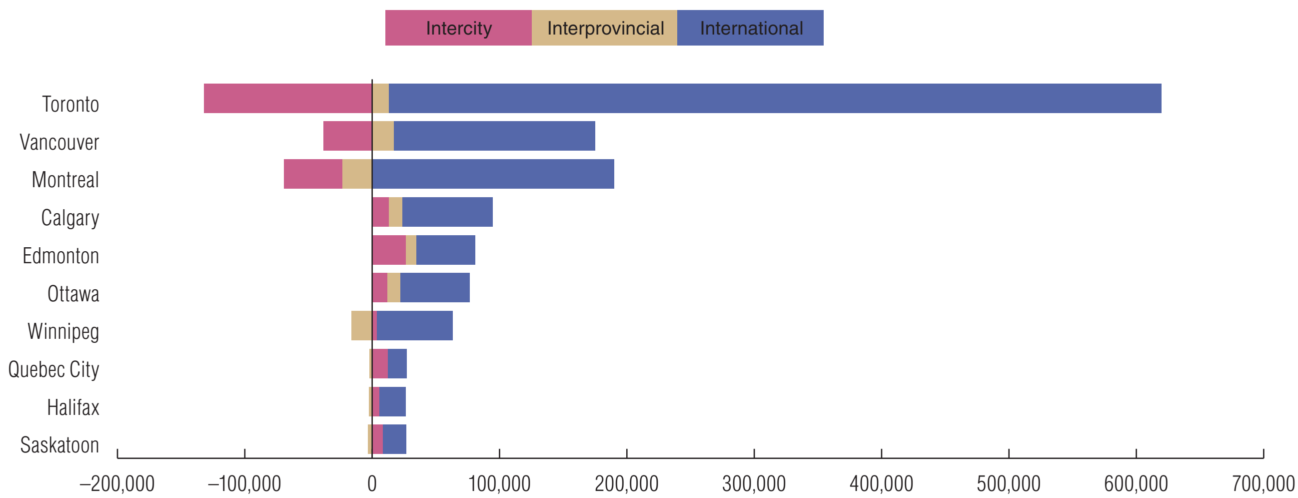
Condominiums

Condominiums have continued to dominate new home construction in Canada. With inventory under construction reaching almost 121,000 units in 2018, condo activity far outpaced single-family (46,747 units) and rental (56,394 units) housing. Condos, which accounted for 54 percent of the inventory under construction in 2018, have also played a significant role in supplying the rental market, often through investor purchases.

But survey respondents are lukewarm on condos, rating development prospects for 2020 as fair. Many demographic factors are favorable, including growing urbanization, rising populations, downsizing baby boomers, and the relative affordability of condos. But the price gap between condos and single-family homes has been narrowing, particularly with factors like the mortgage stress test limiting demand for more expensive types of housing. According to RBC Economics' report on housing affordability for the first quarter of 2019, condo prices in Canada were up 4.2 percent on a year-over-year basis. Prices for single-family detached homes were flat.

On the upside, many interviewees noted rising demand for larger suites. Other trends include a move toward integrating

Exhibit 4-11 **Forecast Net Migration, 2019–2023**



Source: Conference Board of Canada, accessed June 18, 2019.

more diverse uses into developments. Rather than having just retail uses at the bottom of condos, developers are diversifying them to include facilities like elevated parks, community centers, and daycare facilities.

Markets to Watch

Vancouver

Economic growth in Vancouver is moderating. The Conference Board of Canada (CBoC) expects growth to dip to 2.3 percent in 2019 and continue to average at that rate from 2020 through 2023, down from the 3 percent rise experienced in 2018. On the residential side, total housing starts will drift downward over the next few years as a result of ample supply and policy measures aimed at taking more steam out of the sector. Housing prices, particularly for single-family homes, have been decreasing, and sales in the Vancouver area were down significantly at the start of summer 2019. The proportion of foreign buyers of residential real estate in the Vancouver area has dropped significantly since the British Columbia government introduced a tax on foreign buyers of real estate in metropolitan Vancouver in 2016.

Despite some headwinds, Vancouver reemerged at the top of our survey this year for overall real estate prospects. The office and industrial sectors are doing particularly well. For office properties in metropolitan Vancouver, the vacancy rate was just 5.3 percent in the second quarter of 2019, according to JLL Research. A healthy job market and strong absorption by tenants in the technology sector are helping keep vacancy rates low. Deals activity in the office sector has been healthy, as seen in transactions for two major properties within days of each other, one of which involved a well-known private-equity investor.

Toronto

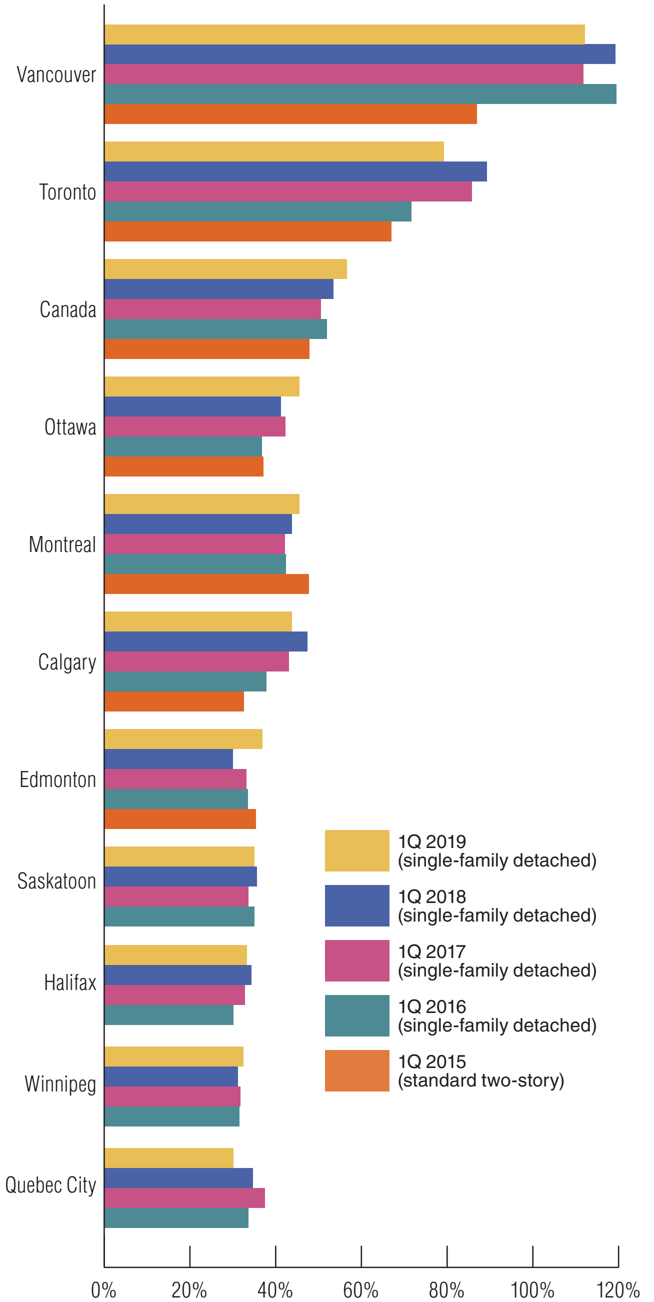
"There's a certain stubbornness that has persisted in the GTA real estate market."

Fueled in part by immigration that is helping make it one of the fastest-growing cities in North America, Toronto continues to have a healthy real estate market. Economic growth also is solid: the CBoC is predicting growth of 2.4 both in both 2019 and 2020.

While the housing market had declined as a result of policy interventions like the mortgage stress test, sales and prices have been stabilizing.

But affordability remains a significant concern, largely due to a decade of land supply issues, coupled with increased demand for housing as a result of immigration and new household formations. With the cost of land per front foot rising, the impacts of government levies and taxes have only added to the affordability challenge. The mortgage stress test is another factor. Beyond creating added demand and helping to push up rents in the rental market, the stress test is also causing people to look

Exhibit 4-12 **Housing Affordability**



Source: RBC Economics, Housing Trends and Affordability reports, accessed June 27, 2019.

Note: The RBC Housing Affordability Measure shows the proportion of median pretax household income that would be required to service the cost of mortgage payments (principal and interest), property taxes, and utilities based on the average market price. The affordability measures are based on a 25 percent downpayment, 25-year mortgage loan at a five-year fixed rate.

at communities further from Toronto to find housing they can qualify to buy.

Montreal

"Montreal feels like it's on fire."

Montreal is on track for continued economic growth, albeit at slightly lower rates than the 3.4 percent seen in 2018. The CBoC forecasts growth of 2 percent in 2019, tapering off slightly to an average of 1.6 percent from 2020 to 2023.

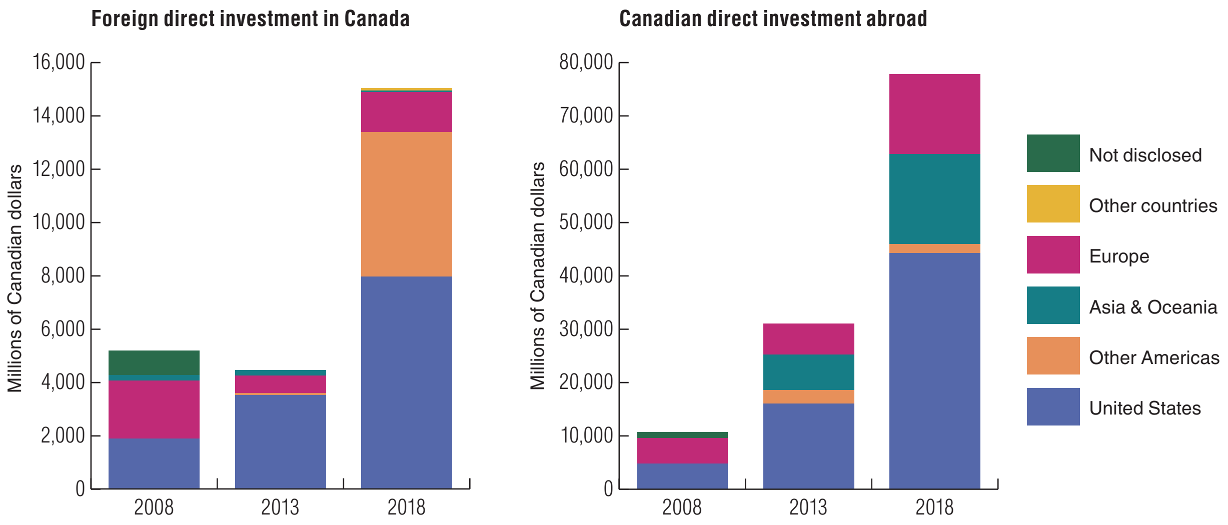
Major strengths in the real estate market of Montreal include multifamily housing and industrial property. An aging population is among the factors fueling significant demand for condos, while e-commerce, including the growth of cold storage for grocery deliveries, is giving a boost to industrial real estate. Supply of industrial real estate is tight, with the availability rate falling to just 3.2 percent in the second quarter of 2019, according to CBRE. The office market, helped by strong absorptions due in part to a growing technology sector looking for flexible space, also has been healthy.

Mixed-use projects show no signs of slowing down as the cityscape continues to transform through several major developments. A recently announced 61-story condo tower in the Phillips Square area will be the city's tallest, outstretching two new nearby buildings rising to 55 and 58 stories, respectively. These are among several large buildings going up downtown, stimulated in part by the city of Montreal's move to transform sites like parking lots into big towers.

The vibrant market is leading to significant investment and deal activities, including transactions involving large U.S. institutional investors and private-equity players that see promise in the region's stability. Senior housing is another significant trend, as are residential developments offering curated amenities and services aimed at millennials and active adults who have recently retired.

Despite the optimism, concerns exist about rising construction and labor costs and the potential impacts of the city's proposed 20-20-20 bylaw. Under the proposal, the city would require developers to set aside certain percentages of new residential developments—or make a financial contribution in lieu—for social, affordable, and family-oriented housing. For example, a downtown development with 50 or more units would need to set aside 20 percent of them for social housing or make a financial contribution instead.

Exhibit 4-13 **Foreign Direct Investment in Canada and Canadian Direct Investment Abroad: Real Estate, Rental and Leasing**



Source: Statistics Canada, accessed June 19, 2019.

Ottawa

"Demand is so far outstripping supply, with nothing suggesting this will go away any time soon."

With solid economic growth and a vibrant housing market, Ottawa took fourth place for real estate prospects in our survey. Migration from other cities, including Toronto-area residents looking for more affordable housing options, has helped the city's population surpass the 1 million mark. With the city having reached that milestone, interviewees expect larger investment players to come into the market. "It's an exciting time, but also a scary time. Things are happening so quickly," said one interviewee.

With so much activity, labor shortages remain a significant issue, as the city grapples with the impact of several large construction projects happening at the same time. And with land supply tight and affordability decreasing, some developers are building townhouses rather than traditional detached homes. Purpose-built rental housing also is going strong, particularly as rising home prices push people to look at other options.

Halifax

"Slow and steady wins the race in Halifax."

The economy of Halifax is on a steady upward climb, with growth forecasts of 2 percent in 2019 and 2.6 percent the year after, according to the CBoC. This comes on the heels of record job creation numbers in 2018. Strong immigration levels are fueling population gains and demand for homes, particularly when it comes to purpose-built rental and single-family housing. When asked if oversupply is a concern, interviewees said that they are not seeing signs of that happening yet.

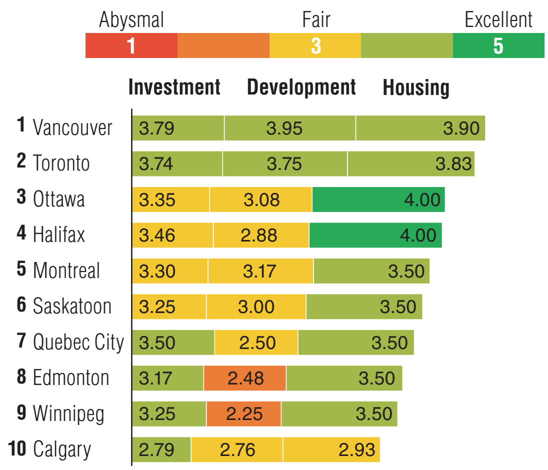
Interviewees say that financing is widely available, as institutional and private investors that have capital to invest still view the local real estate market—especially when it comes to purpose-built rental housing and industrial properties—as profitable. On the office side, absorption of new supply has left some older buildings falling out of favor.

Real estate players are actively watching what will happen with proposed new development rules under the city's Centre Plan. The plan, which updates land use bylaws and municipal planning strategies, would let developers build bigger towers in the core. As the plan evolves, many in the industry are holding off judgment until they see the final outcome, particularly in light of concerns about the impact of density caps on costs and affordability.

Saskatoon

The economy of Saskatoon continues to expand, with tempered growth on the near horizon. According to the CBoC, Saskatoon's real GDP is forecast to rise 2.3 percent in 2019 and then 1.7 percent in 2020. Population growth will outstrip the national average over this period. Housing sales in 2019 have been showing a modest uptick over 2018, with condos contributing to the year-over-year increase. The CBoC predicts

Exhibit 4-14 **Canada Markets to Watch: Overall Real Estate Prospects**



Source: *Emerging Trends in Real Estate 2020* survey.

that housing starts will increase over the coming years, rising to 2,171 units in 2020 from 1,646 in 2019.

To address its growth needs, Saskatoon is also working to expand its transit network. In April 2019, the city council approved the final routing for it bus rapid transit system. The city expects construction to start in 2022.

Quebec City

Forecasts by the CBoC suggest that the economy of Quebec City will increase by 1.8 percent in 2019, with annual growth averaging 1.6 percent from 2020 to 2023. It predicts that housing starts will soften in 2019 and remain below 2017 and 2018 levels for the next four years, particularly when it comes to building single-family detached homes.

"Following a hot 2018, things are set to cool down on the employment front. After adding close to 9,800 net new jobs last year, the local economy is set to create some 3,800 jobs this year and add another 3,600 in 2020," the CBoC said in its spring 2019 metropolitan outlook for Quebec City.

Construction costs are a rising concern. One interviewee pointed to the impact of the hospital project on the price of concrete, while others cited labor shortages as a significant factor behind the cost pressures on real estate projects.

Environmental features are another trend in the Quebec City real estate market. Several interviewees noted the rising focus on the inclusion of rooftop urban agriculture and community gardens.

Access to transportation also is important, which is an area where Quebec City is making significant investment as it moves forward with its ambitious tramway project. The project, which recently secured funding, has the potential to transform the city and open up new development opportunities.

Edmonton

"Although the homebuilder industry in Alberta has been crippled by fewer residential construction jobs . . . and uncertainty surrounding proposed legislation, we're hopeful this is the worst and we'll hit the upswing in 2020."

The economy of Edmonton is expected to grow by 1.3 percent in 2019, according to the CBoC, as oil production cuts moderate growth in the energy sector. While anticipated austerity by the new provincial government may also affect growth in the city in the near term, the CBoC expects the economy to grow by an average of 2.3 percent from 2020 to 2023.

Despite some headwinds, the Edmonton real estate market is seeing strength in some areas. Construction of a number of new office towers is adding vibrancy to the city's downtown. While JLL Research reported an office vacancy rate of 17.7 percent in the second quarter of 2019, the downtown area saw positive net absorption, particularly in the city's financial district. A wave of completions is putting some pressure on the owners of older buildings to renovate or repurpose them as the city experiences a flight to high-quality office properties.

Calgary

"The outcome of decisions on the pipelines will determine our city's future. I suspect they will be built and that will create jobs and keep us busy."

Calgary is likely to see moderate growth again in 2019, with the CBoC forecasting real GDP to increase by 1.5 percent. Further out, it projects annual growth to average 2.5 percent from 2020 to 2023.

Many interviewees are particularly optimistic about the impact of a new provincial government and the possibilities of building long-awaited energy pipelines. "We have already seen more people at our showrooms after the election," said one interviewee, adding that "2019 has been better than 2018, and 2020 should be better. I think 2021 will be even better. I don't think we'll see a boom, but at least we'll be more stable."

Winnipeg

Like many other areas of Canada, economic growth in Winnipeg has moderated somewhat. According to the CBoC, growth is

Exhibit 4-15 **Survey Respondents' Views of Their Local Markets**

Poor | Fair | Good | Excellent

	Average	Strength of local economy	Investor demand	Capital availability	Development/ redevelopment opportunities	Public/private investment	Local development community
Toronto	4.15	4.25	4.38	4.29	3.86	4.00	4.14
Vancouver	4.12	3.88	4.25	4.14	4.00	4.14	4.29
Ottawa	3.83	4.00	4.00	4.00	3.67	3.67	3.67
Montreal	3.33	3.50	3.25	3.25	3.50	3.25	3.25
Halifax	3.11	3.00	3.00	3.33	2.67	3.33	3.33
Quebec City	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Saskatoon	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Winnipeg	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Calgary	2.52	2.14	2.29	2.86	2.71	2.57	2.57
Edmonton	2.50	2.50	2.25	2.75	2.25	2.75	2.50

Source: *Emerging Trends in Real Estate 2020* survey.

Note: Based on Canadian respondents only.

forecast to come in at 1.9 percent in 2019 and 1.6 percent in 2020, down from an average of 3.4 percent during the previous two years. Strong immigration levels have more than outweighed outflows, helping to fuel solid population growth. While the CBoC projects housing starts to soften in the short term, it expects a sustained rebound from 2020 to 2023. Once complete, a new 40-story, CA$160 million mixed-use development on Main Street will be Winnipeg's tallest structure.

Expected Best Bets in 2020

Multifamily housing and logistics facilities continue to be very strong asset classes. As phrased by some of our interviewees, the best bets for 2020 are mainly about "beds and sheds," particularly in the top markets of Toronto, Vancouver, and Montreal.

In the sheds category, it's all about **warehousing** and **fulfillment**, which tied as the top development opportunities in our survey. Rising customer expectations for same-day e-commerce deliveries continue to spark demand for large-scale facilities close to population centers and transportation routes.

Turning to beds, **senior housing** ranks next on our list of top development prospects. The industry is responding with a variety of options, especially those tailored to seniors looking for a blend of convenience, security, high-end amenities, and flexibility to suit their active lifestyles.

Despite the strong prospects, developers and operators face considerable costs, complexities, and regulations in creating and running facilities and services that cater to Canada's aging population.

Also in the beds category are **mid-priced apartments**, which ranked third on our survey for development prospects. From co-living arrangements to traditional rental housing to moderately priced condos, the multifamily category still offers the affordable options that many Canadians are looking for.

Demand remains strong, even as condo and rental housing construction has risen consistently and significantly across Canada over the years. Rental housing under construction was just 13,947 units in 2008, a number that rose to 56,394 in 2018. For condos, units under construction hit 120,923 in 2018, up from 94,658 in 2008.

Rounding out our expected best bets for 2020 is **transit-oriented development**. In Montreal, projections suggest that the region's Réseau express métropolitain project will spur about CA$5 billion in real estate development along the route. And in Ontario, the regional transportation agency, Metrolinx, is moving to a market-driven approach to financing transit projects in which it will link new stations to development as it looks to capture land value in its rail network and real estate portfolio.

Interviewees

360 Pacifica Inc.
Robin Connors

360 Real Estate Analytics
Eldon Rude

A2H
Logan Meeks

Ackman-Ziff
Marion Jones

ActiveWest Builders
Dennis Cunningham

Aegon US
Nick Koluch

AEW Capital Management
Anthony Crooks
Marc L. Davidson
Josh Heller
Maureen Joyce
Robert Plumb

Agellan Commercial REIT
Frank Camenzuli

AIG
Doug Tymins

Alabaster Homes
Yosh Kasahara

Albany Road Real Estate Partners
Scott Cloud

Alexander Babbage
Alan McKeon

Alexandria Real Estate
Dan Ryan

Allied Properties REIT
Michael Emory

Almanac Realty Investors
Matthew W. Kaplan

Alston & Bird LLP
Jason Goode
Rosemarie Thurston

Altus Group
Stephen Granleese
Colin Johnston
Ted McWilliams
Sean Robertson-Tait
Robert Santilli
Art Savary
Julianne Wright

Amazon
Booth Babcock

American Assets Corp.
Brian Briody

Angelo, Gordon & Co.
Reed Liffmann
Adam Schwartz
Gordon Whiting

Anthem Properties Group Ltd.
Allan Copping
Rob McJunkin

APG Asset Management US Inc.
Steven Hason

Arch to Park
Dustin Allison

AREA Real Estate
David Adelman

The Armour Group Ltd.
Scott McCrea

Asana Partners
Brian Purcell

Ascentia Development Group
Steve Barber

Ashton Woods
Ken Balogh

Aspen Properties Ltd.
Greg Guatto
Scott Hutcheson

AT&T
Russ McFadden

Atlantic Pacific Companies
Jeanne Herman Barger

Auriga Homes Ltd.
Farooq Uzzaman Khan

Avison Young
James Nelson

Axiom Principal
Bryan Stone

Bain Capital Real Estate
Ben Brady
Dan Cummings

Bank of America
Jeff Titherington

Bank of America Merrill Lynch
Ada Chan

Barclay Street Real Estate Ltd.
David Wallach

Barclays
Ross Smotrich

BART
Sean Brooks

Basis Investment Group
Mark K. Bhasin

BatesForum
Chip Crawford

BayernLB
Timothy Moore

BBG
Brett Wilkerson

Beacon Partners
Jon Morris

Beedie Development Group
David Pearson

Benesch
Adam Saurwein

BentallGreenOak
Malcolm Leitch
Douglas Poutasse
Paul Zemla

Berkshire Residential Investments
Chuck Leitner
Gleb Nechayev

Bilzin Sumberg
Carter McDowell

Bimcor
Nicolas Drapeau

Boardwalk REIT
Sam Kolias

Boston Properties
Bryan Koop
Michael LaBelle
Owen Thomas

Boulder Creek Neighborhoods
David Sinke

The Boyer Company
Dave Ward

Bozzuto
Mark Franceski

BranchPattern
Pete Jefferson

Brandywine Realty Trust
Gerard H. Sweeney

Bridge Commercial
Seth Clark

Briggs & Morgan
Pat Mascia

Bri-mor Developments
Aleem Dhanani

Bristol Company
Mike Chidester

Broccolini
Roger Plamondon

Brookfield Residential
Thomas Lui

BTIG
Carl Reichardt Jr.

Bull Realty
Michael Bull

Burrard Group
Doug Allan

Buzz Oates Real Estate
Amy F. Lerseth

C.W. Urban
Darlene Carter

Cabot Properties
Patrick Ryan
Stephen Vallarelli

Cadillac Fairview
Sal Iacono

Caliber Projects
Justin Bontkes

Canderel
Brett Miller

Capital Commercial Investments
Gary Hebert

Capital One
Joel Horning

La Capitale
Bruno Turcotte

Cardel Homes
Lisa Dalla Rosa

Carmel Partners
Dennis Markus
Ron Zeff

Carr Properties
Oliver Carr
John Schissel

Carttera Management Inc.
Jim Tadeson

Caruso Homes
Jeff Caruso

Castlelake
Thomas J. McElroy

CBRE
Meade Boutwell
David Browning
Melina Cordero
Chris Dunning
Dave Egan
Shawn Hamilton
Craig Hays
Douglas Herzbrun
Nicole LaRusso
Aimee Morgan
Robert Mussett
Jessica Ostermich
Curtis Palmer
Jeanette Rice

Center for Economic Development Law
Emily Pomeroy

Century Communities
Dale Francescon

Champion Partners
Steve Modory

Charles River Realty
Brian Kavoogian

Chesapeake Real Estate Group
Ed Gosselin

Chilcote Law
Lee Chilcote

Childress Klein Properties
Paul DeVine

CHN Housing Partners
Kevin Nowak

Choice Properties REIT
Mario Barrafato

Cirrus Asset Management Inc.
Steve Heimler

City of Apple Valley, Minnesota
Bruce Nordquist

City of Ottawa, Ontario
Steven Willis

City of Philadelphia
Anne Fadullon

City of San Jose
Kelly Kline

City of St. John's, Newfoundland and Labrador
Danny Breen

City Stream Solutions
Maria Sicola
Charles Warren
Megan Weiner

City Street Investors
Pat McHenry

Cityplace Co.
Neal Sleeper

Claridge Inc.
Denis Houle

Clarion Partners
Steve Funary
Dave Gilbert
Hugh MacDonnell
Tim Wang

Clark Development
Bill Clark

Cleveland Construction
Erin Blaskovic

Clover Investment Properties
Lyle Fogarty

Coastal Resources Ltd.
Rahim Lakhoo

COGIR Real Estate
Mathieu Duguay

Colliers International
Gregg Broujos
David Burden
Allison Gray
Tony Kennedy
Janet Miller
Warren Wilkinson

Colmena Group
Lance Bullen

Colonnade BridgePort
Hugh Gorman

Cominar REIT
Sylvain Cossette
Heather C. Kirk

Compass Supply Chain Solutions
Keith Archer
Josh Mehl

CompassRock Real Estate
David Woodward

Concert Properties Ltd.
Brian McCauley
John McLaughlin

The Concord Group
Richard Gollis

Condor Properties Ltd.
Sam Balsamo

The Conservatory Group
Mark Libfeld

Cornerstone Group
Colleen Carey

Corporate Office Properties Trust
Paul Adkins
Steve Budorick

CoStar Group
Justin Boyar
Jamie Limberg
Drew Myers

Counselors of Real Estate
Julie Melander

CreateTO
Brian Johnston
Michael Kraljevic

Cresa Partners
Jim Vos

Crombie REIT
Glenn Hynes

CRS Group of Companies
Suki Sekhon

Crystal Creek Homes Inc.
Justin Bobier

CT REIT
Kevin Salsberg

Culverhouse ACRE
K.C. Conway

Cushman & Wakefield
Allison Beddard
Rob Cochran
Bruce Erhardt
Nathan Kelly
Whitney Kerr
Bill MacAvoy
Tim Michel
Kazuko Morgan
Trigger Reital
Jeff Rossi

CyrusOne Inc.
Gary Wojtaszek

Dakota Pacific
Brian Dilley

DART
David Leininger

DaVinci Development
David Scott

The Davis Companies
Ravi Ragnauth

Daybreak Communities
Ty McCutcheon

db Urban Communities
Bryce Baker

DeHoff Development Co.
Robert DeHoff

Dermody Properties
Doug Kiersey
Doug Lanning

Desjardins Global Asset Management Inc.
Michel Bédard

Develop Nova Scotia
Jennifer Angel
Kelly Rose

Diamondrock Hospitality Company
Jay Johnson

Digital Realty Inc.
Andrew Power

The Discovery Labs
Audrey Greenberg

DND
Anne Morton

Doran Companies
Tony Kuechle

Downtown Cleveland Alliance
Michael Deemer
Joe Marinucci

Downtown Memphis Commission
Jennifer Oswalt

Duke Realty Corporation
Mark Denien

DWS
Ana Leon
Kevin White

Easton's Group
Reetu Gupta

Economic Alliance of Greater Baltimore
Michelle Whelley

Economic Development Growth Engine
Reid Dulberger

Econsult Solutions
Peter Angelides
Stephen Mullin

ElmTree Funds
Jim Koman
David Leavitt
Joseph Yiu

Embrey Partners
Trey Embrey

Empire Communities
Paul Golini
Andrew Guizzetti

Encore Partners
Tony Avila

Enterprise Bridge USA
Karl Zavitkovsky

Equus Capital Partners
Art Pasquarella

Everest Real Estate Advisors
Gina Dingman

Exantas Capital Corp.
Eldron Blackwell
David Bryant

Excel Homes
Stuart Craven
Sean Nolan

Faegre Baker Daniels
Andy Buroker

Fairmount
Emerick Corsi

Fairmount Properties
Adam Branscomb
Eric J. Louttit

FCA Partners
Al Lindemann

Federal Reserve Bank of Cleveland
Mekael Teshome

Fiera Real Estate
Peter Cuthbert

First Commonwealth Bank
Brandi Welsch

First Southern Mortgage
Stephen Brink

FirstKey Homes LLC
Jeffrey P Pritchett

Flagship Properties
Paul Goldberg

The Flynn Company
David Ricci

Forest City Realty Trust, Inc.—a Brookfield Property
Chuck Obert
Ketan Patel

Forseed Group Holding Ltd.
Shang Wang

Foulger Pratt
Michael Abrams

Fovere Capital Management
Paul Marsiglio

Freddie Mac
Steve Guggenmos

Fulcrum Hospitality LLC
Ellen Brown

Gables Residential
John Akin
Dawn Severt
Dave Wali

GBT Realty
Jeff Pape

GEM Healthcare Group Ltd.
Syed Hussain
John Yuan

Gemdale USA Corporation
Michael Krupa

George Urban Properties
G. Ryan Smith

Geosam Capital Inc.
George Armoyan

Gensler
Janet Pogue McLaurin

Gerding Edlen
Molly Bordonaro

Giarratana Development
Tony Giarratana

Goldman Sachs
James Barry
Allison Fremed
Joseph Sumberg

Goodier Properties
Dan Goodier

Google
Mary Davidge

Great Gulf Homes
Jerry Patava

Green Earth Land Design
Richard McKown

Green Mesa Capital LLC
Randy C. Norton

GreenOak Real Estate
Jonathan Epstein
Andrew Yoon

Greybrook Realty Partners
Sasha Cucuz

Greystar
Logan Kimble

Guggenheim Partners
Shannon Erdmann
Phil Hoehn

H.G. Hill Realty Company
Jimmy Granbery

Hanley Wood
John McManus

Harrison Street Real Estate Capital
Tom Errath

Hawkins Companies
Bryan Vaughn

Haynes Homes
Ryan Haynes

Healthcare Realty Trust
Julie Wilson

Heitman
Laura Craft
Brian Klinksiek
Mary Ludgin

Hemingway Development
Michael Panzica

Herity Ltd.
Brad Foster
Hugh Heron

Herman & Kittle
Todd Sears

Hersha Hospitality Trust
Ashish Parikh
Jay Shah

HFF
Jim Curtin
Kevin MacKenzie
John Taylor
Elliot Throne
Scott Wadler

High Street Realty Company
Robert Chagares

Highland Resources
Welden Johnston

Highline Partners
Kathryn Jones

Highwoods Properties
Dan Woodward

Hillsborough County, Florida
Lucia Garsys

Hixon Properties
Jack Spector

Hoefer Wysocki
Travis Leissner

Holland Partner Group
Clyde Holland

Honeyfield Communities
Alfio Manarin

Hopewell Group of Companies
David Loo

Hormaechea Development
Michael Hormaechea

HQ Real Estate Capital
Paul Doocy
Jeremy Katz
Kristi Nootens
Jay Remillard
Donal Warde

Huntington National Bank
Rick Baer

i² Developments Inc.
Sam DeCaria
Bruno Suppa

IBC Bank
Bob Barnes

IBERIABANK
Steve Cohen

IBI Group
Peter Pillman

ICM Asset Management Inc.
John Courtliff

Idaho MC
Mike deVittorio

IDS Real Estate Group
Jeff Newman

Immeuble Populaire de Québec
Michel Côté

Les Immeubles Roussin
François Roussin

Infinity Properties
Tim Bontkes

Infrastructure Ontario
Toni Rossi

ING Real Estate Finance
Craig Bender

Inland Private Capital Corporation
Rahul Sehgal

inSITE Advisory Group
Janie Hanna

Institutional Property Advisors
Drew Kile

Integral Communities
Gil Miltenberger

Intercontinental Real Estate Corp
Thomas Taranto

International Council of Shopping Centers
Jean Lambert

Intracorp Projects Ltd.
Don Forsgren

Intrinsic Investments Ltd.
Andrew Enciu

Invent Dev Inc.
David Payne

Invesco Fixed Income
Kevin Collins

Iron Tree Capital LLC
Justin Carpenter
Bill Fryer

Ivanhoé Cambridge
Nathalie Palladitcheff

Ivory Homes
Clark Ivory

J.P. Morgan Asset Management
Allina Boohoff
Alice Cao
Aric Chang
Wayne Comer
Ruchi Pathela
Peter Sibilia
Craig Theirl

Jackson Properties Inc.
Eric Edelmayer

JADT Group
Timothy Baylor

Jamestown
Catherine Pfeiffenber

JBG Smith
Stephen Theriot

Jesta Group
Steven Myszka
Anthony O'Brien

JLL
James Cook
Scott Cullen
Traci Kapsalis
Leslie Lanne
Christian Linkenfeld
Mehtab Randhawa
Vineet Sahgal
Ryan Severino

K4 Real Estate Group
Casey Kemper
Bill Kinn

Kaneff Group of Companies
Anna-Maria Kaneff
Kayne Anderson
John Wain

The Keith Corporation
Brendan Pierce

KeyBank Real Estate Capital
Christophe Terlizzi

Keystone Development Advisors LLC
David Farmer

KHP Capital Partners
Mike Depatie
Ben Rowe
Kiemle Hagood
Brian Bean

Killam REIT
Philip Fraser
Dale Noseworthy

Kimco Realty Corporation
Glenn G. Cohen
Conor C. Flynn

KingSett Capital
Jon Love

Kingsway Development
Kevin Bryant

KKR & Co. Inc.
Chris Lee

Klein Enterprises
Dan Klein

KMK Capital Group of Companies
Justin Ladha

Koelbel & Company
Buz Koelbel

Kognitiv Spark
Rodney McAffee

Kookaburra Development and Strategy
Mick Nelson

Korman Communities
Scott Relick
Tori Lambert

Kushlan Associates
Diane Kushlan

Lachman Associates
Leanne Lachman

Landmark Partners
Paul Mehlman
Ira Shaw

Landsea Homes
Michael Forsum

Landstar Development Corporation
George Mylonas

Langan Engineering
Chris Hager

LaSalle Investment Management
Alok Gaur
Jacques Gordon

Lasberg Construction
Lee Lasberg

Lee & Associates
Rebecca Wells

Lennar Homes
Barry Karpay

Levy Strange Beffort
Mark Beffort

Liberty Development Corporation
Marco Filice

Linneman Associates
Peter Linneman

Lionstone Investments
Bryan Sanchez

Loews Hotels
Matthew Brenner

LoPatin & Co.
Mark LoPatin

Low Tide Properties
Michael Bishop

Lubert-Adler Partners
Michael Phillips

M/I Homes
Chloe Firebaugh

Madison Group
Miguel Singer

Magnolia Homes
Alex Frank

Manulife
Kamran Soleiman
Gregory Sweeney
Ted Willcocks

Marcus & Millichap
John Sebree

MarketStreet Enterprises
Dirk Melton

Martek Morgan Finch
Charlie Oliver

Mast Capital
Camilo Miguel

MasterBUILT Hotels
Eric Watson

The Mathews Company
Jody Moody

Mattamy Homes
Brad Carr

MCB Real Estate
David Bramble

McCombs Enterprises
Harry Adams

McLain Real Estate
D. Scott McLain

McNeill Hotel Company
Chris Ropko

Menkes Development Ltd.
Peter Menkes

Meridian Capital Group
Seth Grossman
Jason Kahn

Merlone Geier
Vlad Shlafman

MetLife Investment Management
William Pattison
Mark Wilsmann

Metrolinx
Leslie Woo

The Metrontario Group
Lawrie Lubin

Metropolitan Council
Libby Starling

MetroStudy-Zonda
Vaike O'Grady

Midtown Renaissance
Chris Fleming

Minnesota Opportunity Zone Advisors
Jamie Stoplestad

Minto Group
Dennis Church
Michael Waters

MM Partners
David Waxman

Molinaro Group
Vince Molinaro

The Morgan Group
Hugo Pacanins

Morgan Stanley
Kevork Zoryan

Morguard Corporation
Paul Miatello
Rai Sahi

Morrison Investment Properties
James Morrison

Mortgage Bankers Association
Jamie Woodwell

The Muldavin Company
Scott Muldavin

Nanuk VR Technologies Inc.
Jake Moore

Nashville Area Chamber of Commerce
Courtney Ross

National Homes
Deena Pantalone
Jason Pantalone
Matthew Pantalone

National Multifamily Housing Council
Sarah Yaussi

National Resources
Lynne Ward

Navy Yard
Prema Gupta

The New Home Company
Larry Webb

New York Life Real Estate Investors
Brian Furlong
Steve Repertinger
Stewart Rubin

Newland
Alex McLeod
Bill Meyer
Vicki Mullins

Noble Investment Group
Jim Conley
Dustin Fisher

Normandy
Jeff Gronning

North American Properties
Adam Schwegman

Northeast Ohio Areawide Coordinating Agency
Grace Gallucci

Northern Trust
Brian Bianchi
David Starr

NPV Advisors
Don Guarino

Nuveen Real Estate
James Martha
AJ Richard
Melissa Reagen

Oklahoma City University, Steven C. Agee Economic Research and Policy Institute
Russell Evans

Old Boise
Clay Carley

Oman Gibson Associates
Tom Gibson

OneStreet Residential
Thurston Cooke

Ontario Real Estate Association
Tim Hudak

Oppenheimer Development Corporation
Jeremy Malone

ORIX USA
Allison Austin
Ron Lawrie

Otéra Capital
Paul Chin

Oxford Development Company
David Heaton

Oxford Properties Group Inc.
Blake Hutcheson
Michael Turner

Pan-Canadian Mortgage Group Inc.
Joel McLean

Patterson Real Estate Advisory Group
Ken Grimes

Pearl Companies
Jeff Tegetoff

PEG Development
Rachel Oh

Peloton Commercial Real Estate
John Brownlee

Peloton Real Estate Partners
Murl Richardson

Pennsylvania Real Estate Investment Trust
Bob McCadden

perutoRE
Puja Peruto

The Pinkard Group
Bob Pinkard

PJ Dick
John Robinson

Plaza Construction
Chris Mills

Plaza Retail REIT
Peter Mackenzie

PNC Bank
Sarah Montgomery
Lou Stempkowski

PNC Financial Services Group
Stuart Hoffman

PNC Real Estate
Shari Reams
William G. Lashbrook III

Poag Shopping Centers
Josh Poag

Polsinelli
Amy Hansen

Polygon Homes Ltd.
Rob Bruno

Pope and Land
Kirk Billings

Porte Realty Ltd.
David Porte

PREA
Greg MacKinnon

Preferred Apartment Communities
Daniel M. Dupree
Leonard A. Silverstein

Pretium Partners
George Auerbach
Dana Hamilton

Price Edwards & Company
Allison Barta Bailey
Jim Parrack

Prime Real Estate Group
Moiz Bhamani

Project for Pride in Living
Chris Wilson

Project Management Consultants LLC
Tracey Nichols

Prologis
Jeremy Giles
Dan Letter
Melinda McLaughlin
Hamid Moghadam
Gayle Starr

ProMatura
Margaret Wylde

Properly
Anshul Ruparell

PSP Investments
Carole Guérin

QuadReal Property Group
Anthony Lanni

Quantum Properties Inc.
Diane Delves

Rafanelli and Nahas
Scott Schoenherr

Rafi Architecture
Robert A. Fielden

Rappaport
Henry Fonvielle

Ray Brown Urban Design
Ray Brown

RBC Capital Markets
Dan Giaquinto
Gary Morassutti
William Wong

RBJ Schlegel
Jamie Schlegel

RCB Development
Alex Fraser

RCG Longview
Michael Boxer
Richard Gorsky

RCLCO
Todd LaRue
Erin Talkington
Ben Maslan

Real Advice
Todd Jones

Real Capital Analytics
Jim Costello

Real Estate Fiduciary Services
John Baczewski

Real Estate InSync
Will Butler

REALPAC
Michael Brooks

RealPage
Jay Parsons

Realty Income
Paul Meurer

The Renaissance Group LLC
Thomas J. Bronner

Research Insights
Timothy S. Corzine

Red Line Greenway
Lennie Stover

Redstone Investments
Bradley Salzer

Regional Group
Dave Wallace

Renovare Development
Shannon Morgan

Restoration St. Louis
Amy Gill

Revel
George Banks

RioCan REIT
Jonathan Gitlin
Edward Sonshine

Rise Modular
Christian Lawrence

River Shore Development
Derick O'Neill

RJS Properties
Dave Chandler

R-Labs Canada Inc.
George Carras

The RMR Group Inc.
David Blackman

Robert Engstrom Companies
Bob Engstrom

Rockwood Capital
Tyson Skillings

Rocky Mountain Real Estate Services
Ben Zamzow

The Roxborough Group
Marc Perrin

Royal Bank
Tony Loffreda

Royal LePage Atlantic
Anthony Brown
Matthew Honsberger

Ryan Companies
Joe Peris

Sabra Health Care REIT
Rick Matros
Talya Nevo-Hacohen

Sano Stante Real Estate Marketing
Sano Stante

Saussy Burbank
Charles Teal

Scotiabank Global Banking and Markets
Bryce Stewart

Screpco Investments Ltd.
Kevin Screpnechuk

Self Storage Capital Partners
Jake Ramage

Serendipity Labs Pittsburgh
Edie Hartman

Seven Oaks Company
Bob Voyles

Shannex Inc.
Craig Lynk

Shape Properties Corp.
Graeme Johnson

Shaw Lundquist
Katya Pilling

Shelter Rock Capital Advisors
Walter Stackler

Sienna Senior Living
Lois Cormack

SITIO architecture + urbanism
Antonio Fiol-Silva

Situs RERC
Jodi Airhart
Ken Riggs

SKV Properties
Rich Morean

Slate Asset Management L.P.
Brandon G. Donnelly
Blair Welch

SLC Advisors
Scott Cox

Smarter Spaces
Colin Gillis

Société de transport de Montréal
Alain Filion

Sonnenblick Eichner
David Sonnenblick

Sorbara Group of Companies
Edward Sorbara
Greg Tanzola

Southwest Properties
Paul Murphy

Spanier Group
Rob Spanier

Spinnaker Real Estate Partners
Clay Fowler
Kim Morque

Squire Ridge Company
Steve Ross

SSQ Assurance
France Rodrigue

Stag Industrial
Ben Butcher

Stantec Architecture
James Gray

State Street Global Advisors
Tom Curtin

Stockbridge
Tuba Malinowski

Storefront
Michel Rémy

Strategic Capital Partners
John Cumming

Strategic Property Partners
Rebecca Snyder

Strongside Financial Group
Doug Prickett

The Sud Group of Companies
Adrian Rasekh
Elliott Sud

Suffolk Construction
Gordon Glover

Sun Life/Bentall Kennedy
David Levy
Tom Pedulla

Sunstone Hotel Investors
John Arabia
Robert Springer

SunTrust
Joe Paella
Eric Staton

Surrey City Development Corp.
Emily Taylor

Syllable Inc.
Danny Tseng

TA Realty
Randy Harwood
Sean Ruhmann

TARQUINCoRE
Lynn DeLorenzo

Taubman
Scottie Lee

Taylor Derrick Capital
Rocky Derrick

Taylor Morrison
Sheryl Palmer

TBG Partners
Robert Acuna-Pilgrim

Texas Capital Bank
Mike Brown

TGTA
Martin Galarneau

TH Real Estate
Mike Jameson

Thompson Hine
Linda Striefsky

Timbercreek Asset Management
Ugo Bizzarri

Trammell Crow
Ann Sperling

Transwestern
Matt Lynch

Trawler Capital Management
Frank Scavone

Treasure Hill Homes
Nicholas Fidei

Tricon Capital
Wissam Francis

Tridel
Andrea DelZotto
Bruno Giancola
Len Gigliotti

Trinity Development Group Inc.
Mark D'Eon
Frederic Waks

Tryperion Partners
Eliot Bencuya
Joseph Kessel

U.S. Bank
Patty Gnetz

UDR
Thomas W. Toomey

UFCU
Jason Qunell

Unibail-Rodamco-Westfield
John Fleming

United Properties
Kevin Kelley

University Circle Inc.
Debbie Berry

University of California, Berkeley
Ken Rosen

University Place Associates
Anthony Maher

Urban Redevelopment Authority of Pittsburgh
Diamonte Walker

US Bancorp CDC
Kacey Cordes Mahrt

US Bank
Tanya Lewandowski

USAA Real Estate
Dirk Mosis
Bruce Petersen

Valbridge Advisors
John Watt

Valeurs mobilières Banque Laurentienne
Sébastien Lavoie

Vanguard
Curtis McLean

Velocis
W. Frederick Hamm
Mike Lewis
David Seifert

Ventas
Bob Probst

ViaWest Group
Gary M. Linhart

Village Green
Diane Batayeh

Virtu Investments
Ritesh Patel

Wachtell Lipton Rosen & Katz
Robin Panovka

The Waterstone Group
Herb Evers

Watson Land Company
Jeffrey Jennison

Wells Fargo
Melissa Frawley
Ryan Montgomery

WePartner
David Versel

Wesgroup Properties Ltd.
Sandeep Manak

Western Alliance Bank
David Block

Western Asset Management
Harris Trifon

Western Securities Ltd.
Scott Baldwin

Westgem Communities Development Ltd.
Peter Liu

Weston Inc.
Ed Asher

Weston Urban
Randy Smith

Westrum Development Company
John Westrum

Widmyer Corporation
Benjamin Widmyer

Wilkinson Ferrari & Co
Brian Wilkinson

Wilmington Capital Management Inc.
Chris Killi

Windmill Developments
Jonathan Westeinde

WIRE Development
Holly Garcia

Wiregrass Ranch
Scott Sheridan

Women in PropTech
Nikki Greenberg

Woodbourne Capital Management International LP
Ron Marek

Worth & Associates
Robert L. Worth

Wynne/Jackson Inc.
Michael Jackson

ZF Capital
Mike Zoellner

Zhejiang Eternal Industrial Group
Jonathan Guo

Zoocasa
Lauren Haw

Sponsoring Organizations

PwC real estate practice assists real estate investment advisers, real estate investment trusts, public and private real estate investors, corporations, and real estate management funds in developing real estate strategies; evaluating acquisitions and dispositions; and appraising and valuing real estate. Its global network of dedicated real estate professionals enables it to assemble for its clients the most qualified and appropriate team of specialists in the areas of capital markets, systems analysis and implementation, research, accounting, and tax.

Global Real Estate Leadership Team

R. Byron Carlock Jr.
U.S. Real Estate Leader
Dallas, Texas, U.S.A.

Mitchell M. Roschelle
Partner and Real Estate Research Leader
New York, New York, U.S.A.

Frank Magliocco
Canadian Real Estate Leader
Toronto, Ontario, Canada

Craig Hughes
Global Real Estate Leader
London, U.K.

K.K. So
Asia Pacific Real Estate Leader
Hong Kong, China

Uwe Stoschek
Global Real Estate Tax Leader
European, Middle East & Africa Real Estate Leader
Berlin, Germany

www.pwc.com

The Urban Land Institute is a global, member-driven organization comprising more than 45,000 real estate and urban development professionals dedicated to advancing its mission of providing leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and the Asia Pacific region, with members in 81 countries.

The extraordinary impact that ULI makes on land use decision-making is based on its members sharing expertise on a variety of factors affecting the built environment, including urbanization, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate. In 2018 alone, more than 2,200 events were held in about 330 cities around the world.

Drawing on the work of its members, the Institute recognizes and shares best practices in urban design and development for the benefit of communities around the globe.

More information is available at uli.org. Follow ULI on Twitter, Facebook, LinkedIn, and Instagram.

W. Edward Walter
Global Chief Executive Officer, Urban Land Institute

ULI Center for Capital Markets and Real Estate

Anita Kramer
Senior Vice President
www.uli.org/capitalmarketscenter

Urban Land Institute
2001 L Street, NW
Suite 200
Washington, DC 20036-4948

(202) 624-7000
www.uli.org