Emerging Trends in Real Estate®

Canada and United States 2019

Emerging Trends in Real Estate® 2019

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Emerging Trends in Real Estate®

2019

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Executive Summary

Many of the issues putting pressure on the real estate industry are not new, but this year's trends show that the rate and breadth of change are picking up as the sector navigates uncertainty. As one interviewee noted, "There has been change before. But now the pace of change is too fast to comprehend." And as fast-paced technological and social change transforms how people live, work, and play, Canada's real estate industry faces rising pressure to respond with new ideas. With the uncertainty dial being turned up, some are putting projects on hold and proceeding with caution rather than quickly moving forward.

Are real estate leaders at risk of falling behind by standing still? Complacency is a dangerous mind-set, so those who want to thrive are looking to be more creative with technology, investment strategies, and how they deal with growing affordability concerns. As new technologies become integrated into the real estate scene, rising expectations from consumers and tenants mean that the industry needs to up its game.

For industry players, the challenge will be to rebalance their portfolios by considering different property types, redeveloping their assets, and exploring new partnerships and regions. They will also need to reinvent how they do business by integrating analytics and new technologies, such as virtual reality and drones, into their properties and business models. And regarding the ever-challenging issue of affordability, it is time to rethink by moving beyond efforts to limit demand to address the supply part of the equation. Homebuyers will need to reconsider how and where they live.

The industry remains cautiously optimistic about investment prospects for 2019, with multifamily housing and warehousing and fulfillment facilities cited by survey respondents as being particularly attractive in the coming year. And the shifting, uncertain environment presents many opportunities. On the demographic side, Canada's aging population has opened up new business possibilities for developing housing options for seniors.

Despite the challenging environment for the retail sector, landlords do have options, including providing for a greater mix of uses on their properties by introducing high-density residential components and putting a greater focus on entertainment and attractions.

For the real estate industry, the good news is that those who ramp up their partnerships, get the right skills on their teams, and embrace the creativity necessary to accelerate their transformation will find themselves in a good position to take advantage of the shifting environment and continue to grow.

Notice to Readers

Emerging Trends in Real Estate® is a trends and forecast publication now in its 40th edition, and is one of the most highly regarded and widely read forecast reports in the real estate industry. *Emerging Trends in Real Estate® 2019*, 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® 2019 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 1,630 individuals, whose company affiliations are broken down below.

Private property owner or commercial real estate developer	26.6%
Real estate advisory or service firm	25.8%
Private equity real estate investor	11.6%
Homebuilder or residential land developer	10.6%
Bank lender	5.9%
Investment manager/adviser	5.7%
Equity REIT or publicly listed real estate property company	3.9%
Institutional equity investor	2.6%
Institutional lender	1.7%
Private REIT or nontraded real estate property company	1.6%
Real estate debt investor	0.9%
Securitized lender	0.5%
Mortgage REIT	0.4%
Other entity	2.4%

Throughout the publication, the views of interviewees and/or survey respondents have been presented as direct quotations from the participant without 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. Readers are cautioned not to attempt to attribute any quote to a specific individual or company.

To all who helped, the Urban Land 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.

Emerging Trends in Canadian Real Estate

"There has been change before. But now the pace of change is too fast to comprehend."

Industry Trends

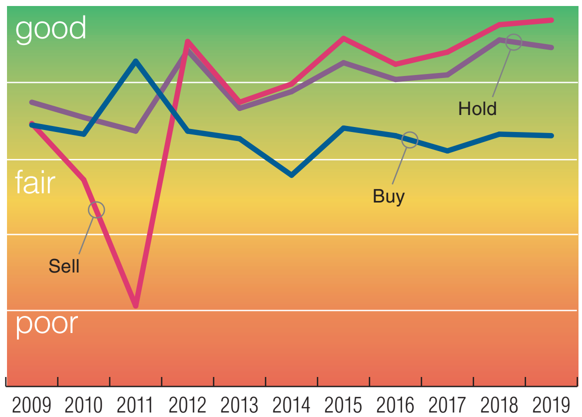
Rebalance: Real Estate Strategies Rely on Creativity and Innovation

"We'll be more prudent with our acquisitions and our allocations for real estate because the valuations have reached their peak."

Reassess, rebalance, and redevelop. For real estate investors, finding good deals has become a challenge. Capital is plentiful and pushing up prices on the best opportunities, so survey respondents plan to focus on improving, redeveloping, or selling assets rather than buying. Across the industry, investors are looking to optimize portfolios to produce stronger yields.

In this environment, success will come from being able to make more informed decisions, pivot, recognize innovative opportunities, and act quickly. At this later stage in the cycle, investors want to "be more creative." One interviewee said that a competitive market requires "agility and precision" to get the right pricing for the right opportunity, and another said to also look at different directions for opportunities.

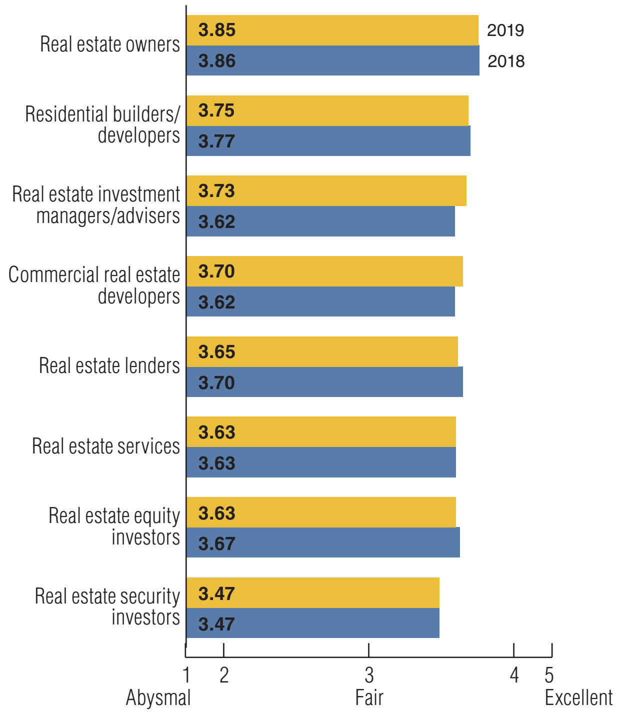
Exhibit 1-1 **Emerging Trends Barometer 2019**



Source: *Emerging Trends in Real Estate* surveys.

Note: Based on Canadian investors only.

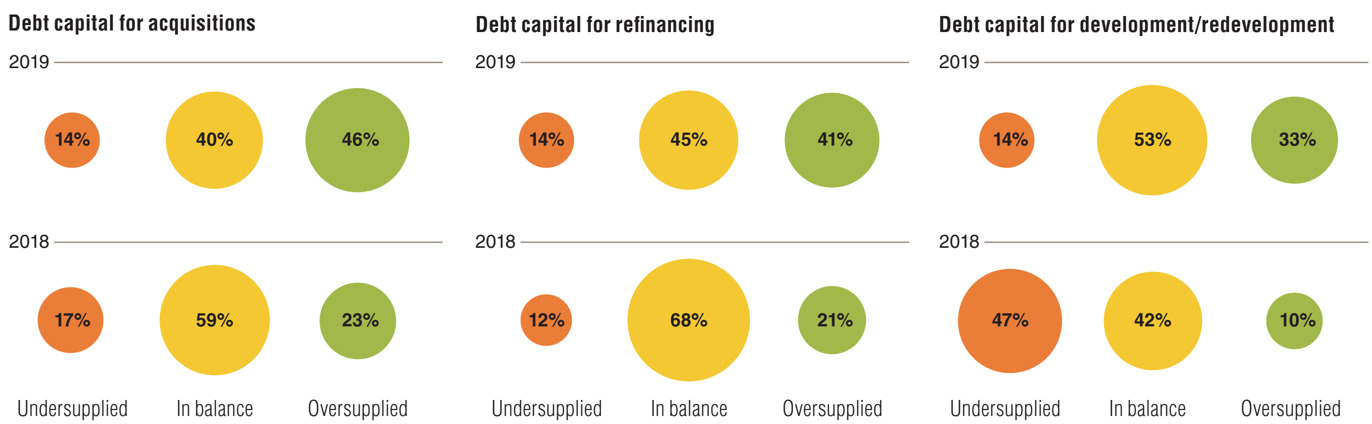
Exhibit 1-2 **Real Estate Business Prospects, 2019 versus 2018**



Source: *Emerging Trends in Real Estate* surveys.

Note: Based on Canadian respondents only.

Exhibit 1-3 **Real Estate Capital Market Balance Forecast, 2019 versus 2018**

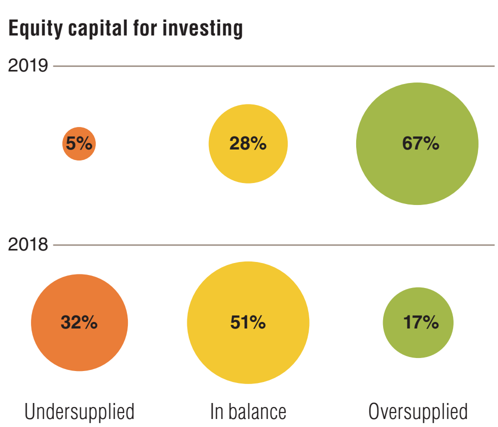


Source: *Emerging Trends in Real Estate* surveys.
Note: Based on Canadian respondents only.

In many locations, investors are recognizing the need to create more value from the properties they own. Last year's trend of rebalancing and redeploying capital is expanding to include redevelopment with an eye toward greater density, and this has been most prominent with underperforming retail space. One interviewee said that they're "looking for more redevelopment opportunities—looking at different projects we would not typically consider."

Going into 2019, equity capital for investing and redevelopment is forecast to stay broadly oversupplied. Some investors are rebalancing their portfolios by selling lower-quality holdings to make room for better properties. Others are expanding their focus on office properties as well as including multifamily residential opportunities and other asset classes. One Ottawa interviewee said they're choosing to hold onto their assets, despite record prices, because they don't see alternatives.

Exhibit 1-4 **Real Estate Capital Market Balance Forecast, 2019 versus 2018**



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

"We need to be creative with partnerships to get projects done."

Partnerships and opportunities. One real estate trend that jumped out this year was the increased diversification of assets. "We can't just be into one asset," one interviewee remarked. For example, developers and investors are building strategic partnerships and joint ventures to help limit the risk of taking on larger, more complex projects and entering new markets. It all comes down to reducing risk by making the most of a partner's skills and resources. As one interviewee noted, investors were "more averse to risk [this year] than several years ago."

To diversify and adapt to the premium prices in Vancouver and Toronto, some companies are also hunting for better opportunities elsewhere, including Ottawa, where they are able to find "well-positioned trophy assets," one interviewee said.

What's more, interviewees noted that some development money is starting to get redirected to cities in the United States, where taxes are lower, there is less red tape, and markets are larger.

"Data analytics will become a much bigger part of the business."

Unlocking insights from predictive analytics. Data analytics is proving to be one of the best digital tools available to the real estate industry, allowing companies to dig into large volumes of information and pull out actionable intelligence. When data analytics is combined with external benchmarks, interviewees said that the resulting insights "move the needle for us."

Predictive modeling is helping portfolio managers calculate the next markets they should move into and decide where opportunities lie in each asset class. Similarly, retail landlords are able to use the technology to help tenants understand consumer patterns between stores—information that can be used to enrich the shopping experience. But while these tools exist, companies still find it challenging to know which applications and data to focus on. "The question is how to deal with all this information," one interviewee commented.

"Higher interest rates and construction costs are altering the cap rate. This is all in the hands of the large institutions."

External forces: tariffs and interest rates. Construction costs have been rising steadily, in step with real estate prices across Canada, and they are likely to get an upward jolt from the escalating international trade battles. "Tariffs are definitely going to hurt," one interviewee said. While the current rhetoric may be more of a negotiating tactic, the increased costs of goods could affect the number of shovels in the ground and slow new starts. For example, tariffs on foreign steel could translate into more expensive rebar for residential and commercial builders, ultimately affecting unit sizes as rising costs put further pressure on affordability.

In addition, the uncertainties around the North American Free Trade Agreement (NAFTA) are shaking up global trading patterns and affecting commodity prices, and any shocks could reverberate through the real estate sector. Trade disruption has the potential to have a big impact on industrial property, especially on logistics facilities handling imports.

Interviewees also expect interest rates to continure to increase gradually over the next year, raising the cost of doing business and carrying a home. In July 2018, the Bank of Canada hiked its benchmark interest rate to 1.5 percent, and there was widespread concern about the cooling effect that continued increases may have on real estate activity.

Reinvent: Accelerating Digital Transformation

"The intersection of real estate and technology is a major trend in real estate."

Embracing change and business transformation. Digital transformation and technology are also disrupting the residential sector as developers try to keep up with evolving demands from constantly connected consumers.

In response, some organizations have started to recognize the disruptive change that technology is bringing to their business models—and are developing strategies to transform. But others are taking a wait-and-see approach to adoption until they have clarity on how technologies will shape the future. According to PwC's *CEO Survey*, only 10 percent of global real estate CEOs are concerned about the speed of technological change, compared with 38 percent in all industries. Companies unwilling or unable to adapt to the tsunami of technological change—from data analytics and artificial intelligence (AI) to cloud-based computing and blockchain technologies—risk falling behind the market.

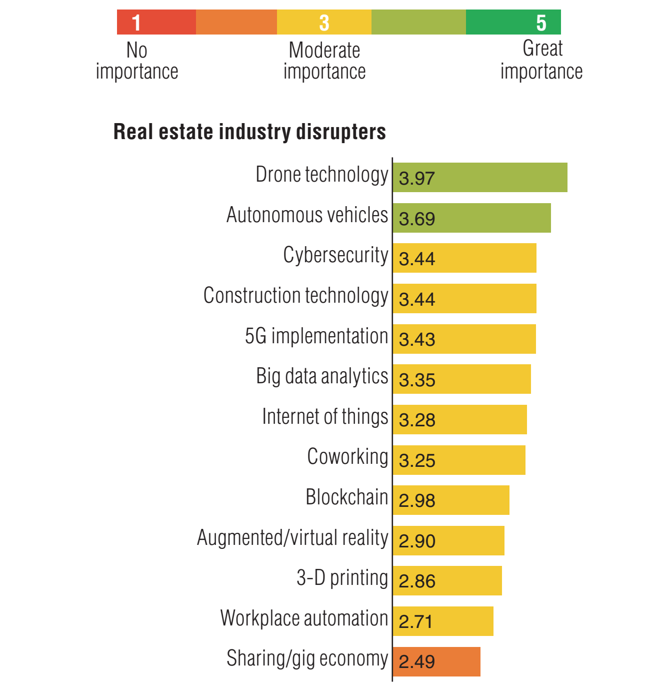
While the industry has been somewhat reluctant in the past to adopt technology and hire people eager to embrace the changes that come with it, that sentiment has started to shift. Executives, especially the larger institutional players, are now thinking through their human resources needs as they increasingly acknowledge the importance of technology. With data analytics a growing focus, they are looking at the types of people they need on their team, including data scientists.

Meeting evolving tenant and customer expectations. The expectations of tenants are growing more sophisticated as they integrate smart technology into their businesses and lifestyles and demand personalized experiences. Understanding their shifting needs will be critical for the industry in the future. One interviewee described the modern market as a place where the tenant experience merges with technology fulfillment: "Everyone has different needs, and landlords must adapt." Another asserted that creativity is key: "People are looking for uniqueness and willing to pay for it." This is driving growing real-estate-as-a-service offerings (e.g., Airbnb and WeWork) as organizations look to take advantage of flexible space needs without long-term obligations.

To gain insight and develop strategies that can deliver on shifting needs, some landlords are turning to data analytics. Increased connectivity brings with it a wealth of data that organizations can use to inform their decision making. For example, mall landlords are looking at data analytics to determine new rental models, diversify their retail and merchandise offerings, and create new experiences to attract shoppers and evaluate tenants. Other interviewees use sophisticated multidimensional data analytics to determine the highest and best uses of certain assets in their portfolios.

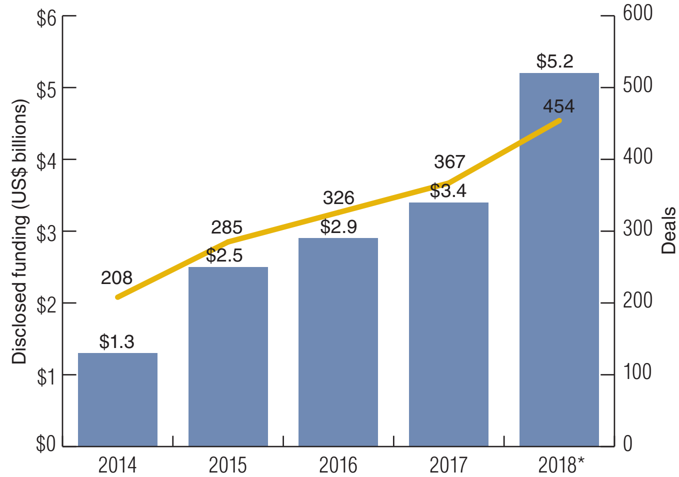
On the residential side, homebuyers want to control lighting and other household amenities from mobile devices, and builders are factoring in these smart building technologies at the planning stage. "Tech has already changed the shape of our buildings and is at the root of all our real estate changes,"

Exhibit 1-5 **Importance of Real Estate Industry Disrupters in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on Canadian respondents only.

Exhibit 1-6 **Real Estate Tech Global Financing History**



Source: CB Insights, provided on August 13, 2018.
*Full-year projection.

one interviewee said. But another warned that people "are hesitant about smart technologies" because they don't want to find them unsupported in the future.

The intersection of real estate and technology is a major trend. One interviewee suggested that Canada is positioned to take advantage of global growth in data centers. Another opportunity lies in carrier hotels, which are power-intensive properties that provide a secure, carrier-neutral intersection of major data highways. "There are only eight of them in North America," the interviewee said, adding that they are "looking at moving forward faster in exploiting these opportunities."

"It's not the technology itself that's the game-changer. It's the combination of the technology and a new business model."

From awareness to action. Disruption isn't coming to the real estate industry—it has already arrived. There is plenty of discussion about virtual reality (VR), augmented reality (AR), autonomous vehicles, AI, blockchain, and other technologies that are reshaping business and society. "Builders are trying to become more creative through the use of technology," one interviewee said.

Virtual and augmented reality: VR and AR allow for full viewing and immersive experiences in yet-to-be-built projects. VR, in particular, is quickly becoming a powerful tool that lets potential buyers virtually tour properties from a distance, allowing them to experience the space without the need for viewing appointments or model homes. This technology can be a time saver and reduce presale marketing costs, and experts anticipate a steady rise of its use in the industry.

Autonomous vehicles: According to our interviews and survey respondents, autonomous vehicles will cause major changes to everything and are "closer than people may think." Even before they hit the market in a big way, they are influencing how developers think about parking lots in new residential and office buildings.

Artificial intelligence: AI offers enormous value in automating mundane, time-consuming manual tasks. Real estate businesses need to embrace AI and machine learning for repetitive tasks, one interviewee said, declaring that "data entry is obsolete."

Blockchain: From land title registries to processing rental payments, this new technology has the potential to affect the value chain in real estate. While it's still early days, it is widely anticipated that blockchain will help cut costs and reduce fraud.

Drones: Drones were the top real estate disrupter identified in our survey. Interviewees suggested there was potential in using drones to show job-site progress, and others are looking to integrate docking stations into communities to accommodate last-mile delivery needs.

As these new technologies seep into the real estate sector, they are bringing opportunities—but also new challenges. For example, data analytics tools are giving portfolio managers access to vast amounts of information but also are creating newfound concerns about the governance and management of customer data. And the increased flow of data and growing use of mobile devices to control facilities are raising awareness about the need for more sophisticated cybersecurity.

Unlocking the power of proptech. Proptech—a portmanteau of "property technology"—has already hit the mainstream, and it is forecast to add US$5.2 billion in new investment globally across 454 equity deals in 2018 after reaching a record US$3.4 billion in 2017 across 367 deals, according to CB Insights. Covering everything from new lending services to investment platforms and digital brokerages, these new market entrants are transforming how people use real estate. The trend will only intensify as tenant and customer behaviors evolve and demographics shift.

While an opportunity exists for new entrants to disrupt the sector, existing players do have an advantage if they are willing to innovate, take on managed risk, and use different approaches. They can, for example, take a venture-capital approach by investing in or partnering with companies building particular products or hire their own people to develop them. One interviewee said they have "a separate pool of money and a dedicated group investing in proptech."

The industry does see a more immediate impact from real-estate-as-a-service and collaboration spaces, which combine flexible leasing options with features like events, networking opportunities, and other business services. While many interviewees noted the growing impact of coworking spaces, others suggested that they're not really that disruptive. "Some people need flexibility," said one interviewee, noting that many startups that use such spaces eventually need a bigger, more permanent footprint.

Technology is changing more than just the end product—it is also altering the leasing and sales process. Buyers are using online tools to do their own research long before they arrive at the showroom. "They're negotiating the price before we even get to them," one interviewee said.

Getting the right skills. Technology presents a double challenge around transforming human capital in the real estate sector. The first involves the development of the right corporate culture so that the business is able to embrace new ideas and processes. The second is finding the right talent. Almost half of respondents to PwC Canada's CEO Survey said they are finding it difficult to attract digital talent to their organizations, and 72 percent expressed concern about the availability of these skills in their particular industry.

Real estate companies that move too cautiously on implementing new technologies may find themselves at a disadvantage when it comes to hiring the best new talent. "Motivating the workforce and changing people's behaviors is important when managing a real estate portfolio," one interviewee said. Prioritizing a talent strategy that is diverse in both skills and backgrounds—including those with skills outside of real estate, such as behavioral scientists and data analysts—can be the most profitable and low-risk digital investment that real estate businesses can make.

"In order to fix affordability, governments have to fix supply."

Rethink: Time to Rethink the Affordability Puzzle

Nobody questions the existence of a housing affordability challenge in major Canadian cities, most notably Vancouver and Toronto, with survey respondents citing land costs as the

Exhibit 1-7 **Housing Price Change, Year over Year**

	2017	2018 (forecast)	2019 (forecast)
Quebec City	0.6%	3.6%	5.5%
Toronto	11.5	–4.1	5.1
Vancouver	2.9	0.5	5.0
Montreal	5.6	5.3	4.8
Ottawa	4.6	4.2	3.5
Winnipeg	3.8	2.4	3.1
Saskatoon	–2.1	–1.9	2.0
Halifax	1.6	2.2	1.9
Calgary	0.3	–0.5	0.2
Edmonton	0.5	–1.7	–1.2
Canada	**3.9**	**–4.2**	**4.3**

Source: TD Economics, *Canadian Regional Housing Outlook*, August 24, 2018.

number-one development concern heading into 2019. The disagreements arise over what to do about it.

Across Canada, all three levels of government have taken stabs at the problem, with their efforts mostly focused on curbing demand to control the increase in housing prices, which are forecast to rise modestly. The federal government has further tightened rules for mortgages, imposed new restrictions on government insurance for low-ratio mortgages, and issued new reporting rules for primary residence capital gains exemptions. Provincial governments have also introduced new taxes aimed at curtailing speculative investing.

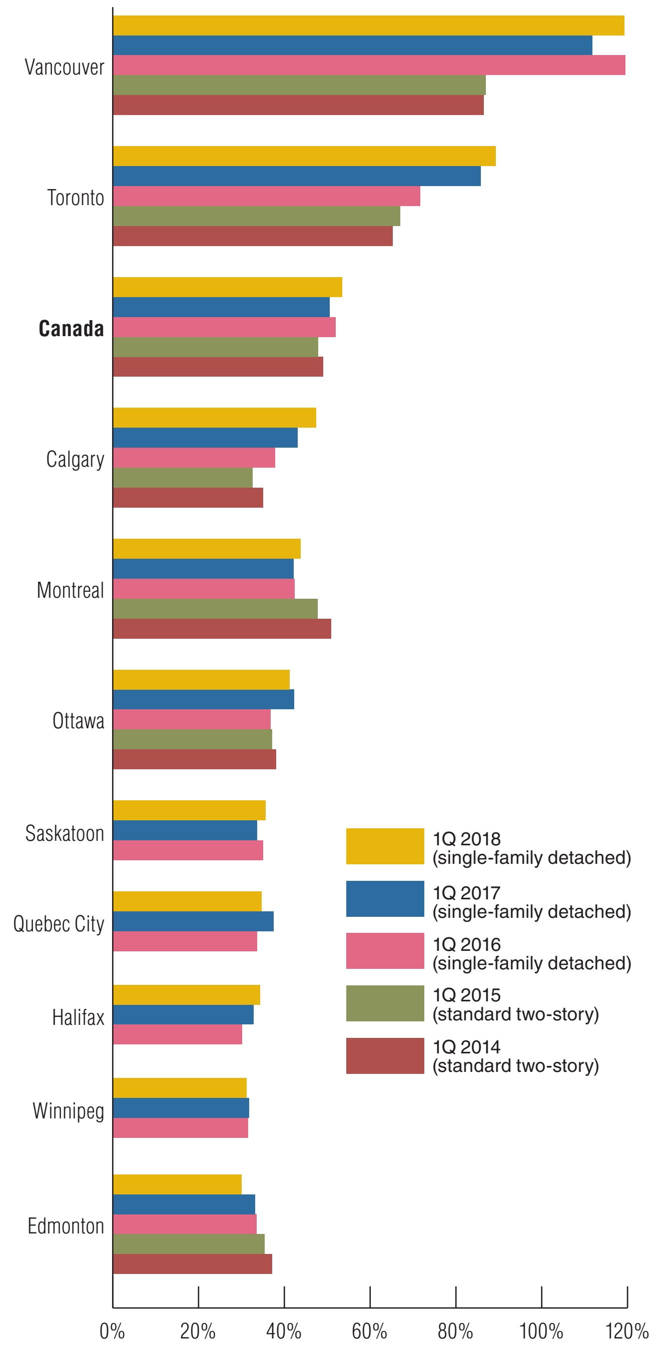
A key issue with the federal government's approach is that Canada doesn't have just one national housing market. And since each local market is unique—with its own issues, challenges, and opportunities—applying one approach across Canada will fall short. While the underlying objectives are appropriate for the current environment, these measures on their own are unlikely to solve the affordability puzzle.

Interviewees lamented that all sorts of government regulations are already posing challenges for all real estate sectors, with many saying that they expect affordability will only get more difficult for most people. Also contributing to the challenge is the fact that the actions taken so far have addressed the demand issues but not the real issues on the supply side.

The government's role. Until governments change land development regulations, including the time required to get entitlements, the supply of new housing will not meet demand in major cities and affordability won't be brought under control. As one interviewee noted, "It cannot get cheaper because of cost and demand." Some cities, including Edmonton and Montreal, have managed to bring new housing supply on line to balance rising prices, but Vancouver and Toronto have yet to do so. The result is that housing affordability hit its lowest level in 27 years in 2017, according to RBC Economics.

What can governments do to address affordability? "Bureaucracy is not responsive or helpful," one interviewee said. "The impact is to put even more pressure on supply and, therefore, put more pressure on increasing prices." When it comes to the Greater Toronto Area (GTA), some suggested that the government of Ontario needs a long-term strategy to expand supply. "Governments need to build more affordable housing. They need to fix the process to get more density and need to make a distinction between high-rise condo and purpose-built rental," said one interviewee, who hopes the new Ontario government might introduce a more positive regulatory environment.

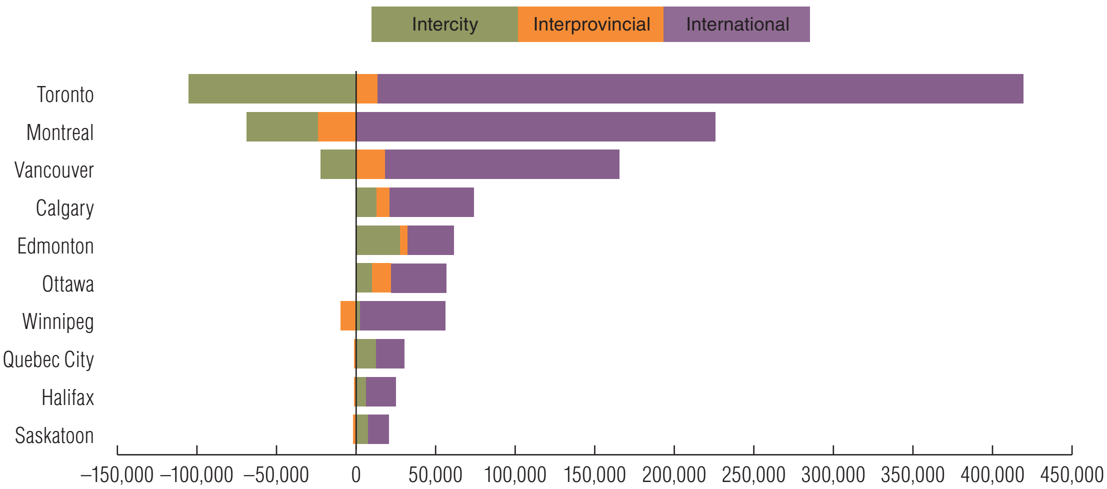
Exhibit 1-8 **Housing Affordability**



Source: RBC Economics, Housing Trends and Affordability reports, accessed July 3, 2018.

Note: The RBC Housing Affordability Measure shows the proportion of median pre-tax 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.

Exhibit 1-9 **Forecast Net Migration, 2018–2022**



Source: Conference Board of Canada, accessed June 22, 2018.

A common refrain across Canada was how hard it is to deal with municipal bureaucracy to get new supply on the market in a timely manner. A Vancouver-based interviewee said, "Municipal red tape slows supply," while one in Halifax suggested that municipalities need to ease zoning restrictions and be "held accountable to timelines."

While high demand and limited supply are the main forces at play in these expensive markets, government development charges, taxes, and levies also are significant factors in the cost of homeownership. The average government charge for a single detached home is about $186,300, or almost 22 percent of the price of an average new home, according to a May 2018 report from the Building Industry and Land Development Association. These development charges have doubled over a short period of time and appear to be on track to rise even more.

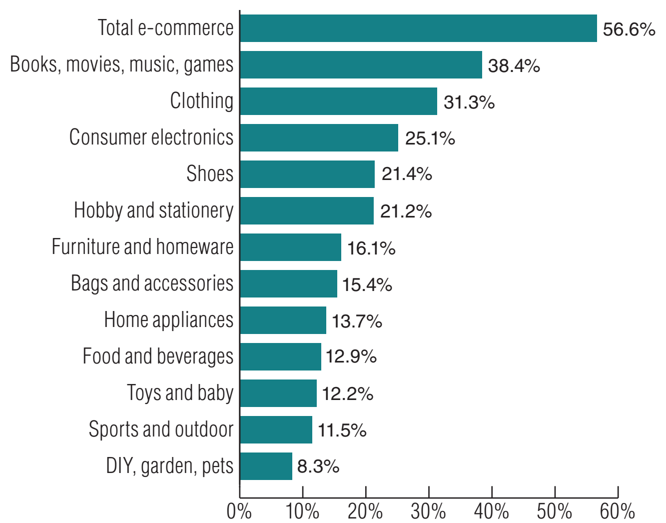
It is important for the various stakeholders to come together to try to deal with affordability. Inconsistencies can be a challenge, as seen in the moves by various levels of government to limit housing demand in major cities even as the federal government continues to increase immigration levels, which adds to demand pressures.

"Housing affordability will get harder for most people."

Affordability drives mobility and lifestyle. The consequences of not properly planning for future housing needs may be severe. The proportion of household income needed to service the costs of a single-family home grew to 53.5 percent in the first quarter of 2018, with Vancouver at a dizzying 119.3 percent. As a result, millennials may abandon the urban core for the suburbs in search of more affordable housing, and high housing costs in cities like Vancouver and Toronto could make it difficult to retain skilled workers. In a survey of young professionals by the Toronto Region Board of Trade, 42 percent indicated that they were likely to leave the GTA because of high housing costs.

An exodus looks like it is already underway. Between 2012 and 2017, Toronto lost more than 142,000 people to other parts of

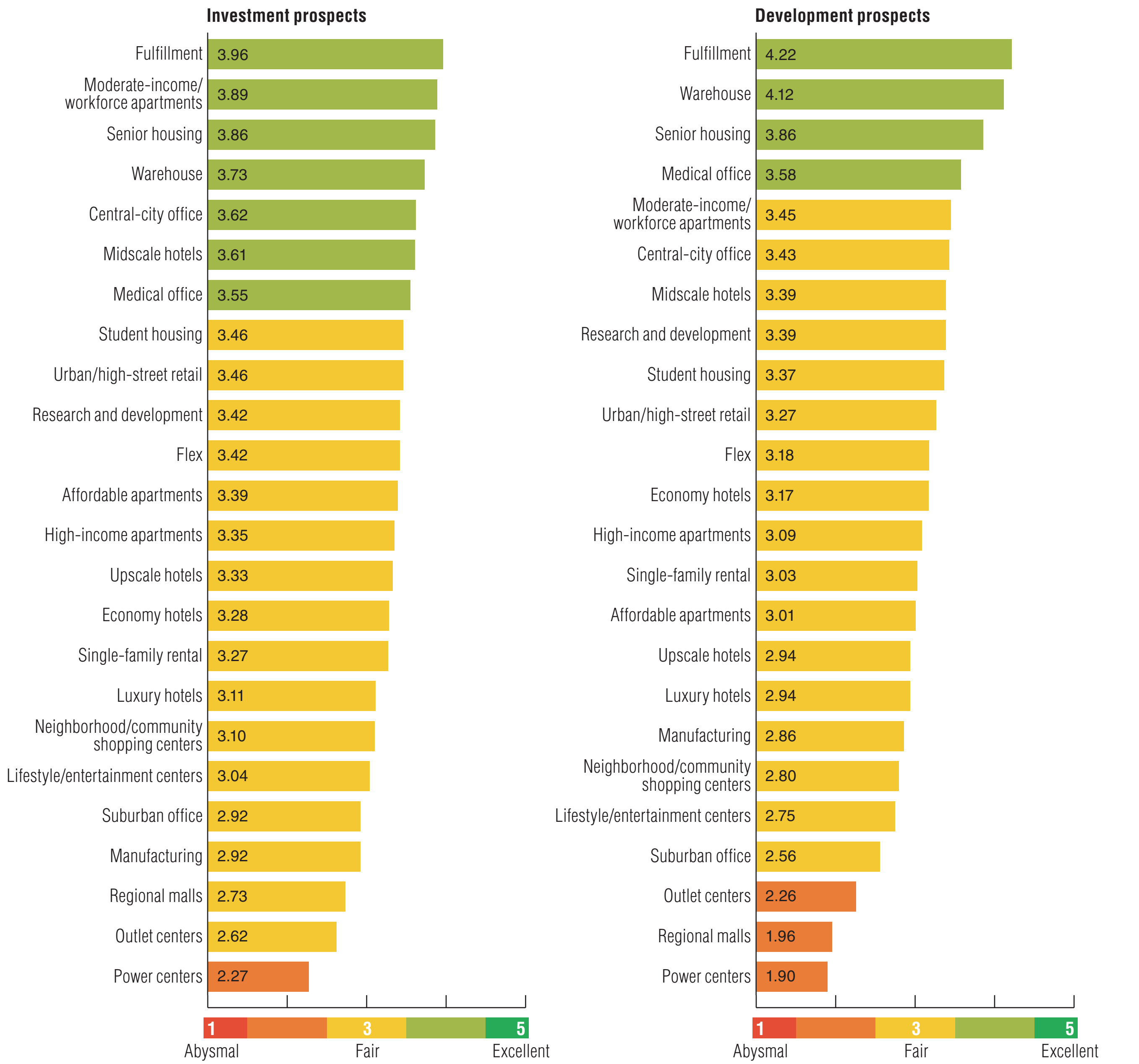
Exhibit 1-10 **E-Commerce Penetration Rates in Canada**



Source: *Statista e-Commerce Market Report*, accessed June 19, 2018.

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

Exhibit 1-11 **Prospects for Commercial/Multifamily Subsectors in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on Canadian respondents only.

Ontario, 78 percent more than in the previous five-year period, according to Statistics Canada. And over the next five years, Toronto, Vancouver, and Montreal are forecast to see a loss of people to other areas of their province. While forecast immigration rates will help make up these numbers, it is a consistent trend.

In addition to looking for cheaper regions in which to live, Canadians have been responding to high housing costs by forgoing ownership altogether. For the first time in decades, demand for rental housing is outpacing homeownership. Rentals now account for 32 percent of the country's homes, according to the BC Non-Profit Housing Association's 2018

Exhibit 1-12 **Investment Recommendations for Commercial/Multifamily Subsectors in 2019**

	Buy	Hold	Sell
Moderate-income apartments	56.8%	31.1%	12.2%
Senior housing	52.9	37.1	10.0
Medical office	40.8	48.7	10.5
Affordable apartments	38.9	41.7	19.4
Urban/high-street retail	38.0	48.0	14.0
Neighborhood/community shopping centers	38.0	26.0	36.0
Central-city office	35.8	46.9	17.3
Midscale hotels	33.3	61.1	5.6
Student housing	32.9	44.3	22.9
Suburban office	28.4	32.1	39.5
Economy hotels	27.8	61.1	11.1
Single-family rental	27.1	41.4	31.4
Lifestyle/entertainment centers	24.0	48.0	28.0
High-income apartments	18.9	45.9	35.1
Upscale hotels	16.7	55.6	27.8
Luxury hotels	11.1	38.9	50.0
Regional malls	10.0	48.0	42.0
Outlet centers	8.2	44.9	46.9
Power centers	6.0	22.0	72.0

Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on Canadian investors only.

Canadian Rental Housing Index. The trend toward renting has been taking root for several years. Our *Emerging Trends in Real Estate® 2016* report raised the issue, citing the rise of permanent renters as a growing and lasting trend. This is now a new reality for many Canadians and no longer just an emerging trend. But it's important to note that renting is not a real solution to the larger affordability problem, given that those who forgo ownership in favor of rentals still face very low vacancy rates in markets like the GTA and Vancouver.

Property Type Outlook

Retail

"You will see a lot more experiential retail. You need to give people a reason to go to a retail location."

Survey respondents have ranked retail real estate investment and development prospects relatively low, but stably, over the past three years. The popularity of e-commerce usually gets the blame for the softening retail market, but many forces are at play, including changes in consumer preferences, shifting demographics, and the maturity of the retail sector. Some retail players—particularly those that have made investments to integrate their physical presence with their e-commerce experiences through offerings such as in-store and curbside pickup—are seeing sales and traffic growth.

The suburban big-box segment of the market is feeling the biggest challenges, but malls have also been grappling with the closure of anchor stores. The disappearance of retail icons has created new opportunities for landlords, including backfilling with more resilient anchor tenants or using nonretail tenants to generate foot traffic.

There also is a trend toward redeveloping urban malls by intensifying sites with mixed-use properties that combine retail with higher-density residential, restaurants, community services, green space, and experiential attractions like gyms and movie theatres. It's all about finding creative solutions to take advantage of opportunities in evolving markets. For example, one GTA-based shopping center is considering a long-term plan to convert some of its parking lots into mixed commercial and residential space. But this is often easier said than done, especially for retail landlords without the necessary expertise.

As the retail sector continues to face disruption on several fronts, landlords are looking to data analytics to develop new rental models, deliver new insights about tenants, and improve operations. For example, what is the impact on purchasing patterns of placing particular retailers near each other? How can landlords capture online sales and returns in the rents they charge? And what is the role of data and other insights in developing strategies that boost foot traffic? While analytics unlocks many possibilities, the challenge is to assess which data is most useful and how best to take advantage of it.

Some large retail REITs have responded to the sector's difficulties by diversifying their positions to include residential and mixed-use development. For example, one interviewee that built its name on retail now expects to generate a significant percentage of its future income from apartments.

Canada's legalization of recreational cannabis is set to boost commercial real estate opportunities across the country in October 2018 as emerging companies look to find industrial space to grow the plant and retail space to sell the product. At least one major retail REIT said that legalization may bring premium rents and new demand. One interviewee expected to see a "nice, positive impact on retail," while another suggested that the market "will see new industrial build to address this demand."

Single-Family Residential

"The underlying fundamentals of a good market are still there. No question, though, that the low-rise segment is under pressure."

Survey respondents see development prospects for single-family housing being the best compared with those for other major property types, a sentiment that has continued to improve over the past three years. But despite positive prospects, supply is tight in major cities and affordability remains a major concern in Toronto and Vancouver. Single-family housing accounts for a quarter of residential inventory currently under construction in Canada.

Rising interest rates, higher personal debt levels, and tougher stress tests on residential mortgages imposed by the Office of the Superintendent of Financial Institutions have had an impact on consumer affordability in Ontario and British Columbia, as well as in oil-dependent Alberta. But in markets that enjoy greater affordability, including the Maritimes, Quebec, and Manitoba, pricing should remain firm.

The speculation taxes imposed by the provincial governments of British Columbia and Ontario caused prices in both markets to drop suddenly, followed by gradual rebounds. While Vancouver has swung to be more of a buyer's market, it is in a price range that the average buyer still cannot afford. A longer-lasting effect of the levies has been a general softening of the

Exhibit 1-13 **Inventory under Construction, by Intended Market**

	2007 homeowner	2007 rental	2007 condo	2012 homeowner	2012 rental	2012 condo	2017 homeowner	2017 rental	2017 condo
Toronto	15,164	2,353	27,953	14,785	2,987	51,039	18,534	6,663	45,152
Vancouver	3,680	582	20,842	5,289	1,695	15,924	5,053	7,944	29,124
Montreal	3,650	5,199	5,383	3,062	2,205	13,326	2,150	9,562	11,267
Edmonton	7,026	600	8,576	5,225	2,100	4,598	4,803	1,831	3,738
Calgary	6,072	121	8,527	4,092	975	5,849	4,066	1,058	5,174
Ottawa	3,210	170	1,571	2,270	445	2,696	3,311	1,856	2,184
Quebec City	720	1,216	465	661	1,365	1,533	483	3,439	1,356
Winnipeg	837	937	686	1,257	844	982	1,644	1,676	1,801
Halifax	766	1,180	523	931	2,234	462	671	3,026	453
Saskatoon	1,059	99	860	1,401	246	1,292	847	143	563
Canada	**54,574**	**16,462**	**84,852**	**50,080**	**21,290**	**105,622**	**55,402**	**49,132**	**114,225**

Source: Canadian Mortgage and Housing Corporation, Starts and Completions Survey, accessed June 26, 2018.
Note: Dwelling types include single, semidetached, row, and apartment.

Exhibit 1-14 **Downtown Class A Office Space, Second Quarter 2018**

	Class A space under construction (sq ft)	Class A vacancy rate	All-class vacancy rate
Toronto	4,387,215	3.4%	3.4%
Montreal	1,673,475	11.0	11.0
Vancouver	1,559,643	4.8	5.1
Edmonton	820,886	15.1	14.5
Calgary	428,599	21.1	23.8
Ottawa	0	6.0	9.1

Source: JLL Office Insight—Edmonton, downtown Calgary, downtown Toronto, Montreal, Ottawa-Gatineau, Vancouver, 2Q 2018, accessed July 27, 2018.

market, especially in the GTA, but recent statistics do show a rebound. It is expected that prices will continue to increase in response to continuing demand and lack of government action to sufficiently address supply.

Condominiums

"Supply is still an issue, and we will start to see some cracks in the condo market."

Tougher mortgage rules, rising rates, and speculation taxes have all played a part in cooling residential real estate prices but have yet to show a clear effect on the condo market. Residential construction starts across the country surged almost 30 percent in June 2018 to an annual pace of 248,000 units, driven by condominiums, according to the Canada Mortgage and Housing Corporation (CMHC). And over the past decade, most of our markets to watch have seen an increase in under-construction condo inventory, up 35 percent since 2007.

"While there has been some moderation in price growth and less speculative demand in the single-family-home segment, prices for condominiums have continued to increase rapidly in some markets," the Bank of Canada noted in its July 2018 *Monetary Policy Report*. And while consumers still want single-family homes, government policy around densification and intensification in urban areas has had a hand in the rise of condos. The steady trend speaks to the affordability crunch in the housing market as much as to lifestyle choices. In fact, there has been a noticeable shift toward multifamily construction, including condos, in Canada since 2007. In 2017, three out of every four homes built were multifamily units, compared with 65 percent the decade before.

And although concern is rising about the sheer number of new condo projects in major urban centers, demand will remain strong as long as population growth and economic expansion continue and house prices remain out of reach for so many.

Office

"Those successful in repositioning their assets will maintain their relevance in the office market."

According to JLL Research, the national vacancy rate was relatively stable at 12 percent in the second quarter of 2018, compared with 12.4 percent in the same period last year. When comparing second quarter 2017 and second quarter 2018 office vacancy rates, Toronto saw a steep 53 percent decrease in all classes, with Vancouver, Ottawa, and Edmonton also taking a dip year over year. Montreal and Calgary vacancy rates went up moderately. The office market continues to be very much a regional story defined by and driven by changing tenant expectations.

The tech industry continued to fuel leasing activity, making up 27 percent of large deals signed in the second quarter of 2018, according to JLL Research. What's more, this sector's tenants demand unique, technology-enabled space, so landlords are looking at new ways to modernize supply for their clients, who are in a race to hire the best employees. Satisfying market demand in the future is going to require innovation to create more human-focused spaces. In addition, younger workers generally want to be downtown in large urban centers, with amenities in their buildings and nearby.

Leading the transformation is the growing coworking trend. "Coworking is real and is adding to the market infrastructure," one interviewee said. According to JLL, coworking and flexible workspaces are forecast to make up 30 percent of corporate real estate portfolios by 2030. Another interviewee noted that they're seeing more office tenants "thinking about real estate as more of a community." There also is a growing trend around creating vertical urban forests in downtown towers and transforming large main-floor areas into more vibrant community spaces.

"Expect another 24 to 36 months where demand will continue to exceed supply," one interviewee said of the Toronto market. And while developers are intensifying underused land in areas like Toronto, in Montreal they are more focused on redevelopment and improving existing assets. In Edmonton, the sector is expecting a positive absorption rate; Calgary has seen a spike in vacancy rates since last year, but interviewees anticipate that the market will get back on its feet in a few years.

Developers of office buildings are ahead of major municipalities and retail planners in rethinking the future role of the car. They have begun to discard historical parking requirements in response to millennials' tastes for ride sharing and other transportation alternatives, as well as the prospect of autonomous vehicles.

Purpose-Built Rentals

"The math makes sense for large institutional investors who are looking for a steady cash flow."

The construction of new purpose-built rental stock will be an important step in trying to address housing affordability. Over the past decade, the amount of rental property under construction across Canada has tripled and is now on par with the construction of housing stock built for homeownership. On a percentage basis, the largest increases in purpose-built rental construction in the last decade occurred in Vancouver, followed by Ottawa and Calgary. Montreal continues to be the largest market for purpose-built rental construction.

Exhibit 1-15 **Canada Markets to Watch: Overall Real Estate Prospects**

Abysmal 1 — Fair 3 — Excellent 5

	Investment	Development	Housing
1 Toronto	3.82	3.81	3.35
2 Vancouver	3.80	3.78	3.33
3 Montreal	3.64	3.40	3.32
4 Ottawa	3.44	3.11	3.39
5 Winnipeg	3.13	2.94	3.25
6 Quebec City	3.05	3.04	3.04
7 Halifax	3.02	2.74	3.11
8 Saskatoon	3.01	2.89	2.81
9 Edmonton	3.01	2.63	3.00
10 Calgary	2.91	2.52	3.12

Source: *Emerging Trends in Real Estate 2019* survey.

Residential real estate in large urban markets is stabilizing but poised for further growth as demand continues to outstrip supply. With rental rates still striking new heights and low vacancy rates in cities like Toronto and Vancouver, developers—including some larger retail REITs that are intensifying their properties—are starting to respond to demand for rental housing. "Multifamily rental is getting into a better position because of the decrease in home affordability," one interviewee said. What's more, others also suggested that tougher stress tests on residential mortgages are bringing more people to the market. In Calgary, an interviewee noted that "the rental market will spike due to mortgage denials," and in Halifax, another said, "We're seeing more rentals or purchases at lower price points."

Governments also are taking some action on rental affordability, as seen in Ontario's move to extend rent controls to all units. In April 2018, the government of Ontario and the city of Toronto announced the selection of five developers that will build affordable housing on surplus provincially owned lands in the city. The two sites earmarked for mixed-income development include a group of lots in the West Don Lands and at the former provincial coroner's office near Yonge and College streets.

Industrial

"Industrial is the new retail."

The rising popularity of online retail is driving an unprecedented need for more industrial space for distribution and return centers across Canada. As one interviewee noted, "Industrial is the new retail." The sector is seeing significant rental increases for the first time in years, and it is expected that demand will exceed supply for the next few years.

"Industrial properties offer strong stability and low vacancy to keep returns consistent," said one interviewee, who noted that his company is currently seeing 99 percent occupancy rates. Many reports during the first half of 2018 cited low vacancy rates for industrial properties in Canada, and many interviewees referred to the GTA and Montreal as particularly hot markets. And for large, big-box distribution space, vacancy rates are even tighter. Other niche areas of interest include cannabis production facilities, data centers, and spaces with large electrical capacity for cryptocurrency mining.

It is a similar story across the country. In Alberta, for example, the industrial market is experiencing positive growth, with

Exhibit 1-16 **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
Vancouver	4.48	4.40	5.00	4.60	4.20	4.20	4.50
Toronto	4.31	4.59	4.82	4.67	3.77	3.86	4.14
Ottawa	4.04	3.87	3.87	4.20	4.00	4.15	4.15
Montreal	3.79	3.75	3.83	3.92	4.00	3.75	3.50
Quebec City	3.28	3.10	3.11	3.50	3.30	3.44	3.22
Winnipeg	3.25	3.20	3.10	3.50	2.90	3.44	3.33
Edmonton	3.24	3.17	2.75	3.08	3.00	3.75	3.67
Saskatoon	3.17	3.20	2.89	3.50	2.90	3.11	3.44
Calgary	3.02	2.71	2.43	2.92	3.00	3.29	3.79
Halifax	2.90	3.20	2.70	3.10	2.70	2.80	2.89

Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on Canadian respondents only.

Calgary seeing positive absorption and showing particular strength in last-mile warehousing and fulfillment facilities. "Last-mile space may be a redevelopment play for empty big-box retail," an interviewee said. Edmonton also is seeing strength in the industrial sector due to strong leasing demand driven by the oil and gas sector.

Markets to Watch in 2019

Toronto

"The affordability issue is not going away."

With net immigration into the GTA hitting a 15-year high and pent-up demand for housing, Toronto edged out Vancouver as the top market to watch this year. According to the CBoC, the local construction sector is on track to record its tenth straight year of growth in 2019, with gross domestic product (GDP) growth forecast to reach 2.4 percent in 2018 and 2.3 percent in 2019.

Respondents also ranked Toronto's housing prospects first among all ten markets. Efforts by Ottawa and Queen's Park to cool the residential market, combined with rising interest rates and high consumer debt, could still put another brake on prices. But strong drivers of demand remain indisputable. The region is also feeling the effects of demographic shifts. Millennials have begun to compete with baby boomers for real estate, and over the next decade, almost 700,000 first-time buyers will target the GTA or Hamilton markets, according to a May 2018 report sponsored by the Ontario Real Estate Association.

Due to little relief on the supply side, several interviewees expected Toronto land costs to hit Vancouver levels before long. "The next 12 months will be a buyer's market, and then we'll start to move back to a seller's market and prices will ramp up to new highs," one interviewee said. Townhouses also were considered a best bet, appealing to entry-level buyers. And although concern is rising about the sheer number of new condo projects, multifamily demand will remain strong.

On the whole, Toronto is looking strong across all real estate sectors. The vacancy rate for downtown office space sank to 3.4 percent at the end of June 2018, and supply is likely to get even tighter as we approach the 2020–2021 delivery dates for new construction. Similarly, in the industrial sector, strong momentum and a lack of space will continue to push developers to increase the supply to meet rising demand.

Vancouver

"Time to be cautious and opportunistic."

Vancouver's economy is forecast to grow 2.3 percent in 2019 after seeing 2.9 percent growth in 2018. Overall, the region's real estate fundamentals look good, and even after years of price increases, interviewees said that "Vancouver continues to defy gravity" in terms of commercial investment prospects. But the market may yet come back to earth, with interviewees noting that they are being more cautious and selective when looking at new opportunities to invest or develop.

Exhibit 1-17 **Forecast Economic Indicators by City, 2019**

	Real GDP growth	Total employment growth	Unemployment rate	Household income per capita growth	Population growth	Total housing starts	Retail sales growth
Saskatoon	2.3%	1.9%	7.1%	3.0%	1.8%	1,982	2.5%
Calgary	2.3	1.4	6.6	2.3	1.7	10,509	2.9
Toronto	2.3	1.3	5.9	2.7	1.5	37,590	2.7
Vancouver	2.3	0.8	4.4	2.9	1.2	20,378	2.6
Edmonton	2.2	1.7	6.4	3.0	1.5	10,973	2.7
Winnipeg	2.1	1.3	5.9	2.8	1.4	4,290	1.8
Quebec City	2.0	0.8	4.1	2.9	0.8	4,346	2.1
Ottawa	1.9	1.3	5.4	2.8	1.3	7,870	2.4
Montreal	1.9	1.0	5.9	2.8	0.9	17,466	2.0
Halifax	1.8	1.1	6.4	2.5	1.3	2,358	1.5

Source: Conference Board of Canada, *Metropolitan Outlook 1: Economic Insights into 13 Canadian Metropolitan Economies—Spring 2018*, accessed June 12, 2018.

Single-family sales are cooling in the face of high prices, rising interest rates, tougher mortgage rules, and a series of cooling measures being implemented by the British Columbia government. These include an increase in the foreign-buyers tax to 20 percent, an empty-home tax equal to 1 percent of a vacant property's assessed taxable value, and an increase in property tax rates for homes assessed above $3 million.

Sales of condos and townhouses have slowed and the market is treating them with more caution. There continues to be a huge need for rental accommodations, especially with rising affordability concerns. A number of interviewees believe that municipalities are still not taking the right steps to encourage builders to add rental stock to the market. Despite that, Vancouver was only second to Montreal when it came to the number of rental units under construction in 2017. It has also had the largest percentage increase in the number of rental units under construction over the past decade.

The city will continue to see strong absorption rates for office space, with the total office vacancy rate hitting 5.1 percent in the second quarter of 2018, down from 6.8 percent in the second quarter of 2017. Competition for Class A space will intensify as space reaches historic lows and new supply isn't completed until 2021/2022. In the meantime, we expect more tenants to look to the suburbs, with one interviewee saying that they "see more opportunity for growth out in the Fraser Valley than in Vancouver."

Investors remain cautious as the retail landscape continues to absorb the impact of online shopping. Investment in mall retail continues as large investors focus on turning urban malls into mixed-use communities. For example, a well-established shopping center is being reshaped into a retail, office, and residential redevelopment, including mid-rise and social housing.

On the industrial front, warehousing and fulfillment property will continue to be a top performer. There is little industrial land to be found, and landlords are holding onto what they have or are redeveloping old assets to meet changing demands.

Montreal

"The Quebec market has been a popular target for investors and developers after years of suppressed demand."

Montreal's economic growth is forecast to reach 2.2 percent in 2018 and 1.9 percent in 2019 after posting a 17-year high in 2017 of 3.7 percent, according to the CBoC. New construction continues to change the dynamic of Montreal's central business districts and skyline.

The pace of residential construction increased last year and should remain healthy through 2019. Despite many condo projects under construction, builders are still trying to keep up with eager buyers. What's more, the market continues to look affordable against the backdrop of relatively expensive prices in other regions, including Vancouver and Toronto, but it may start to face similar concerns as supply tightens. "Affordability is something to be considered moving forward," one interviewee said.

The office market is considered stable. Major commercial developments include a new banking headquarters, which, when completed in 2022, will be the tallest tower built in Montreal in more than 25 years. Industrial assets continue to be in demand; a shortage of vacant land on the island of Montreal is forcing large companies to relocate to areas where they can acquire more space.

There still is high demand for shopping experiences, especially when it comes to boutique and high-street retail. The key to success is for retailers to evolve with trends and buyers' needs. And for those that continue to be challenged, one interviewee said there is "still opportunity to create a great experience and turn around this sector."

Ottawa

"We need to dream a little bit bigger and be more ambitious."

As its economy diversifies, Ottawa is contemplating a bigger future. Local survey respondents viewed their market positively, third only to Toronto and Vancouver. With a new light-rail transit system and a focus on intensification, construction activity can be found in every corner of the city.

What's more, the proposed 52-acre LeBreton Flats redevelopment, which includes a new arena for the Ottawa Senators NHL ice hockey team, has the potential to transform the city's downtown. "The city is setting the stage," one interviewee said. "Someone needs to just pick up the ball." The abundance of opportunities had led to some new entrants into the Ottawa market, but pricing and availability mean that developers need to be diligent and focus on where they can add value.

Ottawa is experiencing growth and stability, aided in part by an expanding civil service and a thriving tech sector. Interviewees expect the job market will continue to flourish, and this, coupled with new investor interest and a growing flow of buyers relocating from expensive urban centers, will drive demand for housing. This is driving sales in infill communities in the city's core and suburbs. Faced with a large inventory of condo units, many developers have switched to rentals, with many units coming on line in the next 24 months, almost doubling the supply in some areas. Even with this increase, respondents anticipated that rents will stay at an all-time high.

Ottawa had an office vacancy rate of 9.1 percent in the second quarter of 2018, and while the city is a government town, some focus has shifted to the tech space. Tech hotspots include Kanata and now the downtown core, where there has been a movement of companies adopting modern, open layouts near amenities in an effort to attract young talent. As a result, landlords have started to move away from long-term leases to shorter lease terms (i.e., between two and four years) with tech companies that want flexibility and redesigned spaces.

Winnipeg

Winnipeg's economy continues to perform well: GDP will grow 2.3 percent in 2018 and gain a further 2.1 percent in 2019, according to the CBoC. The city's housing remains affordable by national standards, and inventory of all types of new homes has crept above the long-term averages, even as net migration inflows are strong by historical measures.

Construction will start this year on residences in a $400 million, four-tower downtown project, which will include office and retail space, a hotel, and underground parking. Both of the office and retail towers are already under construction. In the industrial sector, sales remain strong, with several large deals occurring in the northwest and east ends of the city. But the southwest continues to struggle with both limited sales and leasing prospects.

Quebec City

"Owners and managers alike are seeking a lot from their side to improve the customer experience."

According to the CBoC, Quebec City's economy is forecast to grow 2 percent in 2019, and interviewees remain confident. One noted that there was "a lot of competition" for assets compared to previous years, and another planned to make significant investments in the coming year to take advantage of increasing supply and opportunities.

When it comes to retail, there is more optimism in Quebec City, since the sector reportedly has not felt the sting of e-commerce as strongly as in the rest of Canada. The region's large shopping centers are doing well, and while interviewees were a little worried last year, they noted that people in Quebec City continue to shop at their malls.

Residential construction spiked last year, powered by job growth and the expectation of a possible interest rate hike. In the year ahead, it is anticipated that the market will settle and the pace of new housing starts will stabilize. Multifamily units, including rental units for seniors, will account for the bulk of new housing construction over the next year.

Supply and demand for office space are in balance, with interest in new Class A development. The need to innovate with coworking spaces and unique amenities is of paramount

Exhibit 1-18 **Employment, Job Vacancy, and Average Weekly Earnings Growth, Year-over-Year Change**

	Total employment change	Job vacancy change	Average change in weekly earnings
British Columbia	3.7%	13.3%	2.5%
Prince Edward Island	3.0	28.1	0.4
Quebec	2.2	39.6	2.8
Ontario	1.8	30.4	1.9
Manitoba	1.6	-2.7	2.5
Alberta	1.0	23.1	1.0
Nova Scotia	0.7	11.2	1.6
New Brunswick	0.4	7.2	1.4
Saskatchewan	–0.1	10.2	2.2
Newfoundland and Labrador	–3.7	20.4	1.7
Canada	**1.9%**	**25.3%**	**2.0%**

Source: Statistics Canada, accessed June 20, 2018.

importance, with one interviewee saying, "The office of tomorrow will be completely different." Commercial construction is gaining momentum in this healthy environment. Development has begun on the first phase of the CHU de Québec-Université Laval hospital—a project valued at $1.9 billion—and Quebec City's port authority has proposed an expansion that could prove beneficial over the medium term.

In industrial, there is a persistent preoccupation with a lack of land, but multipurpose industrial assets were considered by some as a best bet in 2019.

Halifax

Halifax is set to deliver a steady performance in the near term, with growth forecasts of 1.9 percent in 2018 and 1.8 percent in 2019, according to the CBoC. Halifax's downtown has seen an unprecedented boom in recent years, and the city is working to redefine its core with a growth strategy that includes prioritizing people over cars.

While demand continues to be strong in the core for multiresidential properties, interviewees this year said there may be a shift toward single-family housing, with growing demand for smaller-format houses and townhomes. A burst of immigration and continued rural migration are forecast to boost demand for multiunit residences, and an aging population interested in downsizing will support more multiresidential rentals with premium amenities and a community-oriented lifestyle.

In office, large organizations are continuing to sign long-term leasing agreements in traditional downtown towers. Many favor new downtown office space, with hundreds of thousands of square feet introduced recently, but smaller firms are looking for more modern setups, favoring smart amenities and shared spaces. Shifting tastes could eventually make the city's older space less desirable, and as one interviewee said, "You'll need to be amenity rich across all sectors to remain competitive." Some respondents speculated that the older downtown office stock presents an opportunity for more multiresidential development in the core.

Respondents commented that, while retail has struggled, there is an opportunity to repurpose existing retail stock to accommodate e-commerce warehousing and fulfillment. In addition, the industrial sector is highly favored for investment in Atlantic Canada, with respondents rating it second to multiresidential. The industry doesn't anticipate any disruption, since the available assets are suitable for current demand.

Saskatoon

The Saskatoon market is on the upswing. According to the CBoC, after posting 2 percent GDP growth in 2018, the region is forecast to grow by 2.3 percent in 2019. At the moment, the city is taking advantage of relatively strong economic conditions as it seeks to spur development. Local councilors hope that by approving $120 million for a bus rapid-transit system that will cross the city, they will be able to foster the development of mixed-use "transit villages" along the new corridors.

Construction of the system could commence in 2019 and be completed within three years.

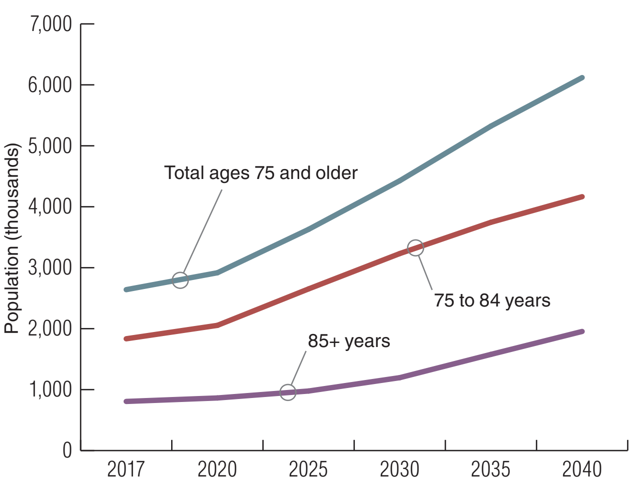
Saskatoon's market for new homes remains slightly oversupplied, leaving builders still cautious in 2018 after significant declines in starts in 2015 and 2016. The amount of construction will likely decrease again this year, but a rebound is in the cards for 2019, according to the CBoC. In the city's industrial market, rental activity is picking up after landlords acknowledged that current conditions demand lower net effective rental rates to attract and hold onto tenants.

Edmonton

According to the CBoC, the city's economy was poised to grow 2.8 percent in 2018 and to expand 2.2 percent in 2019. Revitalization of the city's downtown core continues with construction of the MacEwan Centre for the Arts, construction of Edmonton's ICE District, and work on the new Valley Line LRT.

High inventories of new homes will cause starts in both the single-detached and multiple-unit markets to fall, with activity expected to rebound slightly in 2019, according to the CBoC. Over the last five years, home prices have risen by less than the national average—and interviewees said this discrepancy bodes well for future sales. The market consistency is good for sellers and presents an opportunity for millennials who have been delaying entering the housing market.

Exhibit 1-19 **Estimated Population of Canada's 75–84 and 85+ Age Cohorts**



Source: Statistics Canada, accessed July 18, 2018.

Edmonton's downtown condominium market is getting a lift from baby boomers who are downsizing and moving into the city core. But the apartment rental market is experiencing high turnover as low interest rates entice some potential tenants to enter the housing market.

The office market will continue to be challenged by modest investment in the energy patch, with vacancy rates expected to climb beyond the 14.5 percent recorded for the second quarter of 2018. Little is on the horizon to drive demand as further inventory comes to market. But on a positive note, some interviewees expected the office sector to see its first positive absorption rate this year since 2015.

Calgary

The CBoC expects Calgary's economy to grow 2.3 percent in 2019 after hitting 2.9 percent GDP growth in 2018. Now that the city is seeing increased confidence as the oil and gas market starts its recovery, the wheels are in motion in the real estate market in Calgary.

Even with increased interest rates and new mortgage rules, first-time and move-up homebuyers are leading the residential charge in multifamily residences and luxury homes, respectively. Meanwhile, millennials and younger couples are balancing the condominium market. For example, the East Village is a new city-supported community development, with condo and rental accommodations alongside retail and other cultural amenities. But Calgary's housing market remains broadly oversupplied. Rental vacancy rates peaked at 7 percent in 2016 and have gradually improved since then to the 6 percent range, according to the CMHC.

The city's office market remains oversupplied, as many tenants take advantage of the 23.8 percent second quarter 2018 vacancy rate to move into Class A space. Downtown Class B and C assets have experienced the largest decreases in occupancy. There is a flight to quality in office, so landlords need to get creative and are focused on developing unique, collaborative spaces targeted to millennials, startups, and tech firms. For example, an older office building has been redeveloped as a dog-friendly office tower focused on attracting millennial businesses. Its unique lifestyle perks include a basketball court, a putting green, a dog spa, and an outdoor dog park.

Calgary's industrial market continues to gain momentum, showing positive absorption in 2018. But the region remains cautious, focused more on last-mile warehousing and fulfillment facilities and less on industrial.

Expected Best Bets for 2019

Warehousing and Fulfillment

Warehousing and fulfillment represent the top development prospects among survey respondents. With the increased need for last-mile delivery and e-commerce facilities, logistics and fulfillment continue to be a major opportunity for creating value. As tenants look for increasingly larger spaces, vacancy rates are tightening and rents are rising.

While the GTA is often an area of focus, development is taking place across Canada, as seen in the recent announcement of a large warehouse facility in Ottawa that will lead to the creation of about 600 full-time jobs. One interviewee mentioned the concept of industrial hoteling to allow companies to temporarily use warehouse space for seasonal needs, such as the holiday rush.

Senior Lifestyle Housing

Among the top development prospects with survey respondents is senior lifestyle housing, which one interviewee described as “a rising tide that can’t be denied.” With the number of Canadians over age 65 having surpassed those under age 15 for the first time in the 2016 census, several interviewees cited the development opportunities for senior lifestyle housing. While the development boom could lead to oversupply in certain markets, such as the GTA, interviewees across Canada predicted that demand would generally be strong.

An important factor in driving demand for facilities that cater to seniors’ needs is the growth in the population aged 85 and older. Canadians in that age group also show a strong tendency toward collective dwellings, with 31 percent living in this type of housing in 2017. While demand will be strong, interviewees noted the complexities of investing in such a niche area—one person likened it to a “hotel on steroids”—and emphasized the importance of high-quality, mixed-use facilities that meet a range of lifestyles.

Multifamily Market

As the cost of entering the housing market makes homeownership an increasing challenge, Canadians will continue to turn to multifamily options as an affordable alternative. Our survey results reflect that trend, with respondents citing multifamily homes as a top development prospect. Interviewees also noted the new trend of industrial condominiums. Statistics Canada has been reporting brisk activity for building permits for multifamily dwellings. In fact, it reported a record $3.1 billion in multifamily building permits for May 2018. Interviewees cited multifamily rental prospects as being particularly strong.

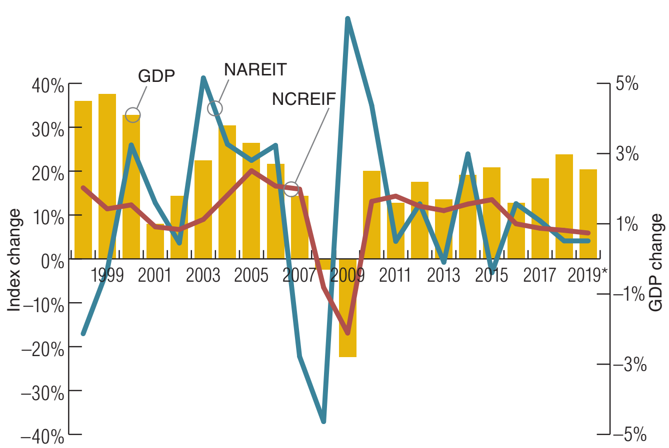
New Era Demands New Thinking

"Real estate as an asset class has matured. Market participants need to realize this and make the appropriate adjustments."

In complicated conditions, organizing principles matter. When a disparate array of circumstances present themselves, the advice frequently comes, "Connect the dots." Many of us will recall puzzle books from childhood where "connect the dots" brought us to a solution that showed a line drawing that revealed the puzzle's theme, the unifying concept that makes sense of an otherwise confusing array of facts.

It is difficult to apply this approach to the emerging trends we discern from our review of the real estate industry this year. Survey responses, commentary from interviewees, and a deep dive into third-party data lead persuasively to the conclusion that the outlook is complex.

Exhibit 2-1 **U.S. Real Estate Returns and Economic Growth**



Sources: NCREIF, NAREIT, Bureau of Economic Analysis/U.S. Department of Commerce, *ULI Real Estate Economic Forecast*.

*NCREIF, NAREIT, and GDP data for 2018 and 2019 are preliminary results of the October 2018 *ULI Real Estate Economic Forecast*. Final results are in the online *Emerging Trends* report: uli.org/et19

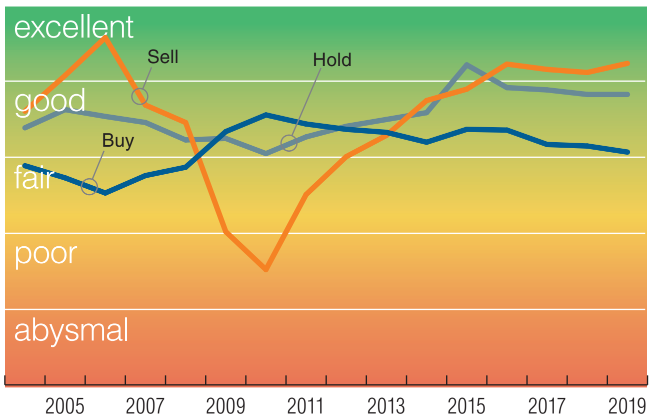
Let's note an important distinction: complex does not mean the same thing as complicated. A 500-piece jigsaw puzzle is complicated, but it is static. Complexity is descriptive of systems, especially dynamic systems, where the elements of the system interact with each other in subtle ways. Those interactions may bring different results in the short term versus the long term, because complex systems evolve and adapt. Sometimes that evolution is surprising.

Surprise is actually a key feature, and a positive one. In a simpler view of things (however apparently complicated), there is some "correct" answer to the question, "What is going to happen?" That is because the modeling of the future is linear, much in the way that lines are the basic tool in connecting the dots. In a world where "what's going to happen" is not so easily predicted, we need to retain a capacity for surprise. A degree of uncertainty is what makes for innovation and creativity. It is the space where our behaviors make a difference.

So instead of using a connect-the-dots model, think of this year's trends as circles in a Venn diagram. One difference between a dot and a circle is dimension. Dots are one-dimensional; circles have area in mental space. Trends will overlap, indicating that they interact, and over time those interactions (sometimes involving more than just two circles) foster new conditions that can alter either the features of the trend, its relative strength, and even its duration. We aren't in coloring-book world anymore.

So, for instance, we will be discussing a trend among investors that proposes a selection process directing some toward "transcyclical" markets and others toward "pro-cyclical" markets. That trend has implications for the volume of debt and equity capital that will be required going forward. Some of the industry's "dry powder" may remain in reserve indefinitely, especially if slowing long-term growth accurately depicts the coming decade.

Exhibit 2-2 **Emerging Trends Barometer 2019**

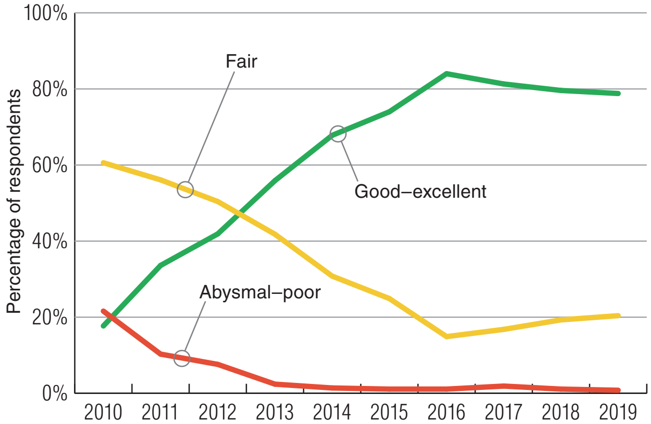


Source: *Emerging Trends in Real Estate* surveys.
Note: Based on U.S. respondents only.

It seems obvious that technology will penetrate the real estate industry in ever more powerful ways as time goes on. But will technology empower real estate by unlocking capacity and enhancing productivity? Or will it accelerate consolidation by favoring those with the capital to deploy technology (including artificial intelligence) and disintermediating more vulnerable participants? Does this lead to a downsizing of the industry?

Suppose that America's multilayered demography is considered in all its complexity, instead of presuming the baby boomers and the millennials will predictably behave as homogeneous units. We can speak about retailing and housing preferences, but how does that relate to conditions of broad income inequality, a falling fertility rate, and rising interest rates? With tens of millions in each of those cohorts, surely diverse paths can be found within each age group. How will those paths influence real estate decision making, taking into account the increasing power of the environmental, social, and governance (ESG) trend affecting owners and users of property?

Exhibit 2-3 **Firm Profitability Prospects for 2019**



Source: *Emerging Trends in Real Estate* surveys.

Certainty, in other words, should be in short supply in considering the future. It helps to be a bit humble. But it is also one of the great joys of living into the future: the capacity for discovering new things and forming new insights. There is, after all, no reason to do research unless you are willing to be surprised.

1. Intensifying Transformation

The pragmatic ancient Romans honored Janus—the deity of transitions, of passages, looking to both past and future. The long-forgotten Janus seemed to lurk quietly in the minds of many real estate practitioners as they reflected on property as a capital asset.

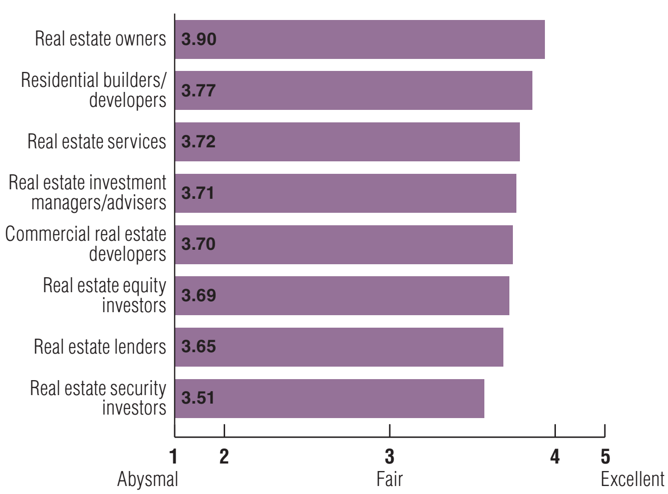
A veteran asset adviser said that "2019 will be a turning-point year. I think about the capital markets correction that is coming. We have been used to easy money and very low rates for so long. Now is the time to harvest, to hedge, to be cautious." Even those who see expansion continuing to 2020 and beyond stress elements of change. The key word for real estate's future performance is *transformation*—in technology, in generational choices, in a reconfiguration of preferences by geography and by property type, and in the potential for new investors in the asset class.

"Coming off a peak" seems to be a theme. One major institutional investor whose base case is for a continuation of the upcycle acknowledged, "We are adjusting a little bit right now." But most interviewees express the opinion that coming off peak does not automatically mean a sharp correction. *Plateau* is a word often used regarding expectations.

It helps to recall the basics about capital. Capital is an accumulated stock of wealth. That is the face of Janus that looks to the past. Capital that lies fallow not only cannot grow, it is subject to erosion from various forces (inflation, most commonly). Because of that, capital is deployed to earn future returns. That is the other face of Janus. Successful investment entails being paid for risk. As an institutional investment manager put it, "I don't get paid to sit in cash. I get paid to invest smartly."

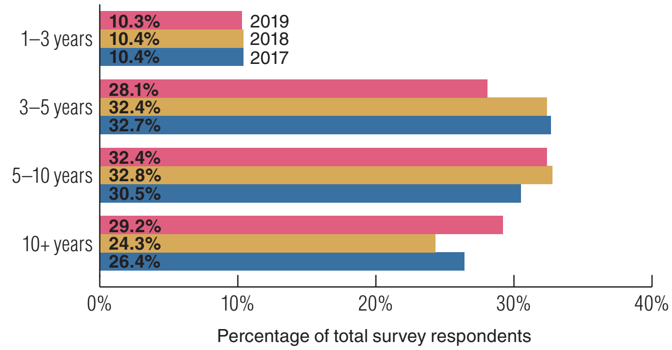
Transformation, therefore, encompasses change in threshold investment criteria, in asset allocation, and in the deployment of technologies that can help identify investment opportunities or enhance the risk/return profile.

Exhibit 2-4 **Real Estate Business Prospects for 2019**



Source: *Emerging Trends in Real Estate 2019* survey.

Exhibit 2-5 **Time Horizon for Investing**



Source: *Emerging Trends in Real Estate* surveys.

Note: Based on U.S. respondents only.

As chapter 3 ("Capital Markets") describes, a dynamic story is emerging concerning stratification and selection in real estate financial capital. As investment margins have compressed, capital is being deployed across a spectrum ranging from core assets that are perceived to be "priced to perfection," to opportunistic investments with prospectively higher yields subject to significant questions about future liquidity, price, and user-market attractiveness.

The diversity of investor goals and choices is healthy—far healthier than the herd behavior that has sometimes characterized markets. As an international investment fund executive told us, "The differentiation of opportunities has—to a degree—expanded; niche product types like senior housing and self-storage are being viewed as ways to 'round out' real estate holdings, taking advantage of specialized uses that are not 'averaged out' in major trends."

Many interviewees pointed to the data revolution behind more sophisticated investment behaviors as one of the most thorough-going transformations in real estate, intensifying over time. As one senior researcher put it, "Transparency in data is very powerful. For one thing, it has driven transaction time down." As data have become commoditized (and cheaper), real estate financial markets have become more efficient. Competition is sharper. There is little "low-hanging fruit" left.

To cope with speed requirements and competitive exposure, real estate has been incorporating and developing new technology. Platforms for fintech—a portmanteau of "financial technology"—have been introduced to automate routine functions. Some see a threat of widespread disintermediation in the worlds of brokerage, transaction due diligence, and even institutional investment execution. Blockchain technology is only one of the fintech tools emerging for the real estate capital markets.

We tend to think of investment in terms of financial capital, but physical capital and human capital are very much part of the equation.

Physical capital is undergoing functional transformation. Investment decisions are intensely concerned with elements of obsolescence—locational, technological, design—under the potential impact of innovation. The CEO of an established advisory firm discussed a logistics acquisition where the key property feature is a throughput system designed for last-mile delivery. "Drivers come in at 6 a.m., and the trucks are fully loaded and ready to go. What's important in proptech [property technology] is not apps, it is autonomous [transportation] and related services—a sea change in how we look at real estate 20 years from now." One office portfolio manager remarked something we have been talking about for several years in *Emerging Trends*: "One of my top concerns is that I may purchase an office building that in five years won't meet the needs of the market."

The notion that real estate is a people business has, thankfully, not dropped out of the conversation. Human capital has been very much part of the driving forces in real estate demand, especially in the past 20 years when the competition for talent has become so intense. In an era of slower growth in population and employment (as discussed in trend 2), the market for talent will only be more competitive. Human resource management often is the key to where a company locates and what type of amenities it offers. Real estate that supports that talent competition—in location, design, and live/work balance—will enjoy enhanced financial returns flowing from returns on human capital. Bring in the ESG movement discussed in "We're all in this together" (trend 10) and we see a focus on the "triple bottom line" coming to the fore.

One 40-year veteran in commercial property investment noted this change in his business. "There is more 'joint decision making' now. Executives once made a major decision within the confines of a small, senior group. Now, more stakeholders are brought into the decision. And there is more diversity [in age, ethnicity, culture] among those stakeholders." That's taking advantage of the attributes of human capital, fresh, forward thinking from the upcoming generation of property professionals.

Having established its place as a key asset class, real estate is likely to see increasing capital allocations. Motivations will differ, of course. Offshore private capital seeks a safe harbor and its flow will only be compromised if governmental action in the United States and abroad stifles the otherwise inexorable trend of a more tightly linked world economy. Domestically, the market will need to provide the trillions in individual retirement accounts (IRAs) and defined contribution plans with wider options for direct real estate investment to go along with the real estate investment trust (REIT)–based approach common in the mutual fund industry.

The real estate market is experiencing more than just a transition from one stage of the typical real estate cycle to another. The market is dealing with transformation on multiple fronts. While all the changes may seem daunting, and there are increased risks, there also are opportunities for those who are prepared to move forward in the transformed real estate market.

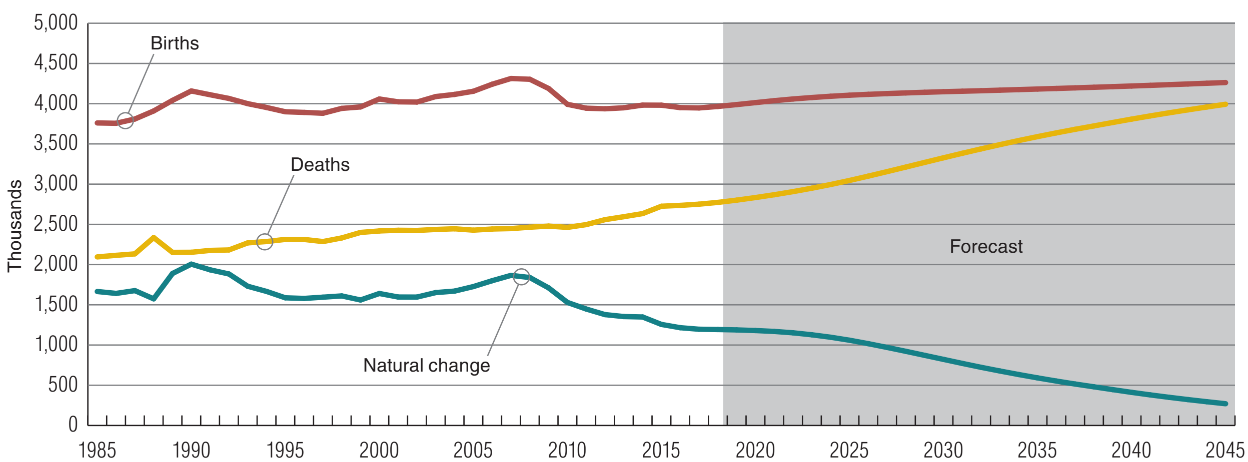
2. Easing into the Future

Don't underestimate the power of the comics pages! For those who might wonder, the terms *whammy* and *double whammy* (now included in *Merriam-Webster's*) were coined in the popular "Li'l Abner" cartoons in the Sunday funnies. But now double whammies are taken seriously, as a senior consultant and investment adviser characterized conditions. "One of the scariest things is that U.S. fertility is way below population replacement. We are not replacing ourselves, but we have always [grown] through immigration." A declining birth rate and sharply reduced immigration represent a double whammy for the U.S. economy.

For some time now, concerns about labor force availability have been top-of-mind for business leaders, in real estate and across the spectrum of industries. It is now nearly two decades since "talent" was identified as the spark for 24-hour city growth, and more recently, for the 18-hour cities. The agglomerative power of talent is the key to productivity, profits, and urban vitality. The top two economic and financial issues highlighted in our 2019 survey results are related: job (and income) growth and qualified labor availability.

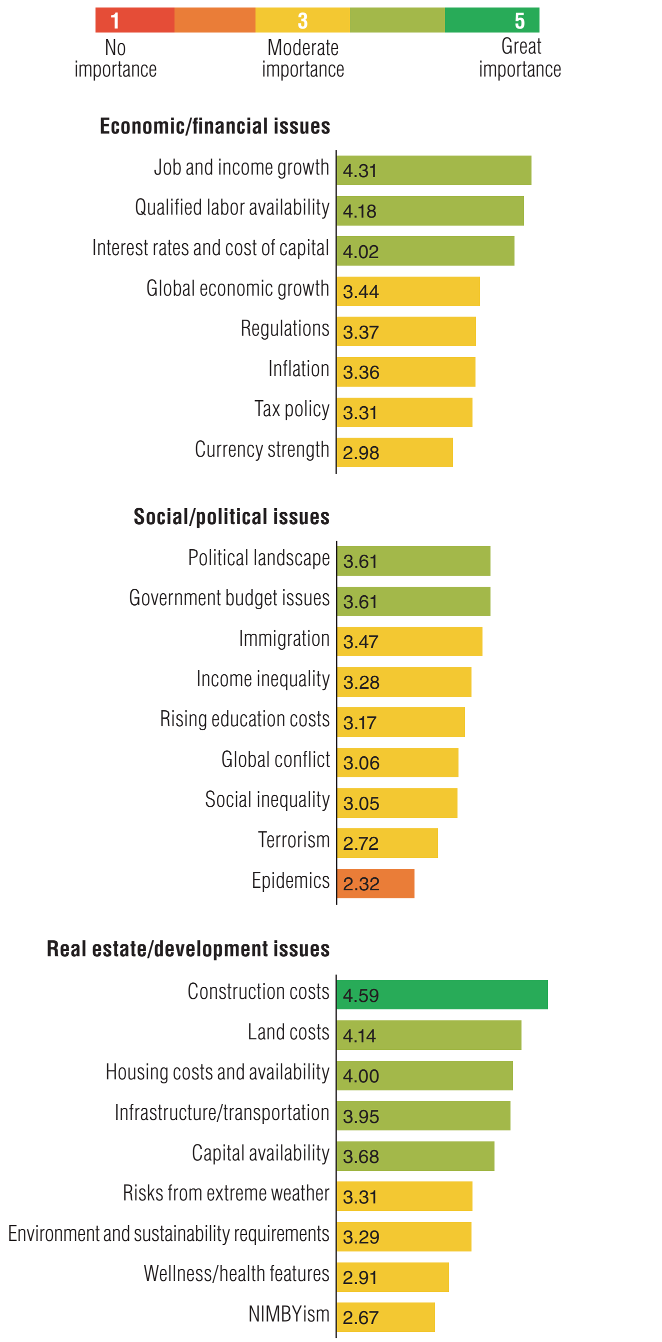
The CEO of a construction company active in several gateway cities explained that this issue is not just a question of blue-collar workers. He is having difficulty securing and retaining engineers, architects, and estimators needed to get the most out of advancing technologies. "Building information management [BIM], for example, gets a lot of attention because of its

Exhibit 2-6 **Natural U.S. Population Change**



Source: U.S. Census Bureau, IHS Markit Forecast.

Exhibit 2-7 **Importance of Issues for Real Estate in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.

visualization capabilities. Projects are full of folks using their tablets. But the key is integrating all that information to speed completion and lower costs, while capturing those efficiencies for future use."

Mining the potential for productivity improvement is the missing link to sustained or enhanced economic growth in a labor-short era. The temporary bump provided by the tax stimulus in 2018 notwithstanding, growth since the global financial crisis has been moderate at best. The key reason appears to be disappointingly low productivity growth. Last year in *Emerging Trends*, we addressed this issue as "Working Harder, Smarter." Despite the obvious need stemming from the "double whammy," U.S. research and development (R&D) spending has dropped to 0.7 percent of gross domestic product (GDP), down from over 1.2 percent in 1976, according to the American Association for the Advancement of Science.

Largely as a consequence, the most recent Congressional Budget Office projections (April 2018) show average GDP growth of just 1.9 percent in the 2018–2028 period, with job gains averaging 0.5 percent annually, or a net increase of 830,000 per year. That's just 69,000 new jobs per month, versus the 200,000 per month average achieved since the employment recovery began in earnest in November 2010. Slower GDP growth will inevitably result in lower levels of real estate market activity.

This sustained deceleration in growth—by measures of total output, productivity, and employment—presents a challenge to real estate markets. The challenge is a prospective slowdown in demand that is persistent and impactful, although with variations, across geography and property types. The discussion in chapter 4 highlights variations such as quality of life and affordable housing that may influence which markets are likely to capture more new residents and workers.

In response to this slowdown, real estate may seek the most productive use of its existing assets, as well as identifying the type of new construction needed by size, design, and functionality. The slower growth rate and lower levels of future demand could increase risk in any new project.

Slower growth does not necessarily mean there won't be opportunities. Functional obsolescence is likely to lead to the need for new office space to meet changing tenant demands, while the current and any future shortage of affordable housing may be met by the repurposing of other property types such as office, retail, and hotel. The retail and industrial sectors should continue to see development activity as the sectors adapt to changes in consumer behavior. Twenty years of successful urban revitalization has amply illustrated the appeal and adaptability of older buildings in an evolving economy and society.

Success will emerge from those markets that tackle their problems innovatively—requiring precision in providing the right real estate in an increasingly specialized economy. But success will elude those markets remaining passive or stubbornly applying 20th-century approaches—real estate expansion to ride economic growth—to 21st-century challenges.

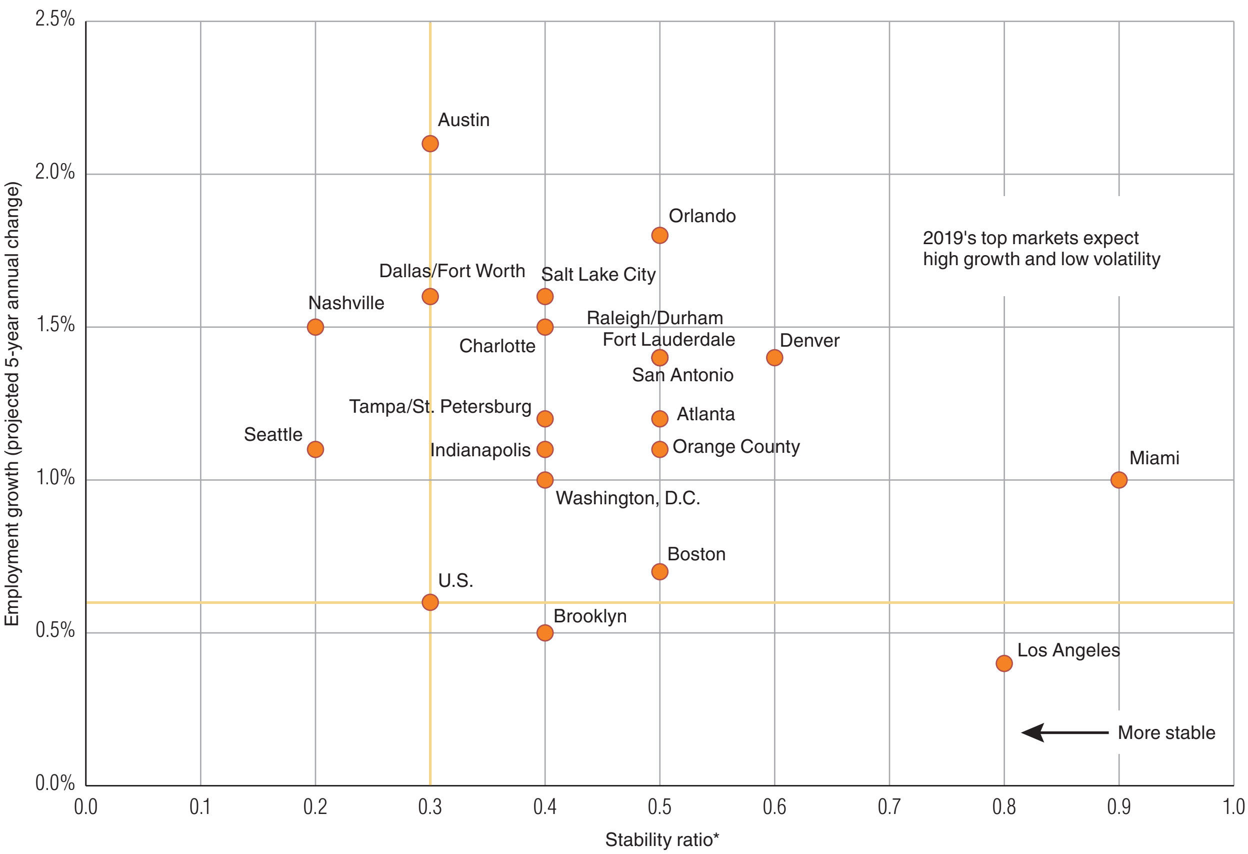
3. 18-Hour Cities 3.0: Suburbs and Stability

It may be a surprise to some that millennials and the suburbs may well be a key to investors' increasing confidence in 18-hour cities. *Emerging Trends* has previously identified the success of 18-hour cities in developing urban amenities that have led to economic growth. The market still appreciates the urban opportunities in these markets, but interest in suburban submarkets is being mentioned as a benefit as well. In the *Emerging Trends* survey, respondents continued to express their confidence in the performance of these nongateway markets. Nine of the top ten markets and 17 in the top 20 markets in this year's rankings fall into these categories.

No one will argue that urban revitalization received a tremendous boost from the influx of millennials into urban cores around the United States. In fact, survey respondents felt that the urbanization trend is one of the most significant real estate developments of the last 40 years. Now, at least some of the 80 million–plus millennial generation could be turning their attention to the suburbs. *Emerging Trends in Real Estate®* has been discussing what could happen if millennials finally started behaving in ways similar to previous generations, and it appears that it may now be happening.

With the oldest now in their mid-to-late 30s, millennials are forming family units, having children, and making decisions

Exhibit 2-8 **Projected Employment Growth and Stability for Top Markets in 2019**



Source: U.S. Bureau of Labor Statistics.

*Stability ratio = Current employment volatility ÷ Historic employment volatility. Less than 1.0 = more stable than that market's historic average.

about the future. One of those decisions is where to live, and an increasing number are looking to the suburbs. The U.S. Census Bureau reports that over 2.6 million people a year have moved from principal cities within metropolitan areas to the suburbs in 2016 and 2017. It isn't just the suburbs around gateway cities that are seeing this migration; 18-hour cities also are seeing the benefits. The 18-hour markets that made the top 20 in this year's survey saw an average of 55 percent of their new residents locate in the suburbs over the last five years. A real estate developer remarked, "When you start looking at moving to the suburbs, people also begin to look at the opportunity of suburbs in other markets, particularly when affordability is factored into the decision."

The traditional attractions of the suburbs—larger homes, good schools, and lots of green space—have not changed. What is different is that amenities now in demand include access to mass transit and walkable neighborhoods in proximity to shopping and entertainment. A senior researcher for a U.S. bank described the potential steps in this move to the suburbs. "The first phase is millennials moving to the suburbs for larger, more affordable homes and access to schools, so adequate single-family and multifamily housing will be necessary. Retail follows rooftops, so retail development to meet the new residents' requirements will follow. Finally, you may begin to see more emphasis on employment centers as residents decide they want to work closer to where they live."

Economic growth also appears to be on the side of 18-hour cities. While the prior trend laid out a future where the economy could experience slower average growth in the future, those 17 markets at the top of this year's survey appear to be clearly ahead of the national average when it comes to growth. The projected average annual population growth over the next five years in the 17 markets is 1.3 percent compared with 0.7 percent for the United States as a whole, while projected five-year annual employment growth is 1.2 percent compared with 0.6 percent for the United States.

A portfolio manager for a global institutional investor remarked, "We believe there is some room to go in this cycle, so we like the idea of looking at markets we haven't been in before or new asset classes if we can get a higher yield." The CEO of a real estate data service company feels that even after a potential downturn, these faster-growth markets are where you want to be. "I don't see the factors that are driving current growth—demographics, workforce quality, attractive living, and business costs—going away in the future."

This could be giving more investors the confidence to invest in 18-hour cities. Growth is not the only positive trend in these markets. An increase in economic stability in 18-hour cities also is influencing investment choices. A senior researcher with a U.S.-focused investment fund observed, "These economies used to be far less diversified. It seemed like each one had a heavy concentration in a single industry. A higher rate of diversification makes us much more comfortable that the economies in these markets are more protected from an isolated event disrupting their economy."

Such potential is giving investors the confidence to move out on the risk spectrum in nongateway markets in search of higher returns. These markets have developed desirable urban neighborhoods, which was part of the reason behind the *Emerging Trends* designation as 18-hour cities and could also get a boost due to their number of attractive suburban submarkets.

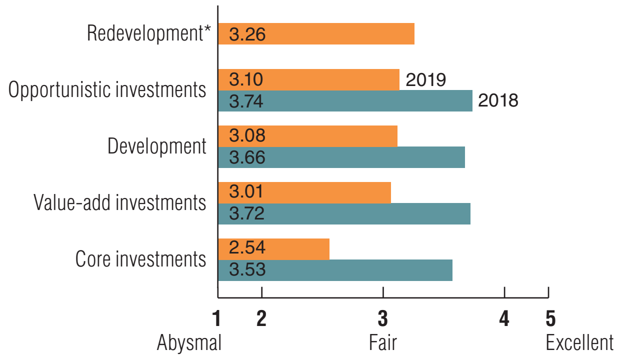
4. Amenities Gone Wild

For decades, the term *amenity creep* has been current in the hospitality industry. In the *Travel Industry Dictionary* (yes, there is such a thing), it is defined as "the tendency of hotels to add new perks and features in an effort to attract more clients and respond to competition." In an era when concierge service is being offered in apartment buildings, offices, and even retail establishments, real estate in general needs to think about this topic. We might need to think about the direction and staying power of real estate competition based upon amenities beyond those typically provided in the past.

This is an example of "curation" in real estate services. The chief strategist for one major developer reports that "tenants continue to push for a robust amenities package" in new office buildings and that multifamily assets have gone well beyond the fitness center and recreational areas to include pet care and even a "curated garden" growing fresh fruits and vegetables. Executives of a firm intermediating offshore capital into the apartment sector confirm this: "Every year it is something new. We've gone from a 'package room' to accommodate all-day deliveries, to lockers, to refrigerated spaces for food—both grocery and prepared foods—that need to be kept fresh." For some, this extends to concierges with keys to the unit, who will do the last steps in individualized convenience.

The mantra of live/work/play is giving rise to a reinvention of lobby space and common areas. One example that was cited was the use of an apartment lobby as retail space—open to the public (with tenants using a key fob to access residential floors)—complemented by second-floor coworking space for residential and retail tenants, complete with pool tables.

Exhibit 2-9 **Prospects by Investment Category/Strategy, 2019**



Source: *Emerging Trends in Real Estate* surveys.

*First year in survey.

Note: Based on U.S. respondents only.

Major national service firms are vying for business by packaging space leasing, managing coworking space, optimizing common-area use, and providing direct tenant services. So just as the industry becomes in some ways more data-driven, the amenities race puts personal service back to the forefront.

One office REIT executive muses, "Landlords are knocking each other over looking to provide the best amenities. I question how much the tenants are actually using the amenities versus just liking that they are there." Another veteran investor notes, "Office tenants are now wanting access to cooking classes, yoga classes, etc., that their employees can use. Tenants not only want amenities, but also services."

Some investment managers remark that in a competitive market, once a level of amenity is provided it is hard to withdraw. This, in a way, is the very definition of the aforementioned amenity creep, an upward ratcheting of expectations. Behavioral economists observe that loss aversion is more powerful than the satisfaction of prospective gains, leading to an endowment effect that causes people to overvalue a good once they possess it.

If that is the case, "amenities gone wild" may be the new normal for real estate.

5. Pivoting toward a New Horizon

Whether deserved or not, the real estate industry has a reputation for being slow to adopt new processes and technologies. This may be due to the fact that the industry has always had a significant amount of pride in the importance of personal relationships, or because a firm's superior proprietary knowledge is what set it apart from the competition.

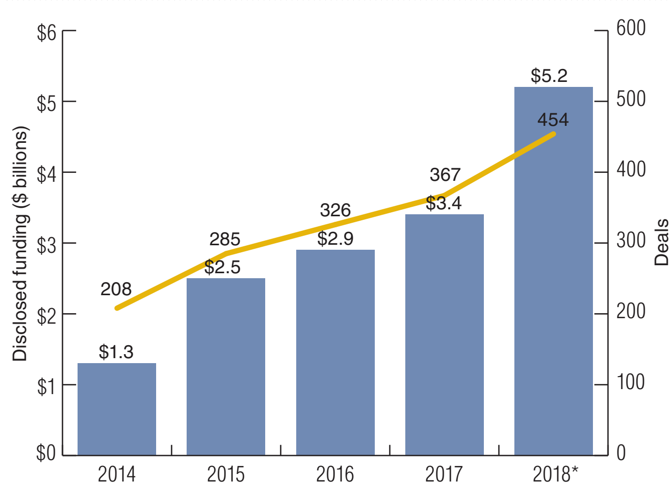
Such reticence is in spite of having a front-row seat to the disruptive technology that has been unleashed on the retail and hospitality sectors. Despite the slow start, real estate industry players not only are adopting new technology, but also are investing in technology companies and developing new technologies to improve business models, to open up new opportunities, and to address new challenges.

A number of factors are combining to create this transitional pivot point. The first is the size of the U.S. real estate market, which is an enticingly large target: As of the end of 2017, the U.S. Bureau of Economic Analysis says that the real estate industry represents 13 percent of U.S. GDP. The second is that the target market is diverse, with most real estate companies operating within only a few segments of the overall industry. With this level of fragmentation, there is certainly no clear leader in the real estate technology business. This appears to play right into technology's knack for fomenting consolidation. Third, opportunities for success appear to be unlimited. Real estate technology has the opportunity to touch virtually every aspect from fintech to proptech, from supply chain logistics to end user convenience, from manufactured building components to workplace productivity, from data analytics to tailored amenities, and more.

Money is certainly following the opportunity: CB Insights is projecting that real estate tech investment could top $5.2 billion in 2018, up significantly from $1.3 billion invested in 2014.

The range of players investing and their focus are also indicative of the pace of development of real estate technology. A $100

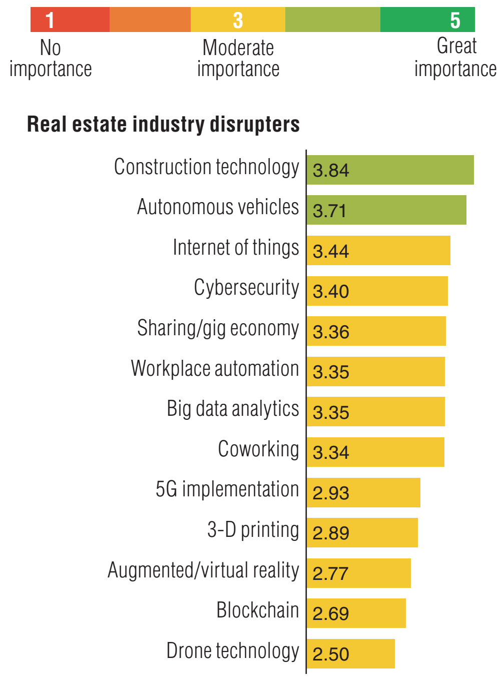
Exhibit 2-10 **Real Estate Tech Global Financing History**



Source: CB Insights, provided on August 13, 2018.

*Full-year projection.

Exhibit 2-11 **Importance of Disrupters for Real Estate in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.

billion venture capital firm launched in 2017 has already invested in a firm that is drastically changing the way we work and also in a company that wants to transform homebuilding. Another fund targeting real estate technology raised over $200 million in 2017, with a number of top global real estate investors, service providers, and developers among their investors. The firm uses a definition of technology as anything that deals with the potential investment, management, and interaction with a physical space.

Some of these new technologies have the potential to address overarching concerns such as affordable housing, the challenges of long-term labor shortages, and productivity challenges (noted in trends 2 and 9).

Off-site home construction is being seen as a way to address rising construction costs and ease the impact of a shortage of construction workers. The goal is not just to offset these issues, but to improve the way homes are built. This improvement moves from the process of design, manufacture, delivery, and final construction, ultimately making all these functions work together seamlessly to improve cost and efficiency. As an executive of an off-site home company has famously said: “You wouldn’t want all the parts of your new car delivered to your driveway and then assembled by three guys from the dealership.”

Technology has recently moved from compiling “big data” to finding better ways to make decisions using the data. A major service provider to the multifamily industry explained: “With the proper software, it is possible to manage a portfolio to find the perfect risk/return balance down to the unit and tenant level.” A new portfolio management tool is quickly gaining market share. This may not be surprising, but the list of investors and users of the product might be: some of the largest office landlords in the United States, and a number of global real estate service providers. As one international executive explained: “We had a choice: keep doing things the way we had, or get involved with the new way early and utilize it to enhance what we offer our clients.”

Technology is also being used to improve the experience of the users of real estate. The technology is already in place to collect information on individual shoppers, giving retailers the ability to target offers directly to them while they are in the store. In addition, information about office tenants and their employees can allow landlords to tailor amenity offerings to improve the employee experience.

The development and implementation of technology have always been dynamic, and it is true that some early adopters have paid a price for being ahead of the curve. The body of evidence this time would suggest that there is a market, there are serious and knowledgeable investors in the technology, and we have examples of technology being implemented in multiple sectors of the real estate industry today. It seems like now is an excellent time to use the right technology to complete that pivot to the new horizon.

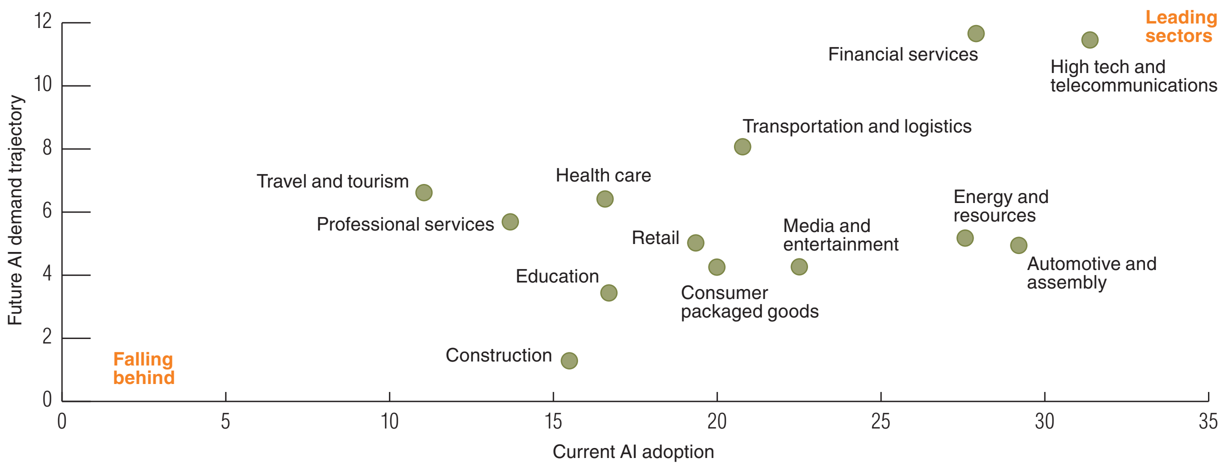
6. Get Smart: PI + AI

One of the clichés about the tabloid press and local news channels is: “If it bleeds, it leads.” Grabbing attention is easiest if the news is bad and provokes fear and loathing in the audience. Casting artificial intelligence (AI) as a job-destroying threat falls into this category of reporting, and has been the “hook” in business reporting on this topic.

The *MIT Technology Review* has compiled both domestic and international forecasts on the subject. Their conclusion: “No one agrees.” Predictions range from optimistic to devastating, differing by tens of millions of jobs even when considering similar time frames. There is only one meaningful conclusion: it is difficult to predict what the march of technological progress will ultimately have on employment, but we do know that it will have an impact.

There is no doubt that AI’s march is proceeding, double-time. We are already growing comfortable with AI, which surrounds us on a daily basis. Voice recognition triggers devices that can

Exhibit 2-12 **Artificial Intelligence: Current Adoption and Future Demand Trajectory, by Sector**



Source: McKinsey Global Institute, June 2017.

Notes: Current AI adoption = percentage of firms adopting one or more AI technologies at scale or in a core part of their business.
Future AI demand trajectory = average estimated percentage change in AI spending over next three years.

search for information and control building systems. AI systems use machine learning platforms with predictive capabilities to improve the efficiency and safety of building operations. Building security systems are using biometric identification to control property access. The legal and medical fields are already deploying AI functions in research and diagnostics. And this is just a partial list.

The CEO of an investment advisory firm focuses on "the potential growth in AI and its predictive capabilities as learning feedback takes place . . . once it starts, it's parabolic." That steep curve of increasing utility and adoption by users is already moving upward in the real estate domain. There is some divided sentiment about AI's potential to enhance operations versus its disruptive potential. But there also is no reason that both couldn't be true. It would not be the first time that new technology turned out to be a mixed blessing.

AI's Impact Is More on How We Work, Not on the Number of Workers

While it is difficult to predict exact job changes, the examples already discussed show that the potential for AI to influence how we work is significant. Forrester Research estimates that by 2027, AI could affect up to 25 percent of the daily tasks performed by every job category, ultimately enhancing the personalized intelligence (PI) of future workers. For example, although secretarial and administrative jobs, which have been steadily disappearing for years due to automation, are projected by the U.S. Bureau of Labor Statistics (BLS) to see a further 5 percent decline (192,000 jobs) by 2026, office-using occupations such as information clerks and customer service representatives, who will be users of AI in their daily tasks, are expected to increase of about 5.5 percent (270,000 jobs). Likewise, the BLS anticipates a 12 percent gain in computer and information services managers (44,200 jobs) and a 10 percent rise in the number of property and real estate managers (32,000) jobs by 2026, jobs that will be using proptech tools, including AI.

Exhibit 2-12 shows the trajectory of AI adoption by individual industries. Financial services is a leading sector in the adoption of AI, with the potential to affect how this sector uses office and retail space as support and sales positions are enhanced through the use of AI. BLS projections anticipate that business and financial occupations will see a rise of 773,000 jobs (10 percent) by 2026, and it is likely that many of these will be financial analysts, loan officers, human resources specialists, and training personnel using AI tools to enhance their productivity. The integration of AI by the transportation and logistics industry has the potential to change the design and location of future industrial locations in the supply chain.

Some Disintermediation Is Already Occurring, and Will Continue

At present, much of the attention in the real estate area has been in residential applications, where AI seems to present a disintermediation challenge.

In residential brokerage, there is a growing field of competitors providing consumer information about home attributes and prices, some of whom provide discount brokerage and offer AI-driven buyer targeting to maximize the breadth and speed of marketing. That marketing effort is enhanced by machine learning that analyzes the early clicks on internet ads, and then identifies a larger universe of likely buyers. The head of one residential brokerage describes the industry as facing "seismic change." He argues, however, that in addition to value and convenience, homebuyers have qualitative requirements best understood in personal communication for what is the single largest investment most households ever make. The trick is for the residential agents to use AI features as a tool—as they become more ubiquitous—and assist with PI to enhance effectiveness in searches and in negotiations.

In the commercial property arena, the challenge is different. The relevant data in the commercial arena are far less homogeneous than in housing, and the investment choices far more complex. Hence, distinctly human factors—judgment and trust—play a larger role. Still, big data and predictive analytics (both in traditional terms and through AI) are now part of the business and likely to expand over time. A self-storage executive, for instance, speaks of "using data to make a more customized experience for customers, and targeting potential future customers. Our capital spend has generally focused on technology versus re-doing existing spaces."

The lead researcher for an investment industry association sees real estate itself as information-generating, as well as data-using: "Monetizing the amount of data that can be collected from an office or retail building might someday generate more income than traditional leases."

AI: Harnessing Its Promise While Managing Its Risks

If analytics in building automation and property management are the sunny side of the AI street, the security challenges of the dense connectivity of the "internet of things" (IoT) are where some shadows lie. Lighting, heating, elevator, and security systems collect a tremendous amount of data, but also may compromise the privacy of tenants if the integrity of these systems is breached by cyber intrusion. At a recent tech conference for real estate executives, the CEO of an AI and machine learning consultancy underscored a delicate balance of functionality and respect for the people whose activity is now tracked in great detail.

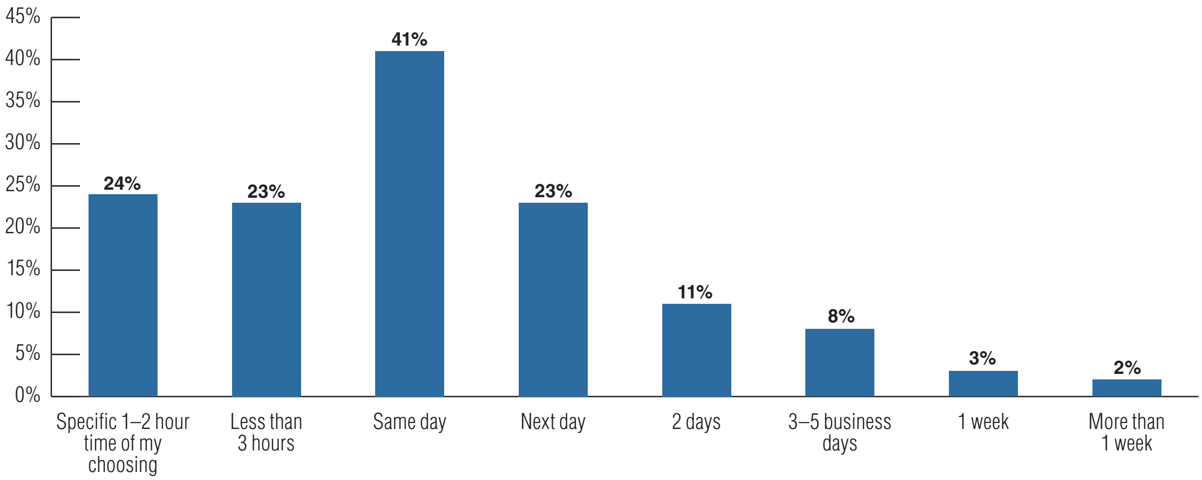
The continued development and adoption of AI offer exciting opportunities to enhance efficiencies, advance employee productivity, and improve customer service, but they also raise risks related to the collection of immense amounts of information. Every participant in the real estate industry will need to decide how to proceed in this transformative environment.

7. The Myth of "Free Delivery"

Ever since P.T. Barnum—and probably long before—a sense of urgency has been the "hook" to grab the target of a sales program. "Hurry, hurry, hurry! Step right this way!" has been the barker's cry. Because time is the one irreplaceable human asset, the promise of immediacy is an almost irresistible lure.

For physical goods, distance is one great impediment to immediate satisfaction. Another is cost. So, the challenge is to bridge distance most effectively while managing cost. In our day, that challenge is expressed as "the last-mile problem."

Exhibit 2-13 **Percentage of Consumers Willing to Pay Extra for Delivery in Defined Time Frame**



Source: PwC, "Global Consumer Insights Survey 2018."

Origins in JIT Supply Chain

Before this issue emerged as a business-to-consumer (B2C) logistical dilemma, it was a business-to-business (B2B) supply chain conundrum.

Decades ago, manufacturers adopted "just in time" (JIT) inventory management as a way to promote efficiency and control costs. Where previously producers had safeguarded against assembly-line delays by having a more-than-adequate stock of components on hand (known as the "just in case" approach), managers realized they were incurring significant costs in holding excess inventory. Intermediate goods tied up capital, and storage of physical inventory tied up precious space, and required staff and equipment to move material on site. JIT addressed these issues by shifting responsibility to suppliers, synchronizing component deliveries with production scheduling. With tighter timetables, suppliers were pushed to bring their operations as close as possible to final production, shifting the costs down the chain of suppliers.

JIT is still very much with us in the manufacturing sector. But the B2B flow of goods has taken the JIT concept into applications affecting virtually all forms of real estate. Office users are loath to set aside expensive space for "supply rooms" for printing supplies, foodstuffs and service items for break rooms, or equipment that might see only occasional use. Stores require lesser amounts of backroom area as customers are more inclined to walk out of the shop having selected an item but expecting it to be sent home or as a gift to a friend, fulfilled from off-site inventory or from a supplier. Those same customers no longer think that three to four days constitutes "fast delivery."

Clogging the Streets and Highways

Although e-commerce growth has put B2C shipping in the limelight, B2B parcel delivery still accounts for twice the volume of goods traffic in the United States. Fleets of panel trucks arrive at business locations at the very times when streets and sidewalks are most crowded, adding to the costs of shippers and transportation companies. The total costs are enormous, affecting not only businesses directly but also all taxpayers as public budgets pay to fix problems. Some numbers: over five years, congestion costs to business are estimated at $240 billion; spending on maintaining America's roadways is $68 billion annually, just 37 percent of what is needed to prevent further deterioration.

Congestion slows movement for everyone. Idling trucks degrade air quality. Infrastructure built and maintained by cities and states suffers serious wear and tear, diminishing its already shortened effective life span: Much of America's road system dates from the 1950–1970 era, and its effective life was typically set for 50 years. Time's up.

Congestion creates a classic "free rider" problem in urban economics, where taxpayers foot the bill. Cities with a population of 1 million or more have this problem especially acutely, but smaller cities feel pain when infrastructure capacity and repair fail to keep up with the growth in residents and business activity.

The capacity problem is longstanding. Between 1980 and 2000, total vehicle miles traveled rose 80 percent, even though the population grew just 24 percent. Road building fell behind usage, as urban lane-miles increased by 37 percent. This has taken its toll in potholes as well as in dollars. In Los Angeles, 64 percent of all roads are now deemed in "poor" condition by the Federal Highway Administration. For New York and New Jersey, the number is 51 percent. Even Sunbelt cities with lesser pothole problems have a significant incidence of poor streets and highways: San Diego (55 percent), Tucson (53 percent), and Oklahoma City (47 percent).

B2C activity is one of the forces behind "amenity creep" (see our discussion of the trend "Amenities Gone Wild") with concierge services, parcel lockers, and even perishable food storage in multifamily properties. Even in single-family neighborhoods, food and package deliveries are a strong presence on the streets into the evening hours once residents have returned from work or school.

There is no turning back the tide on e-commerce convenience, especially in an ever-faster-paced society. The concept of "free delivery" is widely marketed to consumers, but there is nothing free about it. Neither are "free returns" practices. Costs are built into the price of products, but only partially so. Retailers, from both the clicks and the bricks domains, will partially absorb shipping expenses as a cost of doing business if sales volume is the key metric of business growth. For the rest, the taxpayer foots the bill as infrastructure erodes.

What Can We Do?

There are, however, choices to be made in the face of congestion. Although unpleasant to consider, sheer economics says that those choices will involve price. That is a trend to watch closely, so that the necessary choices are made wisely.

There are certainly financial solutions to consider, but there will surely be howls from those who have gotten used to "free" as a matter of personal right. Congestion pricing as deployed in cities such as London is one such approach. Imposition of a delivery tax collected from consumers would create a disincentive to consider convenience as a "free good"—it is an economic principle that when the price is zero, demand is infinite. And with data on B2C and B2B activity increasingly being tallied by academic and industry sources, some levy on residential and commercial properties would be a way to spread the very real infrastructure and environmental costs across the broad base of city taxpayers in a way that can be quantified and adjusted over time.

If time is a constraining factor, it can also be an ally. Studies by the Texas A&M Transportation Institute have documented how street and highway infrastructure, strained beyond intended capacity at peak periods, actually has excess capacity off-peak. Many cities use this capacity by limiting private carters and refuse carriers to such hours for their hauling. Diverting some parcel delivery to such hours should be feasible, relieving B2B stresses from 7 a.m. to 7 p.m.

Urban design solutions can help as well. For a city of its size, Chicago has far less street congestion than Los Angeles or New York, and relatively less than lower-density cities like Atlanta, Dallas, or Washington, D.C. Chicago's system of alleys and off-street loading areas separates truck deliveries from curbside traffic lanes. Seattle, Detroit, and Minneapolis also have such alley grids, though not as extensive as Chicago's. Developing a permitting system that prices truck access by time of day could spread out peak traffic more evenly. The Urban Freight Lab at the University of Washington has developed a comprehensive approach for Seattle to cope with the challenges that come with the dual expansion of traffic caused by e-commerce and by ride-hailing services.

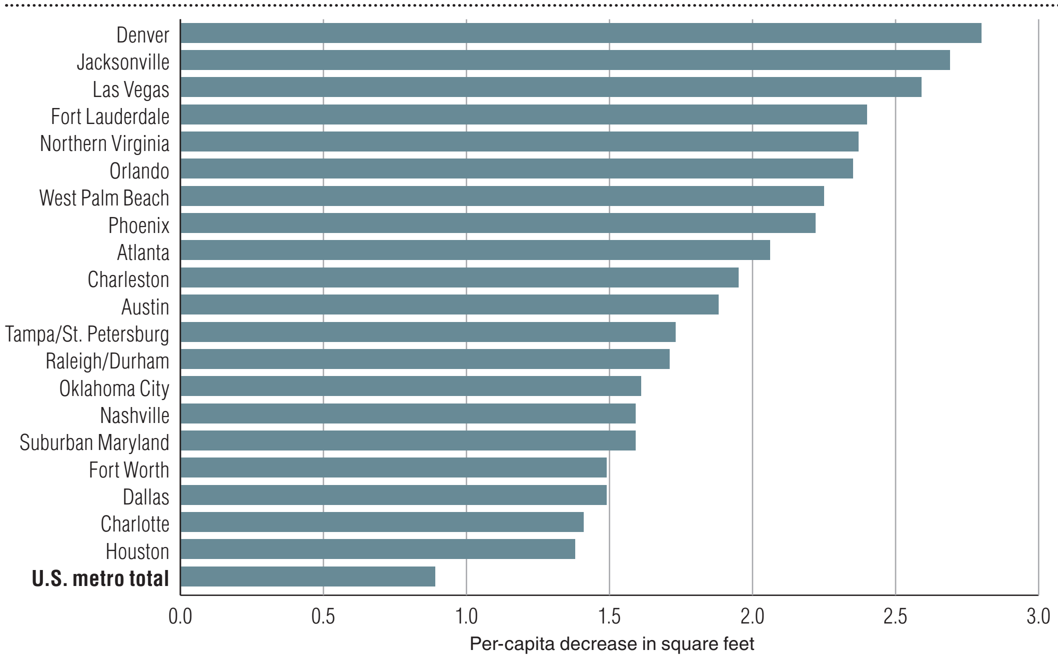
Admittedly, this goes against the ethos that gave rise to the slogan "better, faster, cheaper" in the first bloom of the dot-com era. But one of the permanent lessons of that experiment in the new economy was this: of those three attributes, we get to pick only two at any given time.

8. Retail Transforming to a New Equilibrium

The retail industry is robust and diversified, with consumers' choices expanding to efficient platforms that maximize price, convenience, and availability. The vast majority of retail sales still take place through a brick-and-mortar channel, but e-commerce continues to grow and expand into sectors, such as luxury goods, previously thought to be relatively insulated from online competition. New retailers can now start with an "omnichannel" operation in mind, smoothly transitioning to a brick-and-mortar presence. The key challenge for all brick-and-mortar retail is to provide stores where consumers want to shop.

The ongoing transformation of the retail sector is multifaceted, with the most notable part of this transformation being the diminution of retail space per capita in the United States—a

Exhibit 2-14 **Largest Decreases in Retail Square Footage by Market, 2007–2018**



Source: REIS Inc., Neighborhood & Community Center Inventory.

trend that can be expected to remain in place well into the next decade. We all see the “retail Armageddon” headlines when a well-known retailer announces that it is closing stores. What often gets lost in this story is that stores are also are being opened, with the net impact varying by categories, time frame, and definitions used by sources. What is definitive is that many retailers are adjusting their total footprints to fit the new market. The United States has long supported retail-space-per-capita levels that were actually multiples of what existed in other developed countries. As one shopping center developer observes, “There are lots of poor-quality centers and retail districts that have no reason to exist other than tenant demand at the time they were built.”

A new equilibrium with fewer square feet of retail space per capita is likely being established as the amount of space devoted to malls, shopping centers, and retail districts declines, with unneeded retail space being repurposed or replaced. In turn, these can be seen as creating new opportunities for a range of other activities.

The current shrinkage in occupied retail space is not just a move toward global levels. It is the result of retooling to better meet consumer needs and closing locations that no longer make sense in this new retail environment. Big-box and department stores are reducing their footprints as they balance the value of their brick-and-mortar presence and its relationship to their online presence and development of omnichannel strategies. While some chains are considering more of the much-smaller formats to reduce operating costs and address customer convenience, the overall implications for real estate are far reaching.

In an important way, the shift from simply merchandizing goods to providing space for services and “experiences” is no fad: it reflects the distribution of consumption spending across the economy. Excluding items such as vehicles and gasoline, consumption spending on durable and nondurable goods totaled $2.8 trillion at midyear 2018. Services spending amounted to $4.6 trillion, once “nonstore” services like transportation, housing, utilities, and recreation are set aside. Clearly, the trend in retail leasing to accommodate urgent-care medical facilities, health and fitness providers, restaurants, financial services, and entertainment venues matches the way consumers are spending their dollars in ways that traditional malls and power centers did not.

The conventional wisdom that longer lease terms can reduce re-leasing risk is being challenged in a market that is characterized by newer, unproven brands, and tenants that reinvent themselves every five years. The new norm may be that a long-term lease increases risk when there is no way of knowing whether a tenant will still be relevant to the consumer in five to ten years. The ultimate in short lease terms—the pop-up marketplace—is gaining traction in diverse markets including high-end properties.

New business patterns give rise to new metrics for real estate as landlords delve into the particulars of how their tenant does business. Customer service has always been and continues to be key, so monitoring a store’s social following is a way to monitor customer service and operations, and an additional performance-based way to differentiate between tenants. Similarly, a retailer with a larger social following will be sought after just as a retailer with high sales per square foot was in the past. These measures can also guide landlords when deciding whether to create an opportunity for an online brand to open in a brick-and-mortar format, or to be interested in a new outlet of an established chain.

More sophisticated benchmarks of tenant performance that form—among other things—the basis of rent calculations need to be developed. Center sales per square foot or rents pegged to an assumed sales level no longer tell the story. Online platforms with the greatest hits are the most robust marketplaces. Similarly, we can now measure footfalls in projects, and a center with a higher rate of increase of footfalls should generate a higher rent.

It is easy to get caught up in the “retail Armageddon” story, and it clearly has created an amount of uncertainty in the retail real estate market. Behind the headlines is where the real story is taking place. The retail market is proving to be extremely resilient and continues to transform to compete in an ever-changing market.

9. Unlock Capacity

There is an old story about a farmer whacking his mule with a two-by-four, “because you need to get his attention.” All over the United States, the crisis of affordable housing is getting attention, and the nature of the two-by-four may differ from place to place, but it is unquestionably powerful.

In San Francisco, homeless encampments are right next to downtown. New York City counted 61,947 homeless people in July 2018, with daily evidence of the housing crisis on its streets and subways.

It’s not just big cities, either. Colorado, Virginia, and North Dakota have dedicated programs for homelessness in small towns and rural areas. Nationally, the number of homeless people is 554,000 according to the 2017 count of the U.S. Department of Housing and Urban Development (HUD).

The affordability crisis is not just about those without any home whatsoever, with half of all renters paying more than 30 percent of their income on housing. According to HUD, 12 million Americans spend more than 50 percent of their earnings on housing.

At this point, both causes and effects are multifaceted and it should be clear that one size does not fit all in addressing potential solutions.

For real estate, the first and most obvious point of focus is on the supply side. One observer in the Bay Area notes that the unintended consequences of San Francisco's Proposition M (which limited development after 1986) exacerbated both a commercial and a housing crunch. The city is currently looking at relaxing some of those restrictions. New York's soaring land and construction costs inhibit the development pipeline, but the city government, the local real estate board, and the construction trade unions are finally working together to increase new supply, especially outside Manhattan.

Nationally, though, rising levels of unaffordability are largely a function of underproduction at all price levels except for luxury housing, both ownership and rental. National Association of Realtors (NAR) data on affordability show that, since 2015, the combination of rising single-family home prices and upward pressure on mortgage rates has triggered a 15 percent decline in its affordability index. The National Association of Home Builders estimates 2018 single-family housing starts at 900,000, which is 400,000 units shy of sustained demand.

A recent study by academic and industry researchers estimates a need for 4.6 million additional rental housing units by 2030, or 325,000 per year. This volume should be readily achievable, especially with the volume of capital oriented to the multifamily sector. But deliveries are skewed toward upper-end product,

Navigating the Land of OZ: Understanding Opportunity Zones and Opportunity Funds

Flying under the radar in the 2017 tax reform package was a sleeper provision that authorized the designation of "opportunity zones" and the creation of "opportunity funds." This versatile program has the potential to stabilize and revitalize distressed neighborhoods and surrounding communities by unlocking private investment capital through a series of tax benefits.

The provision allows individual and corporate investors to defer capital gains tax until 2026 if those gains are reinvested into new construction or major rehabilitation of projects in economically depressed areas via designated opportunity funds. 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 an additional 5 percent. If the investment is held for at least ten years, gains on the invested amount accrue tax-free.

Estimates suggest that $6.1 trillion of unrealized capital gains is held by American households ($3.8 trillion) and American corporations ($2.3 trillion). Getting to that capital will be a bit trickier. Much of the money is disaggregated across individual accounts managed across myriad institutions and platforms.

At least 90 percent of the assets in such funds must be invested in government-designated low-income zones. The governor of each state was able to designate up to 25 percent of the state's low-income communities (LICs) as opportunity zones. Up to 5 percent of the designated zones could be contiguous to LIC tracts. The zones are designed to be in areas that have a poverty rate of at least 20 percent or that have a median income that does not exceed 80 percent of the metropolitan area's median income. The final designations were made in spring 2018. In total, 8,700 opportunity zones were chosen by state governors and approved by the U.S. Department of the Treasury. These zones range from a few blocks in large metro areas to entire municipalities in some rural states. The Treasury Department has indicated that no additional opportunity zones will be added.

The expectation is that the added tax incentives will make investment in these disadvantaged areas just a little more enticing and add another option to the capital stack. Concerns exist that the investment capital that may come flooding in also has the potential to push out residents and achieve value primarily for investors. It is expected that states and local communities will provide guidelines to ensure that the objectives of affordable housing, strong neighborhoods, and vibrant, diverse, and sustainable communities are met.

As of the first week of September 2018, final rules from the Treasury Department were pending.

HaydenTanner.

with shortfalls in workforce housing, especially for employees in the broad service sector.

In today's environment and going forward, the terms of discussion will need to shift from merely subsidizing rental housing—however that subsidy is structured—to a complete menu of ownership and rental choices, across a span of household incomes. Public funding is an essential component, and is appropriate since the deficiencies in housing create a public cost already. But that's not all the public sector can do. Through planning and zoning policies, the updating of building codes, and greater predictability in the process of approvals and the provision of infrastructure, local government in particular can reduce the delivery time of new housing, thus bringing down costs. In many ways, building codes are challenged to keep up with rapidly changing construction technology. As more integrated building components can be factory produced, the balkanized set of local building codes presents an obstacle to deploying such innovations, limiting their ability to reduce on-site costs.

Not all policy options are viewed through the same lens. An example is that the real estate development community is alarmed by renewed proposals for rent-control guidelines and regulation. These are seen as disincentives to new construction and distortions of market pricing. Paradoxically, hindering new supply contributes to the upward pressure on rents that is the motive for the proposed regulations. Affordable housing advocates often disagree.

Ultimately, housing requires a solution that involves all players. Private development expertise, the input of our best financial specialists, foundations, civic not-for-profit entities, community groups, labor, and faith-based organizations all have roles to play. Both equity and debt capital are needed and should expect a return commensurate with risk. But in most places, the demand-side risk is largely manageable since tremendous pent-up demand exists for affordable product. Employers competing for workers clearly can have solid motivation to be a part of the effort to unlock capacity.

With so many potential stakeholders, communities should consider a public/private development bank whose mandate would be the field of housing affordability, including land acquisition, construction lending, and conventional mortgage financing for the completed units. This locally owned institution is needed, especially with federal programs now withdrawn from the field in large measure. Even worse, one effect of the 2017 Tax Cuts and Jobs Act was to weaken one of the most effective sources of attracting housing equity, the Low-Income Housing Tax Credit.

Land banks have been established in many upstate New York cities, including Rochester, Syracuse, Buffalo, and Albany.

Nehemiah, a joint public, private, and nonprofit program in one of Brooklyn's poorest neighborhoods, is an example of a program that created housing at scale. Upon completion of its fifth phase, it will have developed 5,725 one- to three-family housing units and 1,200 affordable rental units since inception. A low default rate on mortgages has attracted more lenders to this market. An experienced private sector construction company has partnered as the builder in all recent phases of the program, and the city government continues to fund physical infrastructure of all types.

Unlocking the currently fettered power of the industry to produce massive volumes of affordable housing, through a comprehensive program of sustained collaboration, is certainly a feasible objective. That public/private effort has vastly greater potential for success than the approach of many localities in setting out mandates for developers without a roadmap for creating reasonable returns on such projects on a sustainable basis.

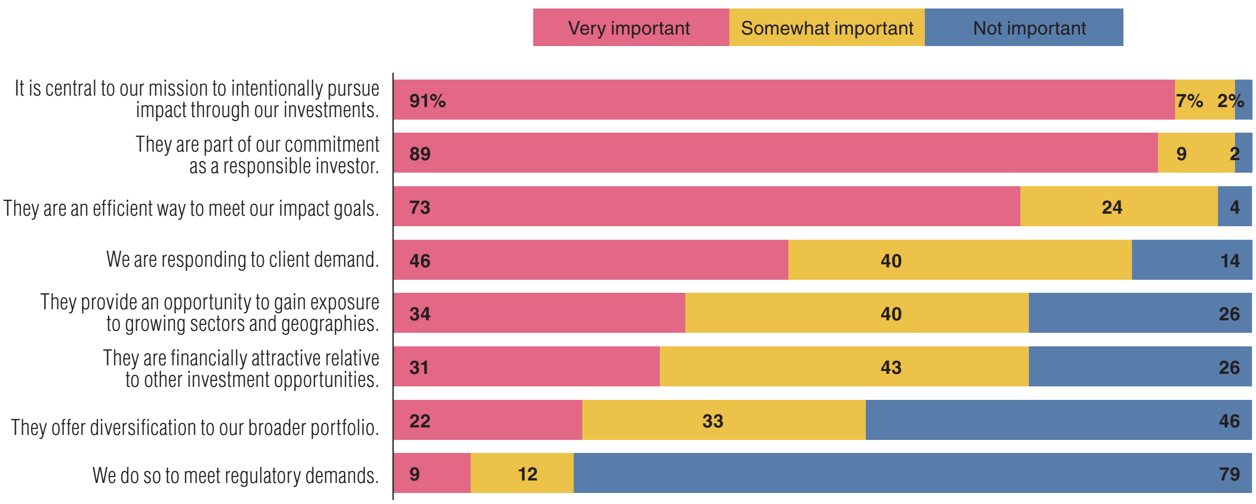
10. We're All in This Together

With "hold" maintaining its strong score in the *Emerging Trends* buy/hold/sell barometer, asset management is poised to occupy an even greater than usual place in the minds of real estate investors and property operators in the years ahead. It is not that asset management is ever unimportant. But in a period when transaction velocity is easing and when owners worry about reinvestment risk in the event of a sale, the ability to extract additional value from their existing portfolio is an important way to tick yields in the right direction. Moreover, with intensely competitive conditions prevailing in the field of capital raising, evidence of astute asset management is a key point in attracting future investment. A sophisticated approach to ESG practices can be critical for efforts to attract and retain capital resources, especially from institutional and international investors as well as in the world of public REITs.

Sensitivity to ESG issues has increased for U.S. real estate with the public decision of the current U.S. administration, in 2017, to withdraw from the Paris Agreement, although this decision cannot be formally implemented until 2020. Real estate has been proactive on sustainability issues for many years and, as a matter of self-interest as well as social responsibility, is moving ahead to advance its sustainability performance regardless of the direction of national policy.

Federal policy aside, state and local governments, with arguably greater direct impact on real estate, have largely continued with

Exhibit 2-15 **Motivation for Making Impact Investments**



Source: Global Impact Investing Network, *Annual Impact Investor Survey 2018*.

Note: Percentages are based on survey responses from 229 of the world's leading impact investing organizations.

programs aligned with the Paris Agreement. Nine eastern states from Maine to Maryland participate in the Regional Greenhouse Gas Initiative, which is a compact committing those states to a mandatory cap-and-trade protocol on carbon emissions. At the National Governors Association meeting in October 2017, eight Mountain region states signed a memorandum of understanding to support the adoption of electric vehicles. In California, the state plans to obtain one-half of its electricity from renewable resources by 2030.

Furthermore, 1,060 U.S. mayors are signatories to the Mayors Climate Protection Center agreement and 102 cities ranging in size from New York City to Normal, Illinois, are members of the Alliance for a Sustainable Future, which promotes energy efficiency policies, with related incentives, for commercial and residential buildings. Perhaps the broadest-based U.S. coalition in support of the Paris Accord is "We Are Still In," which includes over 2,700 representatives from all 50 states, spanning large and small businesses, mayors and governors, university presidents, faith leaders, tribal leaders, and cultural institutions. We Are Still In signatories represent a constituency of more than half of all Americans, and taken together, they represent $6.2 trillion in economic power.

In the United States and worldwide, institutional real estate investors are formally committed to what one organization terms "high-performance sustainable real estate." A major international investor "expects its real estate managers . . . to promote sustainable and socially responsible" practices in portfolio construction and asset management. Another has developed an "environmental dashboard" at 950 of its properties, with the objective of becoming a "landlord of choice" by sharing cost savings in energy with its tenant base. Yet another large real estate investment manager (with over $100 billion in assets under management) has committed to a 30 percent reduction in its global portfolio energy use by 2030, tasking its property managers and asset managers with "maximizing operational

Exhibit 2-16 **Planned Impact Investment Activity in 2018, by Organization Type**

	Planned capital investment (millions)
Fund manager, for profit	$21,261
Development finance institution	$5,614
Bank/diversified financial institution	$4,307
Pension fund/insurance company	$4,273
Fund manager, not for profit	$1,346
Foundation	$619
Family office	$87
Permanent investment company	$60
Other	$899
Total	**$38,465**

Source: Global Impact Investing Network, *Annual Impact Investor Survey 2018*.

Note: Findings are based on survey responses from 229 of the world's leading impact investing organizations.

and cost efficiencies" while doing so, and embracing the responsibility to "respect and engage with the communities in which we operate."

One extremely large public pension plan details 21 specific risks in its ESG investment policy statement. While many of these have to do with financial transparency and accountability, other standards deal explicitly with human rights and civil liberties, treatment of workers, and issues of wellness. Meanwhile, almost 1,000 buildings are operating under WELL Building standards for the quality of air, water, and light at the property, as well as health factors such as fitness, nutrition, comfort, and mental health supports available for occupants and visitors.

Such principles are shaping operations in institutional portfolios, and investment managers focused on REIT stocks are similarly evaluating corporate management through ESG metrics. REITs are being scored on energy efficiency, carbon footprint reduction, and conservation policies. Socially, employee engagement, community involvement, and corporate ethics are considered. Governance metrics examine risk management and value creation, as well as shareholder alignment and board independence. ESG variables particular to each property type have been identified and performance comparisons within peer groups analyzed. At least one global REIT asset manager excludes companies that do not have a qualifying score on the Global Real Estate Sustainability Benchmark (GRESB).

The profile that is emerging suggests a dovetailing of interests among state and local governments, large real estate owners and asset managers, and tenants who have their own ESG objectives as elements in their business plans. With target dates extending up to 2030 and beyond, this trend is likely to be powerful over the next decade or more. In many ways, the ESG approach will be one pillar of public/private partnerships going forward.

Expected Best Bets for 2019

Industrial development. The expansion of e-commerce is far from over, and the need for facilities to accommodate a denser distribution network is acute and will only increase over time. Warehouse/distribution vacancy is at a historic low, as one senior adviser noted in his interview. While ports and hub cities still play key roles, infill opportunities give "last mile" break-bulk sites—even multistory properties—a chance to join the party. Barring a trade war of serious proportions, industrials offer great risk-adjusted returns.

Garden apartments. While the multifamily sector registered an overall NCREIF total return of 6.38 percent, the garden apartment component was near a double-digit total return at 9.33 percent. Appreciation in value accounted for the overperformance in the garden apartment group. Pricing for garden complexes reflects a higher-yield 5.7 percent cap rate, compared with 4.9 percent for mid-to-high-rise properties. The strong move toward secondary and tertiary markets, and the return of interest to suburban assets—especially by private equity—bode well for these multifamily assets.

Quick-flip value-add deals. It's all about timing, and interviewees from both the institutional and entrepreneurial realms see late-cycle opportunity. The window of opportunity is narrow—the ability to execute by 2020 is key. And the geographic focus needs to be in markets where assets have not yet been priced to perfection. These are mainly second-tier markets in the South and Intermountain states. Affordability to middle-market tenants—both commercial and residential—describes where underserved demand can be satisfied. This is not low-hanging fruit by any definition; but for yield-oriented investors with turnaround expertise, such deals are right in their wheelhouse.

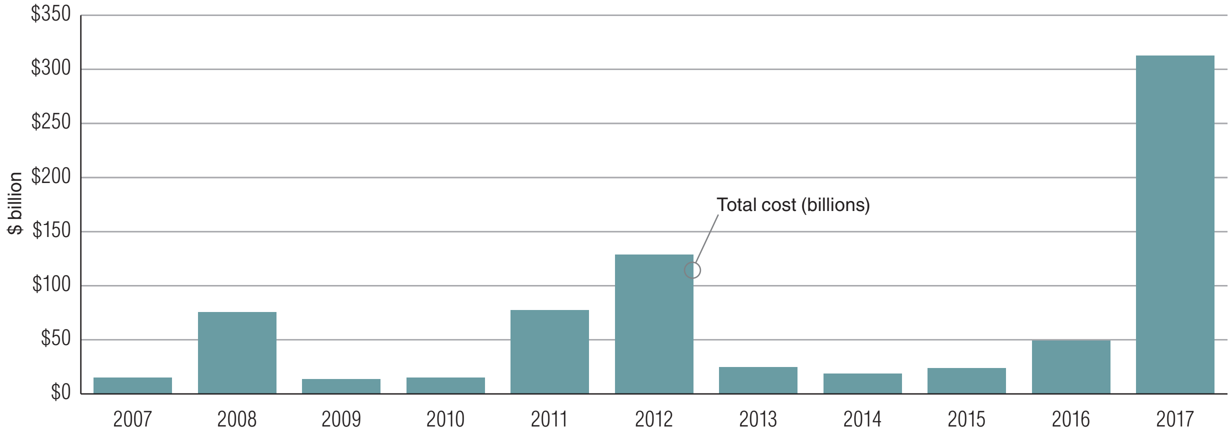
Redeployment of obsolescent retail assets. Many shopping center properties are just not going to come back as successful retail assets. But while few have been reduced in price to mere land value, many are well below replacement cost and have good locations for alternative uses. If a site is sufficiently large, mixed use is a great option for close-in suburbs looking to exploit maturing millennials' desire to enter their next life-cycle phase. There also is an opportunity to turn the tables on the e-commerce trend that fostered the obsolescence by redevelopment into distribution facilities.

Issues to Watch in 2019

Insurance. Last year, we presented data showing the increasing incidence of natural catastrophes, most due to climate change, since 1980. The evidence of floods, wildfires, and violent storms in 2018 indicates that the risk has been intensifying. That means that property/casualty insurers and reinsurers are experiencing massive payouts, and they will be pricing this into premiums going forward. Having adequate coverage and budgeting for increased operating expenses should definitely be high on the list of items that property owners need to watch in 2019.

Cybersecurity risk management. Over the past several years, the vulnerabilities that come with interconnectedness have become more and more obvious. This has affected governments, retailers, and utility systems, and extends deeply into the property sector as the "internet of things" turns common building components and systems into gateways to cyberspace. One

Exhibit 2-17 **Total Cost of Major Natural Disasters in the United States, 2007–2017**



Source: NOAA National Centers for Environmental Information, "U.S. Billion-Dollar Weather and Climate Disasters," 2018.
Note: Major natural disasters include those that have a total cost exceeding $1 billion.

REIT interviewee highlighted a need to establish industry norms and best practices for both primary defensive purposes and for evaluating risk/reward parameters stemming from technology.

Infrastructure. As a public policy priority, the anticipated focus on America's infrastructure needs has evidently been placed on the back burner. That does not mean that infrastructure is less of an issue, and its deficiencies are impactful for real estate. The American Society of Civil Engineers provides details not only on the multitrillion-dollar shortfall in investment in key assets, but also the costs that affect business. By 2025, the United States sacrifices $3.9 trillion in GDP and $7 trillion in reduced business sales. Failure to address the issue means 2.5 million fewer jobs created and a shortfall of household income of $3,400 annually. Congestion and delays along the supply chain add to greater costs of doing business, and there also is the added event risk that comes along with potential catastrophic failure in roads, bridges, dams, and transit systems.

Immigration. The draconian approach to border security is a massive self-inflicted wound with immediate negative economic consequences and long-term weakening of our national growth potential. *Emerging Trends* has addressed the consequences for the labor markets in previous years. Now, the impacts on demand growth going forward, the reduction in the baseline for real potential GDP growth to less than 2 percent annually beginning in 2023 (according to the Congressional Budget Office's forecast), and the implications for bringing the nation's fertility rate below population replacement level should all give us pause. And, as a knock-on effect, these consequences reduce the U.S. comparative advantage as a place for inbound investment in real estate and could see other world cities become capital magnets, eclipsing key American markets.

Complacency. One key risk toward the end of economic cycles is the supposition that expansion will persist well into the future. It seems self-contradictory, but many take comfort in the adage that turning points are impossible to predict and that no trigger for a downturn is now apparent on the horizon. At present, however, it seems that rather than a single trigger, there is an accumulating number of risks that interact with each other (labor shortages, a flattening yield curve, a potential asset bubble on Wall Street, tariff and trade tensions, ongoing geopolitical risk) and argue for greater defensiveness. The decline in real estate transaction volume seems to say that investors as a group are pulling back in the face of such concerns. But even while that is happening, cap rates not only have trended low but also are convergent (with just a 30-basis-point differential between offices, retail, and industrials at midyear 2018). At current cap rates, risk premiums are so thin that is likely that many deals are pricing risk too cheaply. That mispricing becomes apparent once recession strikes—and that is not a question of if, but rather when.

Record-Breaking Costs from Natural Disasters Help Catalyze a Focus on Building Resilience

Natural disasters in 2017 cost an estimated $306 billion in the United States, shattering previous records because of hurricanes Harvey, Maria, and Irma. The high cost of U.S. events is reflected in the fact that insurers covered a record $135 billion globally in 2017, and the United States made up roughly 50 percent of the total payout in comparison to a typical 30 percent.

While it is impossible to ever be fully prepared for an extreme storm like Harvey, real estate developers, investors, and local governments are increasingly looking for strategies to reduce the likelihood of damage from major events. Concerns about potential increasing insurance costs, and reduced federal resources for disaster recovery, also are growing. As a result, interest in the concept of resilience—the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events—has broadened in both the private and public sectors.

This growing focus on resilience is being driven by several factors:

Increasing risk: Climate change is contributing to an increased frequency and intensity of storms, with trends indicating that 2017 is unlikely to be the most expensive year for long. Beyond storms, other climate change impacts also present risks: nearly 25 percent of the NCREIF's Property Index value is in those cities among the 10 percent most exposed to sea-level rise. Extreme heat also is likely to affect the real estate industry. For example, Europe's 2018 heat wave led to notable infrastructural impacts, such as the temporary shutdown of nuclear plants.

Potential for decreased property values: While many high-risk areas still have relatively strong market values, regional studies have identified areas where property values have decreased due to flood risk. While many of these studies have focused on single-family residential, the lessons are still applicable. A 2018 Harvard study of Miami–Dade County determined that properties at lower elevations are gaining value at a slower rate than those at higher elevations. In 2018, the First Street Foundation reviewed 9.2 million real estate transactions, comparing coastal and flood-vulnerable properties to those at higher elevations, and determined that flood-vulnerable properties in New York, Connecticut, New Jersey, Florida, South Carolina, North Carolina, Virginia, and Georgia had lost $14.1 billion in value between 2005 and 2017. This includes $6.7 billion from the tri-state area alone.

Opportunities for market differentiation: As investors, tenants, and homebuyers express increasing concern about exposure to extreme weather, some real estate developers have embraced resilient design as a market differentiator. Approaches can include the elevation of buildings or mechanical elements, incorporation of backup or passive power sources, building hardening and enhanced wind preparedness in hurricane-prone areas, and the incorporation of green infrastructure and landscape design to absorb water during routine and peak events.

Investments and incentives from the public sector: Many cities are seeking to enhance resilience through requirements, incentives, and incorporation into zoning and building codes. For example, in spring 2018, Houston's city council made the first changes to flood regulations in ten years, requiring new construction and retrofits to be two feet above the 500-year floodplain. Some cities are also seeking to set an example via investments in resilience for capital projects or public infrastructure. Miami Beach is currently investing $600 million to elevate roads and pumps to combat sunny-day flooding, and in 2018, New York City reissued Climate Resiliency Design Guidelines to inform the design of all city capital projects.

Expanding opportunities: Resilience is a burgeoning field, but research on the impact of resilience investments is nascent. Still, some investors in resilience are projecting long-term gains in value and near-term reductions in operating expenses. For example, investments in resilience may make properties more attractive to Class A commercial tenants due to the better likelihood of business continuity. Shorter-term operational savings may include reductions on insurance premiums. Investing in resilience may also become an effective part of a community engagement strategy and help limit local opposition to a project.

Numerous new tools are in development to both enhance building-scale resilience, and track and measure resilience. For example, GRESB's Resilience Module, the U.S. Green Building Council's RELi standard, and the nationally applicable Waterfront Edge Design Guidelines all launched in 2017 and 2018.

ULI.org/urbanresilience.

Capital Markets

"The volume of capital is not constrained. The key is finding projects that can be executed using that capital."

The world as presented in Economics 101 is clear and distinct, an ideal (and, indeed, idealized) construct. The world in which we live—including the capital markets—not so much. In the world of our daily activity, numbers count but, on their own power, do not determine decisions. That is a matter where judgment can—and should—influence action. Behavioral economists including pioneers Daniel Kahneman, Amos Tverski, and Richard Thaler have famously distinguished between "econs" (the wholly rational decision-makers and actors posited by classical economic theory) and "humans" (the rest of us).

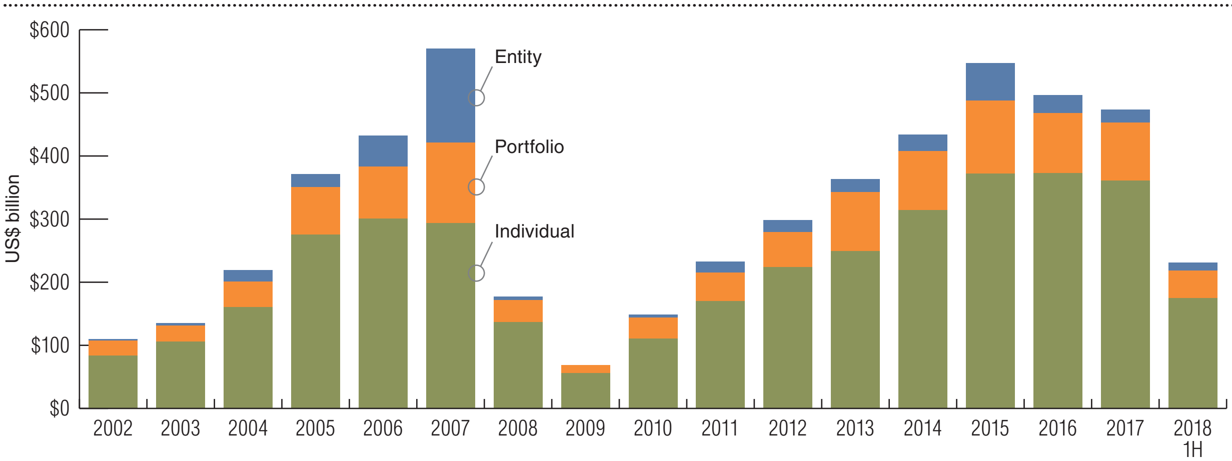
Why does this matter for *Emerging Trends*' discussion of capital markets this year?

Think back to the basic supply/demand graphic that everyone sees in Introduction to Economics. The supply curve slopes upward in response to rising prices; the demand curve slopes downward. And where they intersect we find the equilibrium price. Alter the curves, and the price will change. And, if some force intervenes to "artificially" move the price, then we expect the curves to shift.

It is simple and predictable, almost an exercise in Newtonian mechanics. It is easy to understand, and applicable in explaining many first-order market changes. There is a reason that this graph is one of the sign posts of our mental geography when it comes to the economy and markets.

As we look at the statistical story gathered in our *Emerging Trends* survey and from third-party data sources, we find attributes such as the following:

Exhibit 3-1 **U.S. Sales of Large Commercial Properties**



Source: Real Capital Analytics.

Note: Based on independent reports of properties and portfolios $2.5 million and higher. Before 2005, RCA primarily captured sales valued at $5 million and above.

- $266 billion of private investor "dry powder" targeting real estate.
- The expectation that returns to the real estate sector, in both private and public equity markets, will outstrip gross domestic product (GDP) growth.
- For most of the sources of debt capital, expectations of sufficient capacity to finance the level of acquisition and development evident in the marketplace.
- Expectations that underwriting standards for investment properties will ease.
- Increasing expectations that both debt and equity capital will be "oversupplied" in 2019.

All of this should suggest that demand for real estate should be pushing "upward and to the right" in the classic Econ 101 graph. That would put upward pressure on pricing. But that is not the only story in the data. We also find:

- A pattern of decelerating transaction volume that has been in place since 2015.
- Anticipation of declining investment prospects in five of six major property types (with single-family housing being the only exception), coupled with weakening development prospects in four of six categories (with only industrials and hotels improving).
- More than 90 percent of survey respondents believing the industry faces higher mortgage rates over the next five years, with 70 percent anticipating that this will result in higher capitalization rates.
- A buy/hold/sell barometer reading showing "buy" at its lowest level since 2008 and "sell" at its highest level since 2006, with "hold" weakening from its 2015 high.
- Ratings for investment prospects by risk strategy category more muted than last year.

In other words, this matrix of professional evaluation sends a "curb your enthusiasm" message about upward pressure on prices.

To make sense of the more complicated outlook that the humans are anticipating, and decisions that may flow from that more nuanced worldview, we look at the cross currents in the individual components of the debt and equity markets.

We will seek to summarize how this less-clear, less-distinct set of patterns will shake out in capital market trends in comments at the end of this chapter.

The Debt Sector

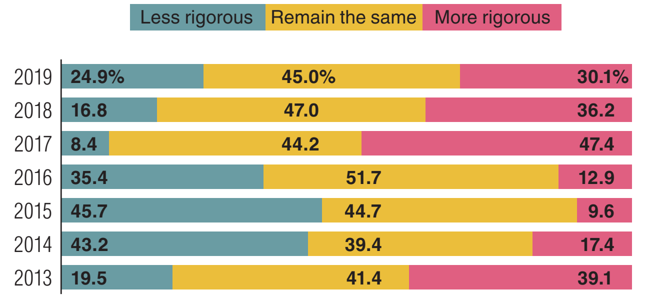
The long and gradual return of the real estate industry to a degree of vigor beyond the expectations at the start of this decade has come in large measure through lending discipline and prudence. This, it must be candidly acknowledged, is the fruit of the painful lessons of overly ebullient behavior in the early 2000s, behavior that mispriced risk in lenders' spreads, the rigor of borrower credit analysis, and, most particularly, unachievable projections on the part of underwriters. Remember the push to "get the money out the door" and the term "the Niagara of Capital"?

Although we seem to be in little danger of a repeat of the global financial crisis, one of our *Emerging Trends* interviewees spoke for many when he ironically commented, "I seem to have heard once that real estate was a cyclical industry."

Respondents to this year's *Emerging Trends* survey are signaling that late-cycle conditions are appearing as 2018 turns into 2019. Under the expectation of rising inflation, there is not only an anticipation of higher mortgage rates and capitalization rates in 2019, but also an outlook that this condition will persist over the coming five years.

We might think that such expectations would lead to increasing conservatism in debt underwriting. But no. The percentage of those same respondents who believe the coming year will see

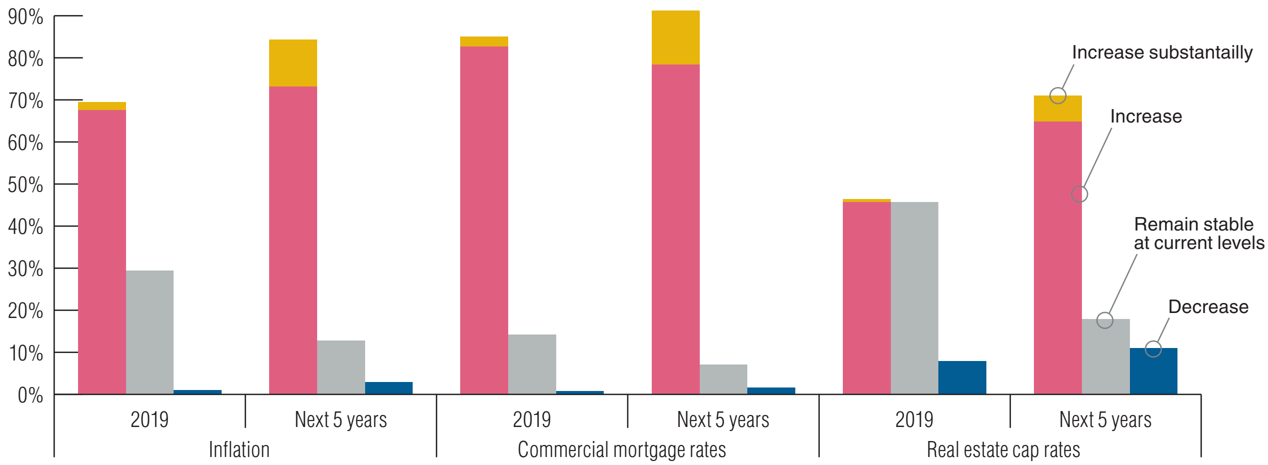
Exhibit 3-2 **Debt Underwriting Standards Forecast for the United States**



Source: *Emerging Trends in Real Estate* surveys.

Note: Based on U.S. respondents only.

Exhibit 3-3 **Anticipated Inflation, Interest Rate, and Cap Rate Changes**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

more rigor in lenders' analysis has dropped to 30 percent from 36 percent a year ago and an exceptional 47 percent in the 2017 report. And the three-year trend for those expecting more underwriting more favorable to borrowers has moved in the other direction, with 25 percent expecting looser underwriting standards in 2019, versus 17 percent in our 2018 outlook and a meager 8 percent the year before that.

What's going on?

In a word, competition. Except in rare instances, the main sources of debt capital are seeing the volume of funds available for placement rising incrementally. An experienced developer observes, "Bank lending/CMBS/debt funds are edging LTVs up. So, the volume of capital is not constrained. The key is finding projects that can be executed using that capital."

The depth of the capital pool is one thing. The ability to draw on that pool is another. Acquisition volume has been trending downward and development deals are becoming harder to pencil out under the pressure of inflating costs for land, labor, and materials—as well as the upward price pressure on floating-rate debt as benchmark rates rise.

And so the question must be considered: are we nearing another tipping point for real estate?

An acquisitions officer at a global institutional investor comments, "We can talk about the sins of the past, but the bottom line is that we are wary about looser underwriting." The memory of pain is a powerful educator. The financial institutions themselves are in far healthier condition than they were in the days when lenders themselves had leverage ratios above 30, and when "creative finance" brought the market to levels of "notional value" in derivatives, and derivatives of derivatives (remember collateralized debt obligation [CDO] squareds?) that exceeded world GDP. (In 2008, that notional value was $596 trillion, according to the Bank of International Settlements.) Nothing like that prevails today.

Still, if a collapse is not probable, it is not unreasonable to note that an imbalance is emerging in the debt markets. Lenders, if they seek merely to compete on the basis of market share, will be tempted to drop the price of the risk they are taking below an economically justifiable level. If maintaining origination volume is the objective, that is certainly achievable for any given lending institution. But at the industry level, it means financing some transactions that are unlikely to repay principal. That is the classic symptom of a down cycle in the property world.

Two years ago, *Emerging Trends* suggested that both an offensive coordinator and a defensive coordinator were essential on a successful coaching staff. It is now worth noting that defensive coordinators are frequently then tapped to step into the head coach's role. As one NFL general manager has remarked, "Offenses score points; defenses win championships."

Banks

Depository institutions hold a substantial $4.8 trillion, or 32.2 percent of the nation's approximately $15 trillion mortgage volume. From the first quarter of 2017 to the first quarter of 2018, the amount of mortgages outstanding at the nation's banks grew by about 3.8 percent. Hammered in the global financial crisis, banks have recovered nicely (with significant support from the Fed and the U.S. Treasury, of course) and are enjoying exceptionally strong profits. First-quarter data from the Federal Deposit Insurance Corporation (FDIC) indicate that banks produced a new record high in net operating income, $56 billion, about $7 billion of which was attributable to the lower tax rate that banks received in the Tax Cuts and Jobs Act of 2017. Moreover, bank equity is soaring as the Dow Jones Bank Index was posting a 14.8 percent one-year return as of mid-August 2018, exceeding its annualized return of 11.3 percent over the past five years.

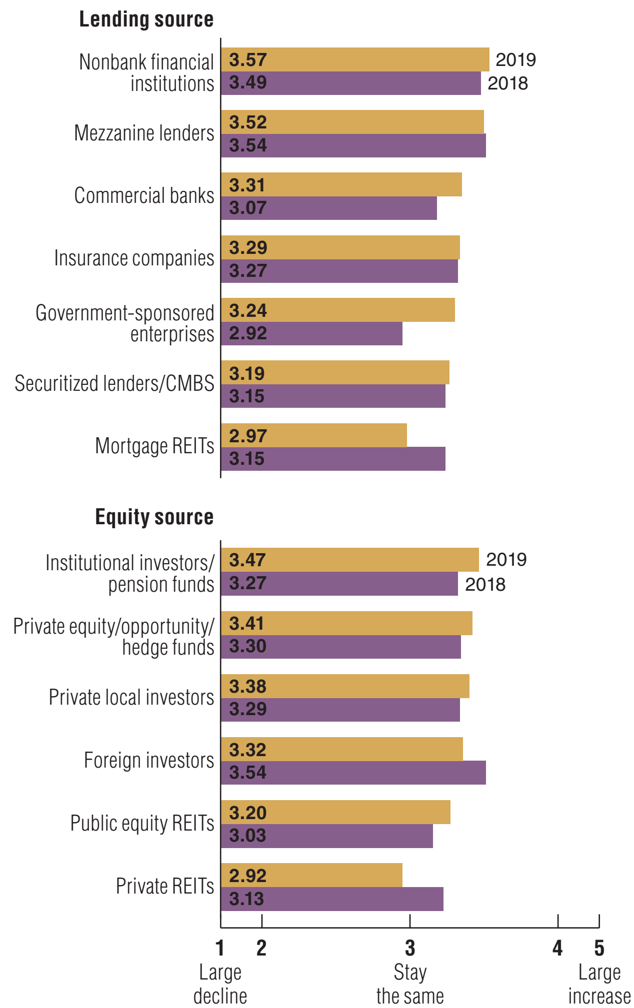
So, the banks' basic business of lending is well supported by the sector's operating and capital results. Adding to this (and partly accounting for its strong stock market performance) is the expectation that some regulatory rollback in Dodd-Frank restrictions will free up additional debt capital for the real estate sector in the coming year and beyond. A West Coast–based adviser noted, "Deregulation, I think, has been a very good thing. It makes it easier for banks and others to do things." Two executives who watch debt trends in real estate explained, "Banks' cost of capital is so low that they can compete on price; if they do take advantage of this, we see mixed results: the debt component of cap rates stays low, but underwriting standards may relax if banks look to grow market share."

Awareness of these conditions undoubtedly accounts for the *Emerging Trends*' survey respondents' view that commercial banks will be more willing sources of mortgage money in 2019.

The Federal Reserve's April 2018 Senior Loan Officers' survey showed, for the first time in three years, an easing of credit standards on commercial real estate ("nonfarm nonresidential loans" in Fed parlance). Banks responding to aggressive competition from nonbank lenders have expressed an increased tolerance for risk, prompted in part by a positive outlook for property market fundamentals and decreasing uncertainty about prices and cap rates. Improving conditions have encouraged banks (especially bigger banks) to entertain larger loans for development projects, and to expand the geography of construction lending. However, underwriting standards such as loan-to-cost ratios and maturities have been holding steady.

Responding to the continued appetite for multifamily residential deals, nearly 20 percent of the responding banks have increased maximum loan size for apartment mortgages and eased spreads. Furthermore, banks are reporting stronger commercial real estate loan demand stemming from increased acquisition and development activity on the part of customers, a finding that runs somewhat contrary to reports of market volume in the past year for sectors other than apartments. (It may be important to note that the Fed's survey covered only bank lenders, and had 72 banks respond in total, but only about half answered questions about underwriting issues.)

Exhibit 3-4 **Availability of Capital for Real Estate, 2019 versus 2018**



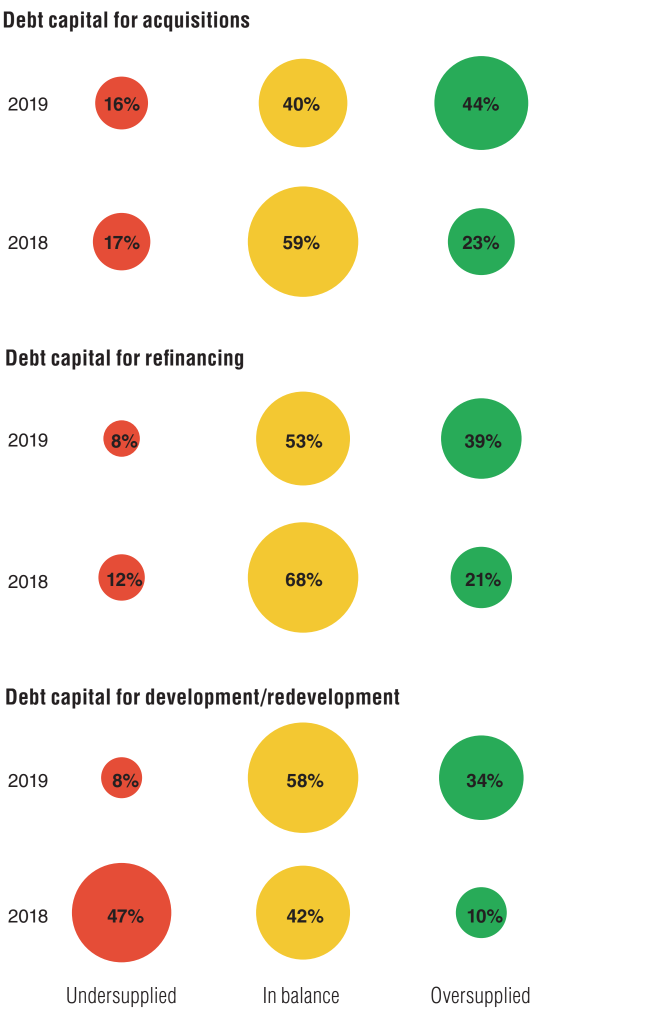
Source: *Emerging Trends in Real Estate* surveys.

Note: Based on U.S. respondents only.

CMBS

There are some real cross currents to observe in the commercial mortgage–backed securities (CMBS) sector. Conduit lending is trending downward, with just $16.5 billion in such deals in the

Exhibit 3-5 **Real Estate Capital Market Balance Forecast, 2019 versus 2018**



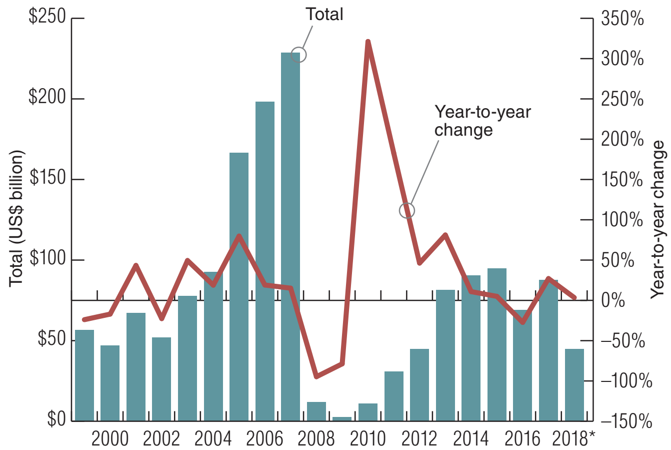
Source: *Emerging Trends in Real Estate* surveys.

Note: Based on U.S. respondents only.

first half of 2018, compared with $20 billion in the same period of 2017. But the volume of single-asset, single-borrower (SASB) deals rose to $18.1 billion during 2018's first six months. "The market is becoming more comfortable with such deals thanks, in part, to more careful underwriting of the transactions by issuers, who are demanding greater credit enhancement and stronger asset value in the mortgages supporting the securitization," according to interviewees working at a rating agency.

Overall volume of issuance is likely capped in the $80 billion to $100 billion range for the near future. Refinancing demand will be down as the so-called wall of maturities moves into the rearview mirror. The amount of CMBS maturing in 2018–2022 is

Exhibit 3-6 **U.S. CMBS Issuance**



Source: *Commercial Mortgage Alert.*

*Total through July 31, 2018. Change in 2018 is from July 2017.

scant, due to the collapse of this market in the global financial crisis. Also, the low-interest-rate environment of the past decade has been a factor in issuance. The prospects of rising interest rates over the coming years is a negative factor for bonds of all kinds.

With these trends in the offing, CMBS bond buyers are reportedly looking for stabilized properties rather than for yield per se. Where such properties have "middle of the capital stack" or mezzanine features—which many properties do in the wake of the reduced loan-to-value (LTV) ratios for senior debt—there is some buying appetite for increased yield if the assets are conservatively underwritten. Bond buyers are doing more intensive homework on their own, rather than simply "relying on a rating." This was a hard-earned lesson from the market's collapse a decade ago.

A life company lender with long experience in the CMBS world sees links connecting the variety of lending sources: "In many ways, for instance, CMBS risk-retention fears were like a Y2K event, bigger in the anticipation than the realization. Buyers of CMBS bonds very much like the risk-retention rules. But risk retention does adversely affect smaller debt funds, which can't afford to hold capital and still produce high yields."

The combination of lower levels of volume and the decreased number of deals still being "worked out" has put a squeeze on the special servicers, who are laying off staff. The volume of loans in special servicing peaked at about $90 billion and is reduced to $22 billion now, according to our interviews in this sector. One other notable feature of the CMBS market is that it has become much more compact. There may be 15 or so dominant purchasers in the triple-A tranche auction world, with about a half-dozen in the B-piece buyer class. Hedge funds, and just a handful of them, typically are in the middle tranches.

In short, for now CMBS might be given a shorthand review of "quality is up, quantity is down." That's not such a bad thing.

Life Insurance Companies

Over the 12 months ending first quarter 2018, the mortgage portfolio of life insurers grew 8.4 percent, or $39.8 billion. This was more than double the 4 percent gain in all mortgage debt outstanding, as tallied by the Federal Reserve, indicating a notable rise in market share for the life insurance companies. First-quarter issuance reported by the American Council of Life Insurers (ACLI) was slightly above $18 billion, a 19 percent increase over the same quarter in 2017. Early 2018 represented the highest level of issuance since the fourth quarter of 2015.

Underwriting policies and deal structuring by the life companies remain conservative but are unquestionably being affected by competitive pressures from other debt sources. Spreads compressed in early 2018 to the lowest levels in four years, although a senior officer at one company indicated that "spreads have come out since then." A more historical perspective reveals that spreads are not quite as thin as they were in 2003–2007, but the gap is only 50 basis points or so compared with what it was then. More critically, very little difference exists in the contract interest rates being agreed to on five-year, seven-year, and ten-year fixed-rate loans (five-year deals at 4 percent on average; seven- and ten-year instruments at 3.94 percent). Six basis points is not much, but it is an oddity. The explanation may be that lending volume is greater at the longer maturities, which better match the life companies' liability structure.

The multifamily and office property types are receiving the greatest level of funding from this sector, but a key distinction is to be noted. Apartment building loans (representing $5.4 billion in the first quarter of 2018) are predominantly (84 percent) fixed-rate instruments while 25 percent of the mortgages on office buildings were floating-rate loans. Loan-to-value ratios were 60 percent for apartments versus 55 percent for offices, while cap rates for offices were 35 basis points higher than for multifamily (5.29 percent versus 4.94 percent). Multifamily and offices were accorded 62.1 percent of ACLI loan commitments, with industrial (17.6 percent) and retail (12.9 percent) receiving significantly lower volume.

Although there is a measurable level of construction and mezzanine lending in the life companies' issuance (about $1.1 billion in the first quarter), over $600 million of this is in arrangements whereby development lending is linked to the permanent mortgages that are the insurers' primary assets. This reflects the "build-to-core" strategy in current parlance. Because of the smaller share of the riskier debt held in life companies' portfolios, they are less affected by changes in high-volatility commercial real estate (HVCRE) regulations, which require higher capital reserves for such lending, primarily in the banking sector.

Mortgage REITs

Mortgage real estate investment trusts (M-REITs) rank at the bottom our survey respondents' expectations for capital availability in 2019, and their score has slipped from a year ago. Superficially, this might simply be attributed to a rising interest rate trend that compromises the value of the existing mortgages that make up the M-REIT portfolios.

But there is more to consider. Mortgage REITs use higher levels of leverage than equity REITs do, sometimes having six times the leverage ratio (i.e., capital value divided by equity) of the equity REITs. That means that M-REITs face higher costs in their own capital stack, compromising their ability to pay out dividends. Because of this, there is greater volatility in payouts and this raises caution flags to REIT investors who seek predictability.

One of the characteristics of the M-REITs, too, is that the underlying mortgages may be commercial or residential loans, previously securitized residential mortgage–backed securities (RMBS), financial servicing rights, and even such loans as the hybrid adjustable-rate mortgages (fixed "teaser" rate for borrowers, adjusting after a defined period) that blew up in the subprime bubble. Where commercial mortgages are typically underwritten on their contract rental income and an established debt-service-coverage ratio, and have defined prepayment penalties, residential mortgages usually do not provide such lender safeguards. Of the $67.6 billion in market capitalization for M-REITs, 72.1 percent was based on residential lending, according to year-end 2017 data from the National Association of Real Estate Investment Trusts (NAREIT).

The greater transparency and sheer volume of historical information available to investors are not working in the favor of the mortgage REITs, and their ability to provide significant funding to the real estate industry in 2019 is limited.

The GSEs

The Federal Housing Finance Agency (FHFA) was established in 2008 to consolidate supervision of the myriad government-sponsored enterprises (GSEs) that were compromised in the meltdown of the housing markets during the first decade of this century. The largest of these enterprises were the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). As of the end of the first quarter 2018, Fannie Mae had a portfolio of $3.176 trillion, and Freddie Mac's portfolio was $1.853 trillion. Although most of their portfolios consist of one-to-four-family home loans, both agencies also issue mortgage-backed securities, in the aggregate worth $305.8 billion, based on multifamily housing debt. Through the purchases of the underlying mortgages and their repackaging in RMBS, the GSEs foster liquidity in the housing market far beyond what banks themselves could generate if they depended upon the private sector balance sheet to support the enormous $31.8 trillion U.S. housing market.

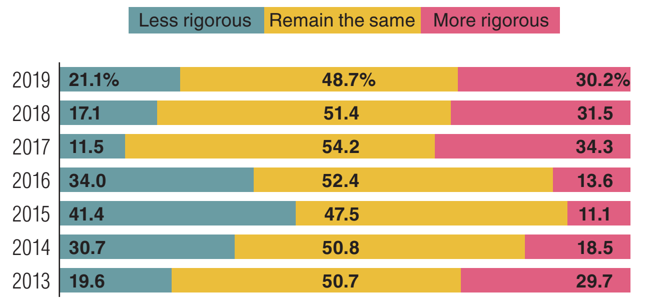
An institutional loan originator is bullish on the near-term impact of Fannie and Freddie—"The GSEs are seeing a lot of growth"—and *Emerging Trends*' survey respondents expect increasing loan availability in 2019 stemming from GSE activity. Taken together, mortgage purchases by the GSEs accounted for about $1 trillion in the past year, and the net impact was portfolio growth of 2.5 percent between the first quarters of 2017 and 2018. Most of the growth, clearly, was in the single-family portfolio, but the multifamily sector saw a significant increase: $139 billion in 2017, up from $112 billion in 2016, helping support the growing financing requirements of the active apartment investment sector.

Like all parts of the real estate debt sector, the GSEs will be coping with an environment of increasing interest rates in the months and years ahead. Reforms in their management in the past ten or more years have improved the agencies' financial risk management structure and the FHFA has installed sophisticated oversight mechanisms to maintain confidence in the GSEs' financial reporting, which was problematic in the past. Perhaps surprising to those thinking of these as "government bureaus," the GSEs are taxable corporations and, as such, their net income will benefit by the reduction of the corporate tax rate from 35 percent to 21 percent in the Tax Cuts and Jobs Act of 2017.

Debt Funds

The rapid growth of private debt funds is no longer "new news." They filled an important gap in the liquidity crunch a decade ago and increased their market share by offering the higher-yield loan products in a returns-hungry real estate capital market. Outside the formal regulatory purview of the conventional banking system, the funds will—for a price—provide the higher leverage and greater speed sought by borrowers, and pass on that price premium to their investors.

Exhibit 3-7 **Equity Underwriting Standards Forecast for the United States**



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

The space is getting crowded, with 104 private debt vehicles in the market as of March 2018. But with these vehicles representing just $39 billion in capital, they account for less than 1 percent of the commercial real estate debt universe. Several *Emerging Trends* interviewees noted difficulties in securing financing for projects that, they argued, were sound deals even though bridge financing was needed during lease-up and/or redevelopment. Banks constrained by LTV limits and high capital reserving requirements typically shunned such lending—formerly a bread-and-butter business with solid customers. It is this niche that the debt funds are occupying now.

There is no bright line of separation between the funds and the banks, though, as a deal analyst explains: "Banks are key suppliers of letters of credit to the debt funds—leverage on leverage, though not carried as real estate lending but entity lending. Nevertheless, this means overall credit market risk is growing—a ripple effect that could again wind up with the banks." That is an example of the Venn diagram overlay we discussed at the start of chapter 2 of this report.

In addition to competing with traditional lenders, debt funds are now arguably offering investors a way to manage end-of-cycle risk, providing collateral to protect investment downside, versus funds focused on filling the middle of the capital stack with preferred equity. Equity yields may be higher, but they are more vulnerable to losses in a downturn.

Construction lending, however, has been a challenge. Both in itself and especially in cyclical terms, construction risk is difficult to price competitively for the debt funds in a way that preserves development feasibility while protecting the funds' investors against loss. Narrowing credit spreads in a rising rate environment obviously exacerbate the challenge. As a senior officer with a major international developer put it, "The last part of the cycle could see 'the revenge of the debt funds' as they get into bigger assets. That could have some issues."

The Equity Sector

While a pattern of convergence can be discerned among lenders (as we noted last year, "everyone is getting into everyone else's business"), equity capital providers are looking to identify their particular strengths and play to them. Thus, a pattern of selectivity, focus, and specialization paints a somewhat different picture from what we see in the debt space.

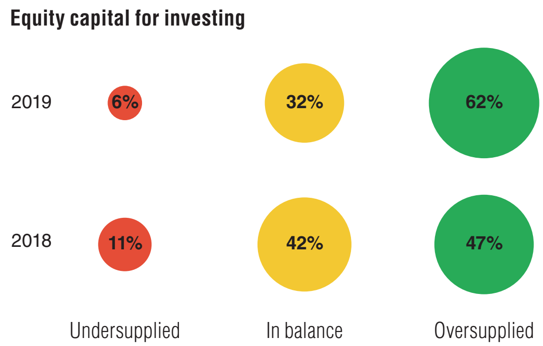
As discussed below, capital providers including the institutions and cross-border investors are becoming relatively less active. Core properties in major markets are scarcer to identify as acquisition targets and, when found, are breathtakingly priced. Low returns in such deals do nothing to help meet yield targets, especially for investors like pension funds and insurers' equity portfolios that must produce earnings sufficient to meet long-term funding liabilities. International investors are becoming comfortable with some opportunities beyond the primary markets, but do not consider the large number of secondary markets as being equally desirable. One investment manager put it this way: "While gateway markets have grown more competitive and transparent, high-growth secondary MSAs create potentially less competitive conditions. Nashville, Atlanta, Seattle, and Dallas are benefiting from fundamental demographic and economic shifts."

Buyers are stubborn about pricing, well aware of the reported mountain of "dry powder" in the investors' armory. It's not just greed, either. A serious concern exists about reinvestment options once a purchase price is agreed upon. That is one reason the "hold" option in our survey's "buy/sell/hold" barometer is unchanged this year (exhibit 2-2). It is a long-held axiom among transaction professionals that "sometimes the best deal is the one you don't make."

The push for yield, however, is ever increasing in a world where returns have been compressed. If conservation of capital is the guiding principle for certain investors, others see the need to take risks to capture appreciation for those primarily focused on wealth enhancement. That can be seen in the weighting by private equity toward value-add and opportunistic funds.

Beyond the roster of "usual suspects," there is an intriguing ferment of smaller investors (or potential investors) looking at ways

Exhibit 3-8 **Real Estate Capital Market Balance Forecast, 2019 versus 2018**



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

to take advantage of a real estate industry that is enjoying the fruits of a robust recovery. Some of these are innovative, even experimental, as in the crowdfunding space. Others are familiar, such as the 1031 exchange market that survived in the tax reform promulgated late last year and some real estate mutual funds providing a mix of equity windows into the property market. There also is a vast pool of capital eying entry into the commercial property space, namely the defined contribution retirement plans—potentially the biggest "game-changer" out there for real estate capital markets.

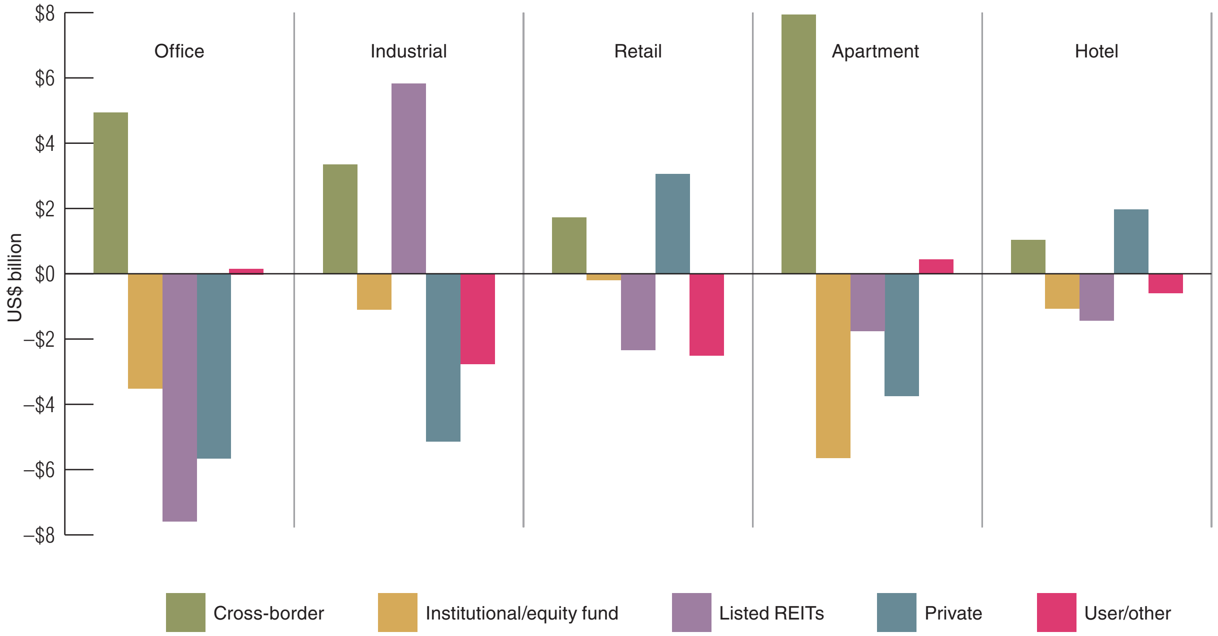
The pivot point on the equity side seems to be this: some believe it is a good time to take a breather after seven years of growth; others are looking to keep up with momentum, and get in while the getting seems to be good. Everyone seems to have the money. But the "ready, willing, and able" decisions seem to be segmenting buyers on the question of willingness.

Institutional Investors

After representing a steady 26 to 27 percent share of transaction volume from 2013 to 2016, institutional and pension fund acquisitions slipped to $103.5 billion in 2017. This was a year-to-year dip of 21 percent in volume. Still, the institutions ranked second behind private buyers in the Real Capital Analytics (RCA) tally, more than twice the volume of international investors and of listed REITs.

Institutions are often viewed as the paradigmatic "core" investors. But in recent years, they have been active across all the "style" categories: core, core-plus, value-add, and opportunistic. This is in part a yield enhancement strategy, in part an effort at operational diversification, and in part an attempt to leverage

Exhibit 3-9 **U.S. Buyers and Sellers: Net Acquisitions, by Source and Property Sector, July 1, 2017, to June 30, 2018**



Source: Real Capital Analytics.

the experiences garnered by four decades or more of experience in commercial real estate.

A veteran fund manager reflected, "This industry has had open-ended funds for 40 years; well-managed funds have been through several cycles and are battle-tested." They may not like the diminution of returns, but they accept the reality of the market and are adapting by adjusting their portfolio mix. The NCREIF Property Index registered a 12-month total return of 7.12 percent as of the first quarter of 2018, which was actually quite competitive with performance in stocks and bonds in early 2018. Capital expansion should remain strong, growing the NCREIF portfolio, which covers 7,553 properties with a market value of $567.5 billion.

It is likely that portfolio rebalancing will reflect the institutional belief that a cyclical turn is in sight. Office investments—most of which are suburban—are the dominant property type, at total assets of $208.8 billion, followed by apartments (now mostly urban high-rises) at $135.4 billion. By number of investments, industrials top the list, although the aggregate value of such assets is a lower $88.8 billion.

The rebalancing is anticipated to reflect varying performance in the property types. The best recent returns have been earned by those industrial investments—13.5 percent total return through March 2018 on a one-year basis. Offices, apartments, and hotels have produced an annual return in the 6.2 percent to 6.6 percent range. Retail lags at 4.8 percent, virtually all produced by current income, with virtually no appreciation over the 12 months.

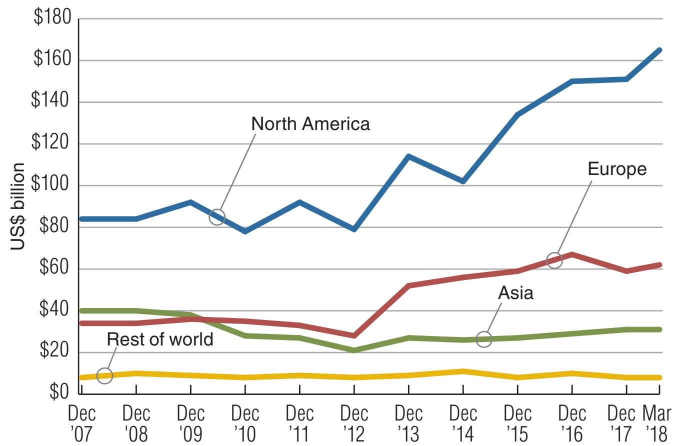
Even though comparatively low returns and slow appreciation mark the current picture, the longer investment horizon of the institutions causes them to reflect that prices are still rising, albeit modestly, and remain at above-trend levels. In terms of net investment in the real estate sector, institutional investors are expected to remain a vital, and reliably consistent, factor in the marketplace.

REITs

The "two universe" nature of real estate investment trusts—existing partly in the property markets and partly in the stock market—makes for some intriguing decisions for investors, for managers, and for those wondering what trends in this sector pertain to which universe.

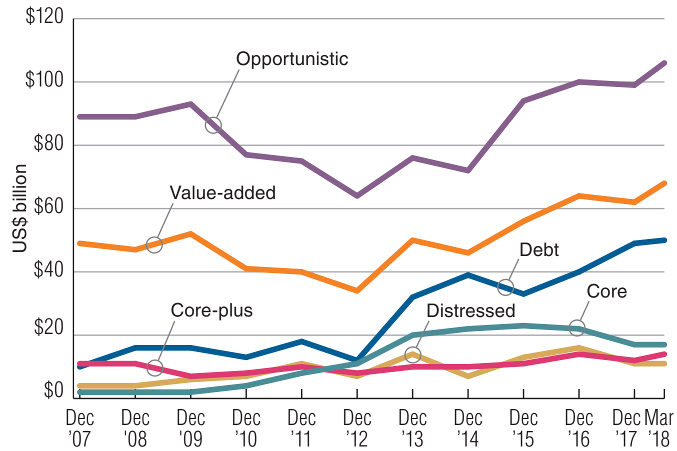
One of the most widely watched comparisons—stock value versus property value—is what analysts calculate as the "premium or discount to net asset value [NAV]." For most of the past

Exhibit 3-10 **Closed-End Private Real Estate Dry Powder, by Fund Primary Geographic Focus, December 2007–March 2018**



Source: Preqin.

Exhibit 3-11 **Closed-End Private Real Estate Dry Powder, by Strategy, December 2007–March 2018**



Source: Preqin.

three years (aside from a bounce in early 2016), REIT stocks have traded below their imputed property value. Under such circumstances, new acquisitions are not viewed as accretive to shareholders. Indeed, pressure rises to sell assets to realize cash, to privatize some portion of the entity (or take the whole company private), or, in the extreme, to liquidate the company or to seek a merger partner who will pay a premium to the current stock price.

REIT managers have tried all of the above, but not only have their efforts not gotten them close to NAV, REITs have failed to keep pace with the broader stock market of which they are a part—meaning these companies are underperforming in both universes. As one investment manager noted, “The better-performing REITs recently have not been in traditional property types, but ‘alternatives’—eight of the top ten REITs are in areas like medical offices or cell towers.”

The issue, according to one expert, is: “What can REITs do when real estate assets are ‘priced to perfection’?”

Some have remarked that trends in REIT stocks, since they incorporate broad market expectation, may be seen as a leading indicator of fragility in the commercial property market itself. But that is neither supported by history (only leading up to the 2007 collapse did the discount to NAV presage a correction in the real estate market itself), nor by current conditions of low construction and continued solid absorption of space. The notion that REITs predict real estate upcycles, in turn, is mostly explained by the long-term movement of both property prices and stock prices higher over time. It is unclear to what degree rising interest rates influence performance in either REIT share prices or underlying property values over time. After all, since 1981 the interest rate and inflation story has been more about secular trends than about cyclical fluctuations. Correlation may not only be different from causation, but it might simply be co-incidence. We should at least consider that possibility.

Such concerns put to the side, it must be said that the REIT sector has considerable strength to withstand turbulent times. The size of the equity REIT market (total capitalization) exceeds $1 trillion, and now 32 REITs are included in the S&P 500. So, liquidity and price transparency are positive features for investors.

Nevertheless, REITs are struggling through difficult times. The first half of 2018 saw massive capital outflows from the REIT sector—as much as $500 million per week, according to an interviewee specializing in the industry. Public equity REITs (listed REITs) are next to last in our survey respondents’ expectations for 2019 capital availability at a score of 3.20 (exhibit 2-4), leading only the private REITs, a comparatively thin source of capital that is open only to highly qualified investors, because they lack the liquidity and transparency of the listed REITs. Private REITs’ prospects as capital providers were rated a scant 2.92 by *Emerging Trends* survey respondents.

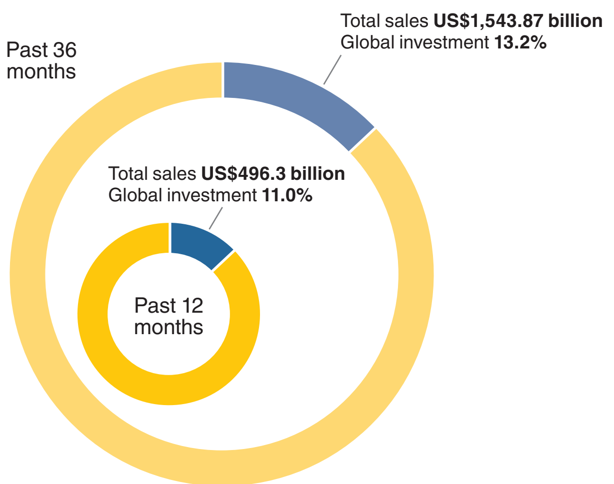
Private Equity

The shine is on all the private equity sources of capital, including hedge funds and opportunity funds. *Emerging Trends*’ survey respondents put the expectation for capital availability from these sources trailing only the institutional investor/pension fund category. The "dry powder" in these funds has interest across the entire risk spectrum, but is especially seeking value-add and opportunistic acquisitions. It is already a potent capital source with $266 billion at the ready, and advantages in flexibility and speed of execution when opportunity is identified. The head of a large valuation concern termed this "an enormous wall of personal and family wealth" with the potential to protect pricing in the coming year.

Some of the most recognizable real estate investment names worldwide can be found on the list of top private equity real estate investors. So, not only do these firms bring size to the table, they bring savvy as well. They are capable of handling individual asset deals, but are especially powerful players at the property portfolio and entity-acquisition level, where sophisticated structuring as well as capital heft count. No wonder, then, that RCA reports of buyer composition showed private equity surging from a 39 percent market share in 2013 to 50 percent in 2017.

When this trend is examined in greater detail, the private firms accounted for 63 percent of total apartment investment volume last year, 57 percent of the retail acquisition total, and 51 percent of the hotel action. And, they are overweighted in secondary metro areas, with a 53 percent market share, and positively dominant in tertiary markets, with 67 percent of total volume in 2017.

Exhibit 3-12 **Global Real Estate Investment in United States as a Percentage of Total Sales**



Source: Real Capital Analytics, as of June 2018.

So, clearly, this is high-risk, high-return capital at play. One interviewee noted private equity's willingness to dig deeper into markets generally overlooked by institutional and cross-border investors. And, despite drawing attention when big deals are concluded, the average size of a private equity transaction, at $10.8 million, is one-quarter to one-third of the purchase price of other major capital sources.

International Investors

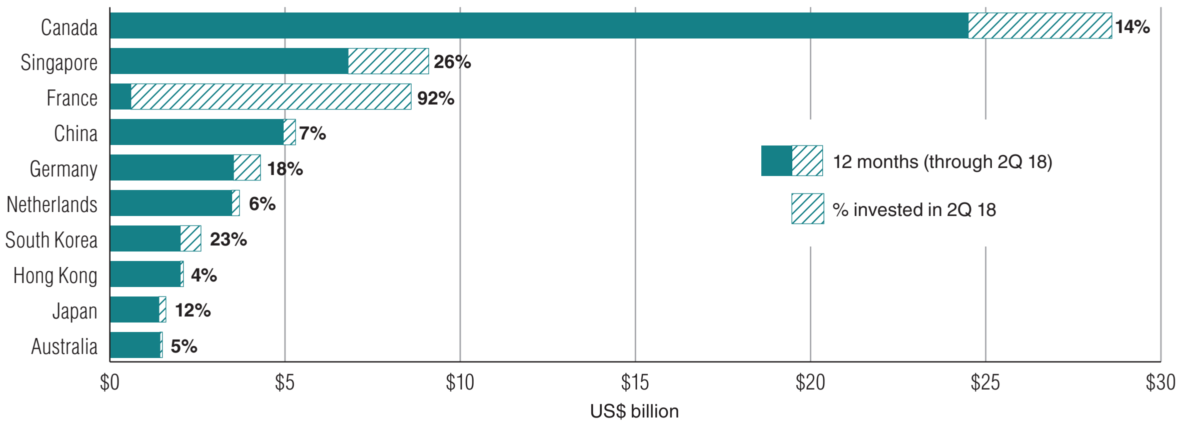
Cross-border investors have a long history of real estate purchases in the United States. Some might say it goes back to the 1626 Dutch purchase of Manhattan Island from the Lenape Indians for 60 guilders (not the legendary $24). Manhattan is now worth a purported $1.5 trillion, but don't be too overwhelmed. That is a reasonable but not jaw-dropping 6.4 percent annual rate of return. (By the way, the Dutch also paid the same price, 60 guilders, for Staten Island, which has not appreciated nearly as much.)

In more recent dealings, international investors have remained very active in the U.S. property markets. RCA researchers put 2017 cross-border acquisitions at 11 percent of all investment dollars, or $51.6 billion in purchases. This is down from a 15 percent market share in 2015, but about average for the post-2013 period. The international investors focus on major markets and on the office and hotel property types, but also play in the realm of portfolio acquisitions.

The particular markets in which cross-border capital plays an outsized role are led by Washington, D.C., where these investors registered a 46 percent share of volume in 2017. Manhattan is next, at a 32 percent share, followed by San Francisco and Houston, at a 23 percent share apiece. Clearly their attention is not only on major markets, but also on those with a global business reach, or (in the case of Washington) access to the center of political clout.

During the first quarter of 2018, Canadian firms were the most significant source of inbound capital, with $20.3 billion. China was second, at $8.9 billion, and Singapore third at $7.7 billion. This year, Los Angeles also is making the list of top acquisition cities for offshore capital. But internal policy issues in China mark a potentially significant change, evident in 2018's second quarter, when China was a net seller for the first time since it entered the U.S. market. The amount of China's dispositions was not huge—$1.3 billion, compared with $54.1 billion in total acquisitions since 2000. Depending upon government decisions back in Asia, the Chinese could be lightening their U.S. portfolios going forward. Those portfolios include 24 million

Exhibit 3-13 **Global Investment in U.S. Real Estate, by Country**



Source: Real Capital Analytics, as of August 2018.

square feet of offices, according to RCA, and 14,000 apartment units, as well 4,000 other units under construction.

On balance, while the mix of offshore capital sources may shift—South Korea, Germany, and the Middle East are stepping in as China pulls back—the outlook of one entrepreneur sums it up: "Globalization is here to stay."

U.S. cities have to compete worldwide for international real estate investment, and the Association of Foreign Investors in Real Estate (AFIRE) annual survey noted just two U.S. markets in the global ranking of top prospects: New York at number two and Los Angeles at number four. London took the top spot, with Berlin at number three and Frankfurt at number five. AFIRE members reportedly hold $2 trillion in real estate assets under management around the world. The metro rankings at the very top notwithstanding, AFIRE's survey still places the United States as the top national market for property investment, because of its characteristics of stability and appreciation potential, as well as market transparency and reputation for innovation.

Specialized Sources

The commercial real estate market in the United States is a very broad-based pyramid. While the apex transactions are typically the activity of the previously discussed large investor groups, there are tens of thousands of transactions of the "mom and pop" variety. Small apartment properties; four- to six-unit retail strips; professional office buildings owned by groups of doctors, dentists, or lawyers; and similar assets are familiar in most markets across the United States. Beyond the single-family home, these are often the entry point into the real estate market.

A 2015 academic study estimated that 5 to 6 percent of annual investment in property is realized in the form of **like-kind property exchanges**, popularly known as 1031 transactions, a tax-deferral strategy that has been available since the 1920s. The possibility that 1031s might be at risk in the contemplated tax legislation in 2017, therefore, created concerns in the small ownership market and the transaction network of brokers, lawyers, accountants, and bankers who provided the infrastructure for such deals. That concern was heard by legislators, and the 1031 facility was retained in the Tax Cuts and Jobs Act passed last December.

Crowdsourcing is now about five years old, and while it has grown and evolved, it still has not proved its mettle in a downturn. That is a major consideration, and one that is a big reason that many platforms are available only to "accredited investors" who can demonstrate adequate experience and have the financial capacity to withstand losses. As a famous quip has it, "It's only when the tide goes out that you see who has been swimming naked."

Crowdfunding (another term for the same phenomenon) has been moving from a wide menu of investing choices such as short-term bridge lending and small commercial mortgages, but has moved toward equity in the "commercial middle-market space," defined as property transactions averaging $2 million—which are below the threshold of attention for RCA, for instance. Some crowdfunders have introduced "e-REITs" as a way to reach nonaccredited investors, and others are turning to direct sales of investment units for projects described as "fix and flips" either residential or commercial. Some sense of scale can be gleaned by reports of "highest equity raise to date" from several of the promoters, at levels of $5 million to $12 million, mostly in investment units of $2,000 to $10,000 each.

In the context of a U.S. real estate market measured in the trillions of dollars, these may be comparable to the Dutch guilders paid for Manhattan and Staten Island. One consultant whose professional attention is devoted to pension funds and sovereign wealth funds observed, "Some of these investments could very well work out, but I'd like to see at least 50 percent real estate expertise in the promoters, rather than the 80 percent tech background that appears to be the norm."

For individual investors seeking access to real estate in small bites, there are **real estate mutual funds** with shareholdings in REITs and real estate operating companies. Several such firms are large enough to be in the mid-cap arena, and have sufficient expertise and experience in real estate to have produced desirable returns over time. As vehicles for small investors to supply capital into the property markets, such professional staffing has a lot to offer in asset selection and fund management.

Slow growth is reported in a capital source with enormous potential: real estate investments by **defined contribution retirement plans (DC plans)**. The volume of capital in such plans now far exceeds $20 trillion, and yet they typically do not include real estate among the invested asset classes that have been part of traditional defined benefit pension plans since the late 1970s. White papers in the DC industry are examining the risk/reward impacts of adding real estate to their portfolios, as both direct investment and through REIT shares. Early indications are that a 10 percent real estate allocation works optimally—very similar to what may be observed among NCREIF's institutional investors. If that is the case, and the flow comes steadily over time, that's a $2 trillion–plus expansion of capital availability to the real estate industry. That would be quite an "emerging trend"!

Summary

Increasing volumes of capital seeking deployment in a market where the average quality of what is available may be declining make for an interesting investment conundrum. As deals go farther out the risk spectrum, when are buyers appropriately paying a price where risk is being adequately compensated? The simplistic Econ 101 answer—"The market knows"—has time and again shown the fallacy of this cliché, and it is real estate as well as the taxpayer that have frequently suffered.

The concept of equilibrium that undergirds classical economics and that lies at the heart of econometric and financial modeling is a deceptively seductive idea, suggesting stability and balance as an endpoint to market processes. Yes, deviations from balance stimulate corrections, and this is at the heart of real estate cycles. Yet, the corrective movement toward balance, sometimes called "reversion to the mean," simply predicts direction of change. Once underway, such change gains momentum and almost invariably passes right through equilibrium and moves into another kind of disequilibrium. And so it goes.

No one less than Alan Greenspan has written, in a pungent essay titled "Never Saw It Coming" (*Foreign Affairs*, 2013), that the powerful models of the Federal Reserve, the World Bank, and the top commercial and investment banks as well, failed to predict the huge risks existing in 2007 and their soon-to-be-realized impacts. Greenspan appealed to a famous Keynesian phrase, "animal spirits," and advised that the models take greater account of market psychology in creating forecasts. On one level, this might be a laudable attempt to build upon insights from behavioral economics. But at a deeper level, it still betrays a conviction that the problem is basically math.

Real estate professionals would never denigrate quantitative analysis, and our industry's access to and reliance on data have never been stronger. Yet, few experienced participants in real estate—on either the debt side or the equity side—would ever unthinkingly yield their ultimate investment choices to algorithms. We understand that the need for the Resolution Trust Corporation and for the massive interventions required in 2007–2010, and policies in place years thereafter, did not arise because "people didn't know how to do math." Indeed, those who sliced and diced the numbers were so impressed with their own wizardry, and dazzling in their "creative financing solutions," that common sense and good judgment were washed away in the euphoria.

Fortunately, the complex trends in the capital markets, discussed in this chapter, give ample reason to think that judgment and independent thinking are more active this time around. The very patterns of convergence in the debt market being nuanced by patterns of divergence in the equity space constitute a sign that the vaunted herd instinct of markets is being held in check. With heavy volumes of capital at the ready, the pullback in transaction volume beginning in 2015 reflects investors' collective determination not to repeat the mistakes of the recent past.

In times of conflicting signals, innovation is often the result of wrestling with vital issues. As is true in other contexts, it is the problem-solving environment that promotes creative solutions, not the problem-free environment. From contemporary problem-solving in the real estate capital markets, we can expect to discern some of the longer-term trends emerging for the next decade of property investment.

Markets to Watch

"Maybe it is time to reevaluate how we think about markets. It may be time to move away from the old stereotypes. In this cycle, we have seen so-called supply-constrained markets overbuild and 'boom/bust' markets show great restraint."

Growth appears to be in vogue for 2019.

Emerging Trends in Real Estate® survey respondents favored markets with potential for more growth over the traditional gateway markets. An investment adviser mused, "At this point, I don't expect any potential correction to be significant, so I'd rather be in markets that bounce back quickly." As the economy and real estate expansion prepare to stretch into another year, the market does not feel the need to get overly defensive and move into markets that are often perceived as safe havens in a down market. In fact, the opposite is true to a certain extent. An institutional portfolio manager offered, "At this point in the cycle, I am willing to go out a little ways on the risk spectrum, but the turnaround needs to be relatively quick. My thought is these faster-growing markets may be the best place to find those opportunities."

2019 Market Rankings

Survey respondents continued the theme toward more 18-hour markets in the top 20:

- **Dallas/Fort Worth** returns to the number-one spot in the 2019 survey. The chief economist for an institutional investor remarked that **Dallas/Fort Worth** is an interesting market, one with the potential for strong future growth but also with the liquidity of a gateway market.
- Survey respondents appear to still be interested in markets adjacent to gateway locations, with **Brooklyn** moving all the way to number two. Also supporting **Brooklyn**'s rise in the survey is an increased interest in urban industrial.
- **Florida** is a noteworthy story in this year's survey: **Orlando** is in the top five, **Tampa Bay/St. Petersburg** is in the top ten, and **Miami** and **Fort Lauderdale** are both ranked in the top 20.
- **Raleigh/Durham** and **Nashville** round out the list of this year's top five.
- **Texas** again has three markets in the top 20, as **Austin** and **San Antonio** join **Dallas/Fort Worth**.
- **Boston** remains in the top ten and is the highest-ranked gateway market in the 2019 survey. The gateway market story has movement in both directions. **Los Angeles** slipped slightly from last year but remains in the top 20. The biggest movement of a gateway market is the return of **Washington, D.C.**, to the top 20 list. **D.C.** regularly appeared at the top of the market list during the early years of the recovery, but concerns about overbuilding cooled interest in recent years.

We may need to get used to more volatility in our market list. The increased transparency around anything real estate provides the market with an unprecedented amount of information to analyze markets every year. Seattle was the number-one market in last year's survey but slips to number 16 this year. Seattle is still viewed as an attractive place in which to invest, but did media coverage of potential new supply being delivered and increased regulatory discussions sway the opinion of survey respondents?

Another factor that could contribute to higher volatility is the amount of capital being allocated to real estate. With more national and regional investors looking for new real estate investment opportunities, they will obviously need to perform due diligence on a wider selection of markets. The favorable treatment of real estate by 2018's tax law may also significantly increase the activity among local investors in all the markets in the *Emerging Trends in Real Estate®* survey.

Finally, if you look past the market rankings, it is important to note that things look good across all markets in the survey. Survey respondents consider the average expectations for real

U.S. Markets to Watch

Exhibit 4-1 **Overall Real Estate Prospects**

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

Source: *Emerging Trends in Real Estate 2019* survey.

Exhibit 4-2 **Homebuilding Prospects**

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

Source: *Emerging Trends in Real Estate 2019* survey.

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

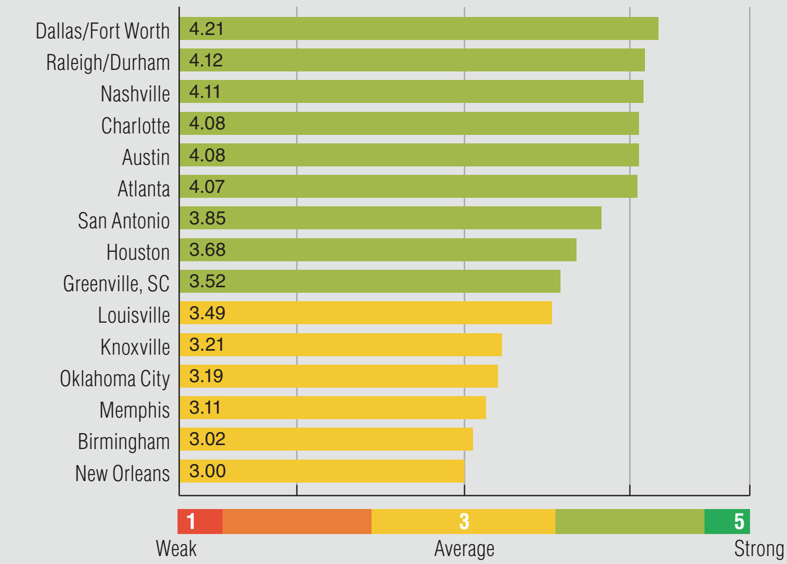
Mean

estate investment and development to be good in 72 of the 79 market areas included in the survey; they rated the remaining markets as fair-to-good.

The bottom line is that opportunities are available in all markets. The length of the current cycle along with increased transparency has allowed a larger and more varied investor pool the time to evaluate these markets and find what works best for them.

Readers' interest in all markets continues, so for the second year we provide a regionally based look at markets included in this year's survey. Market experts contributed their knowledge and insights to this effort during the focus groups convened by ULI district councils. Their expertise is also referenced throughout the rest of the report.

Exhibit 4-3 **Local Outlook: South Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

South: Central West

"Markets in the South are popular, but not always for the same reasons. Young people and retirees are flowing into the region."

The South's Central West region markets are expected to have some of the strongest demographic and economic performance in 2019. *Emerging Trends in Real Estate*® survey respondents feel that this performance will offer good investment and development opportunities in the **Texas** markets and in **Oklahoma City** and fair opportunities in **New Orleans**.

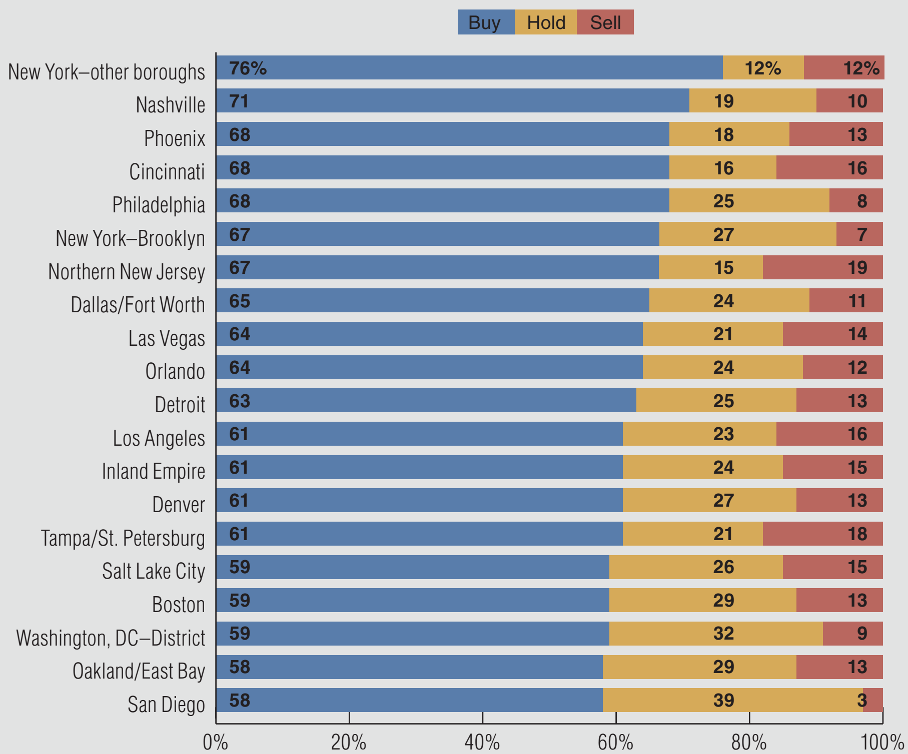
The 2019 population growth rate in **Austin** is projected to be over three times the national rate while the rate is forecast to be over two times greater in **Dallas/Fort Worth**, **Houston**, and **San Antonio**. The rate of growth in population in **Oklahoma City** is expected to exceed the U.S. average, and is an area of growth that the market would like to see expand. While the rate of population growth in **New Orleans** is below the U.S. rate, the market has experienced positive net migration over the past five years. As one would expect, net migration has also been positive in the other markets in the region. **Dallas/Fort Worth**, **Houston**, and **Austin** all attribute in-migration as a key to their recent success.

The demographic breakdown of the region's markets also is favorable. **Austin**, **Dallas/Fort Worth**, **Houston**, **Oklahoma City**, and **San Antonio** all have a significantly higher percentage of their population in the 0-to-24 and 25-to-44 age cohorts. The younger population is supporting good labor force growth. **Austin**, **Dallas/Fort Worth**, **Houston**, and **Oklahoma City** all have labor force participation rates higher than the national rate. The labor force is also very productive, with GMP per capita exceeding the national average in **Austin**, **Dallas/Fort Worth**, and **Houston**. Business startup activity is high in **Austin**, **Dallas/Fort Worth**, and **Houston**.

The affordability of single-family housing also is a contributor to the success of markets in the region. Despite the attractive affordability rates, a lack of affordable housing was listed as an issue for **Austin**, **Dallas/Fort Worth**, **New Orleans**, and **Oklahoma City**. Sheer demand is behind **Austin**'s concern about affordable housing, while focus group respondents in **Dallas/Fort Worth** point to the rise in NIMBYism (not in my back yard) as slowing down the development of workforce housing. Housing development has also been slowed by the rising cost of materials and construction labor. These rising costs were cited as an area of concern in **San Antonio**.

Investment in industrial space is seen as a good bet for 2019 in all markets in the region. The main area of concern relates to any disruptions in international trade due to a strong dollar and the potential impact of a trade war. Any negative impact could disrupt demand in **Houston** and **New Orleans**. Flex space in **Austin** is seen as continuing to do well. Focus group participants pointed to a need

Exhibit 4-4 **U.S. Industrial Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2019* survey.

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

for more modern office facilities in **San Antonio** and **Houston**. The multifamily market is strong in **Oklahoma City**, although some concern exists about the amount of high-end units the market needs to absorb. As the top market in this year's survey, the **Dallas/Fort Worth** market is seen as offering opportunities in every sector.

South: Atlantic

"Carolina markets continue to see a population influx . . . a lower cost of living and employers see the quality of the labor force."

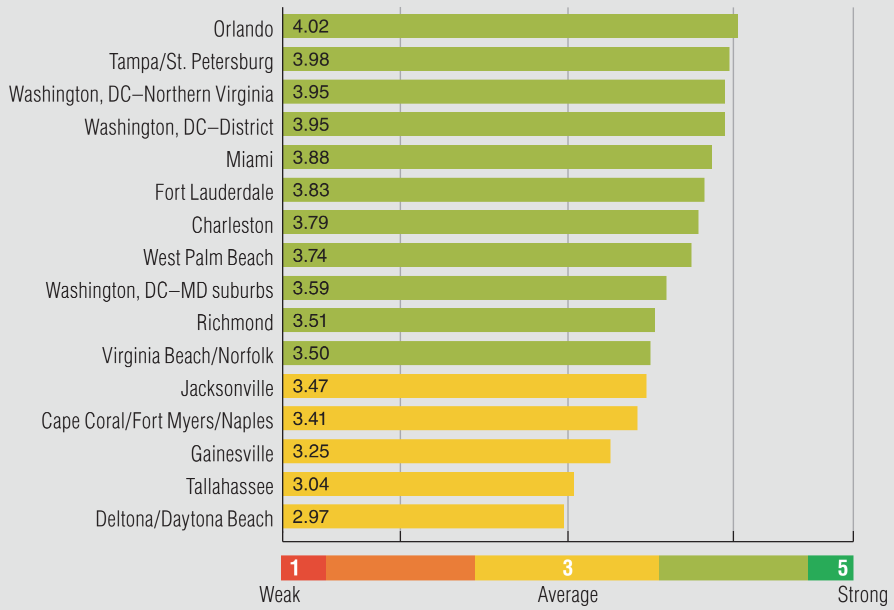
The *Emerging Trends in Real Estate® 2019* survey respondents like the opportunities in the South's Atlantic region. All 11 markets that make up the region are ranked in the good potential for investment and development. Opportunities are expected to be readily available in **Raleigh/Durham**, **Charlotte**, and **Atlanta**. The region reflects several trends we have been following for the past several years: the continuing attractiveness of primary markets like **Atlanta**; the rising attractiveness of nonprimary markets such as **Raleigh/Durham**, **Charlotte**, and **Charleston**; and the increased interest in markets adjacent to gateway cities such as **northern Virginia**. A new twist is that 2019 also marks the return of the **District of Columbia** into the group of top markets.

With the search for qualified labor intensifying, markets that can attract new residents have a definite advantage. **Atlanta**, **Charlotte**, **Raleigh/Durham**, and **Charleston** have all experienced strong net migration over the last five years. Net migration has also been positive in **Greenville**, **Richmond**, and the three **Washington, D.C.**, markets. Attracting new residents is particularly important in the three **Washington, D.C.**, markets, **Baltimore**, **Atlanta**, **Charlotte**, and **Richmond**, where the labor force participation rate is well above the comparable U.S. rate. An adequate labor force will also be important in **Charleston**, **Greenville**, and **Richmond**, where the projected 2019 unemployment rate is less than the national rate.

The ability to attract qualified workers will benefit a number of the South's Atlantic markets. Projected 2019 employment growth rates are expected to be well above the national growth rate in **Charleston**, **Raleigh/Durham**, **Charlotte**, **Atlanta**, **northern Virginia**, and **Greenville**. The breakdown of the population also appears to be favorable in the region. **Atlanta**, **Charlotte**, **Charleston**, **Virginia Beach/Norfolk**, **northern Virginia**, and **Raleigh/Durham** all have a higher percentage of their population under the age of 44. Focus groups in **Charlotte**, **Atlanta**, **Raleigh/Durham**, and **Richmond** all point to the attractiveness of the market to younger residents. **Raleigh/Durham**, the three **Washington, D.C., markets**, and **Baltimore** all have a high percentage of their population with a postsecondary degree.

Opportunities vary across the region's markets. **Atlanta**, **suburban Maryland**, and **Charlotte** are seeing a slowdown in office activity as the markets wait for demand to catch up with new supply. Despite the potential for oversupply, interest in adaptive use remains popular. Focus group participants in **Raleigh/Durham**, **Charleston**, and **Richmond** feel like office demand is running ahead of high-quality supply. While most of the South's Atlantic region has relatively affordable home prices, **Charlotte**, **Atlanta**, **Baltimore**, **suburban Maryland**, and **Raleigh/Durham** all cite a need for more affordable housing to meet demand. The geographic locations of **Greenville**, **Charleston**, **Virginia Beach/Norfolk**, and **Richmond** are a boost to industrial activity in these markets. Industrial is also in demand in **Atlanta** and **Charlotte** to meet rising e-commerce sales. Finally, **northern Virginia** and **suburban Maryland** could use more industrial since a lot of the existing inventory is being used by data centers.

Exhibit 4-5 **Local Outlook: South Atlantic and Florida Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

South: Florida

"People are surprised when they discover the diversity that exists in a number of the larger markets in the state."

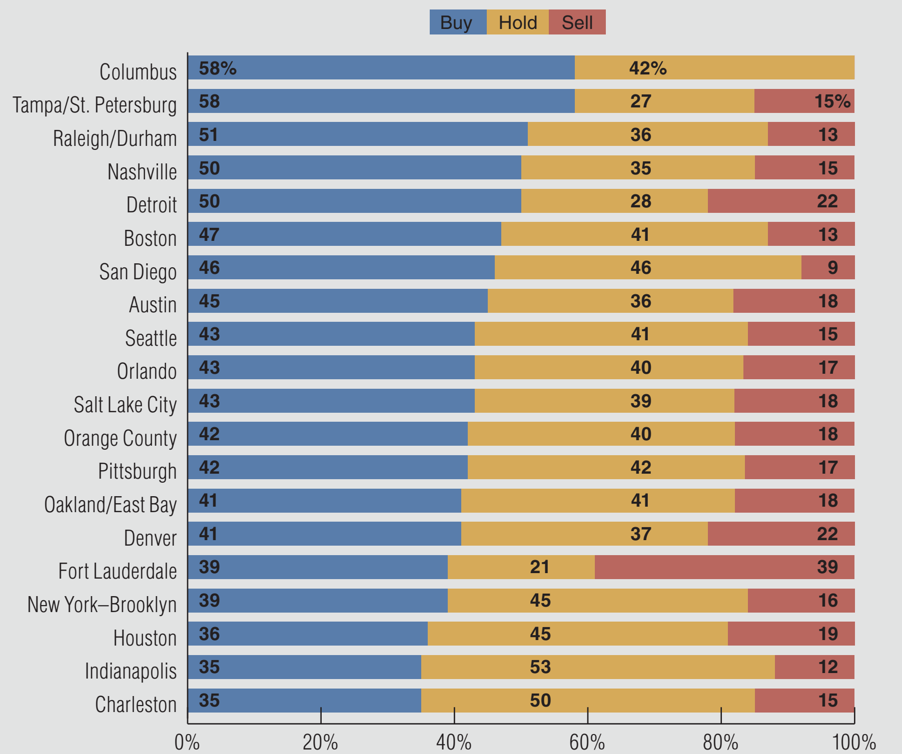
The *Emerging Trends in Real Estate® 2019* survey respondents clearly feel that the ten Florida markets have fully rebounded from the disruption caused by the global financial crisis. The outlook for real estate investment and development is good in nine of the markets, with excellent opportunities in four of the markets. Demographic growth, a friendly business climate, and an attractive cost structure are factors contributing to the positive outlook for Florida.

The state of Florida offers a diversity of markets for different investors. **Miami** appeals to global investors, while **Fort Lauderdale** and **Palm Beach County** offer alternatives to investors looking to invest in southeast Florida. **Orlando** and **Tampa Bay/St. Petersburg** have been steadily gaining the interest of institutional investors and have seen increased interest during the economic recovery. **Jacksonville** and **Cape Coral/Fort Myers/Naples** are seeing interest from more institutional players and remain attractive to regional and local investors. **Gainesville**, **Tallahassee**, and **Deltona/Daytona Beach** offer a variety of opportunities for local and regional investors. All of the markets in Florida have benefited from the availability of both debt and equity capital during this cycle.

The 2019 population growth rate is projected to once again be well above the national rate. Seven of the Florida markets are expecting population growth rates that are at least 85 percent higher than the national average, with **Cape Coral/Fort Myers/Naples**, **Orlando**, and **Jacksonville** experiencing population growth rates over twice the national rate. **Tampa Bay/St. Petersburg**, **Orlando**, and **Cape Coral/Fort Myers/Naples** have benefited from strong annual net migration over the past five years. Focus group participants point to the increased diversity of their markets population. **Gainesville** and **Tallahassee** with their large college student base obviously have a significant population block under the age of 24, but other markets such as **Orlando** and **Jacksonville** also equal the U.S. percentage for younger residents. In addition, **Orlando**, **Miami**, **Jacksonville**, and **Fort Lauderdale** have a higher percentage of residents between the ages of 25 and 44 than the U.S. average.

The 2019 employment growth rate is projected to be well above the national rate in **Orlando**, **Cape Coral/Fort Myers/Naples**, **Jacksonville**, **Fort Lauderdale**, and **Tampa Bay/St. Petersburg**. All of the Florida market economies appear to have excess capacity. Only **Fort Lauderdale**, **Orlando**, **Tallahassee**, **Jacksonville**, and **Gainesville** have labor force participation rates that exceed the national rate. In addition, **Miami** and **Deltona/Daytona Beach** are projected to have unemployment rates slightly higher than the comparable U.S. rate. Florida's cost of doing business remains attractive, but it has gotten more expen-

Exhibit 4-6 **U.S. Office Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2019* survey.

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

sive in the more active markets. Focus groups in **Miami**, **Jacksonville**, **Orlando**, and **Tampa Bay/St. Petersburg** all mention the rising cost of construction materials and labor as being a challenge in the market.

Investment opportunities in Florida markets continue the diversity theme. Focus groups in **Miami** and **Tampa Bay/St. Petersburg** commented on the increased vibrancy in their downtowns attracting new development. **Jacksonville** continues to struggle to find the right formula to attract development in the downtown area, but a number of neighborhoods and suburbs offer opportunities for investment and development. **Orlando** is embracing its split economy with the entertainment sector still seeing growth, but the rest of the economy is offering opportunities in other parts of the metro area. **Palm Beach County** continues to see an influx of new residents demanding housing in various price points. **Gainesville**, **Tallahassee**, and **Deltona/Daytona Beach** feel that their multifamily markets are still positioned to do well in 2019. One thing all the markets report is that the cost and availability of land, labor, and materials are making new development more expensive.

South: Central East

"Nashville continues to attract capital from all over the world. Outside money is willing to pay higher prices than local capital."

The South's Central East region is somewhat bifurcated, with **Nashville**, which has become a perennial top-ten *Emerging Trends in Real Estate*® survey market, and the other four markets that make up the region. While **Nashville** continues to outperform the national average in a number of demographic and economic measures, 2019 survey respondents also feel that opportunities exist in the other markets as well. The survey respondents see the investment and development potential for all markets in the region as good or fair.

With the exception of **Nashville**, population growth in the region's markets is expected to trail the U.S. rate in 2019. Despite the slower population growth, **Birmingham**, **Knoxville**, and **Louisville** all enjoyed positive net migration over the past five years. Local focus groups in **Memphis** and **Knoxville** emphasize the quality of life as being attractive to new migrants. Housing remains very affordable in all of the markets in the region, and this is spurring a variety of housing development in **Knoxville**, **Memphis**, **Birmingham**, and **Louisville**. The development ranges from new suburban housing, renovating historic houses, converting other property types to housing, and including housing as part of larger mixed-use projects. The attractive cost of living has been cited in the relocation of a major financial services firm to **Nashville**.

Population growth and net migration are important to the markets in the region to support economic growth. While **Nashville** employment growth is well above the U.S. rate, only **Louisville** and **Knoxville** are expected to equal the U.S. rate in 2019. In addition, the labor force participation rates in **Birmingham**, **Knoxville**, and **Memphis** are well below the U.S. rate. Only **Memphis** has a slightly higher unemployment rate than the United States as a whole. A shortage of qualified labor has been identified by focus groups in **Knoxville** and **Memphis**.

A qualified labor force is being viewed as something each market needs to support organic job growth and attract business relocations.

The markets in the South's Central East region are well positioned to serve the East Coast, the South, and the Midwest's East region. This position is why national parcel delivery services have located in **Memphis** and **Louisville**. **Knoxville** is conveniently located at the intersection of interstate highways. With airline realignment, none of the markets has a traditional hub airline, but they each have excellent regional airline facilities. **Birmingham** enjoys its own U.S. Customs Office and Foreign Trade Zone, which have made it a key wholesale trade center in the Southeast.

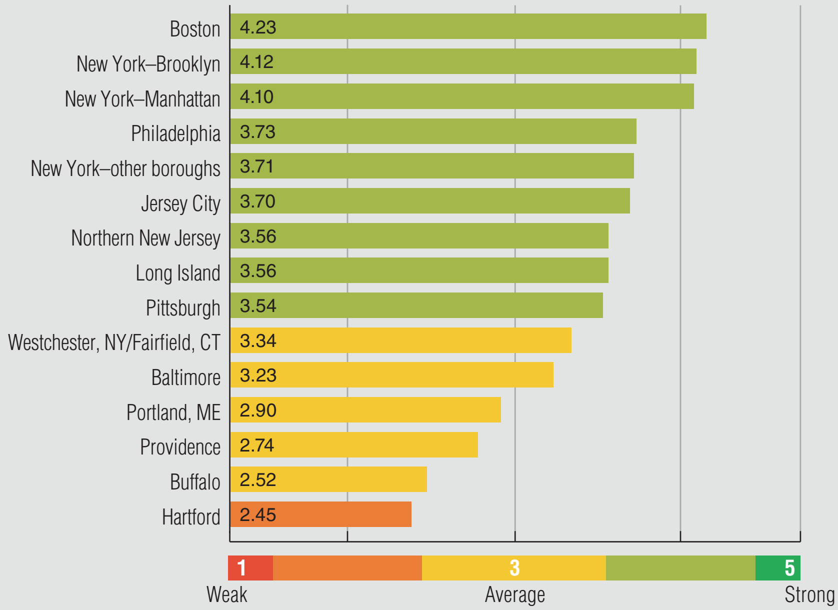
Northeast: Mid-Atlantic

"Philadelphia and Pittsburgh are showing that they have unique attributes that deserve attention."

The *Emerging Trends in Real Estate® 2019* survey respondents feel that investment and development prospects are good in most of the markets in the Mid-Atlantic region. The region is seeing a continuation of a trend that we first mentioned last year. Markets adjacent to gateway markets are seeing increased interest as gateway markets as investors and developers look for returns in less competitive cities.

A number of trends are playing out in the Mid-Atlantic markets for 2019. Interviewees suggested this year that pricing in gateway markets along with a rising level of new supply may deter 2019 investment activity. They offered an alternative strategy of looking at markets and submarkets outside the main urban core. An example of this is the increased interest in **Brooklyn**, **New York City's other boroughs**, and **Jersey City**. While there continues to be a focus on CBD development, focus groups in a number of markets mentioned the success that certain suburban developments were enjoying. **Buffalo**, **Pittsburgh**, **Philadelphia**, and **Westchester, NY/Fairfield, CT**, are markets that continue to look for ways to expand development in the city center, but also see suburban development enjoying success. The presence of transit is often mentioned as being key to a successful suburban development, along with other urban-like amenities.

Exhibit 4-7 **Local Outlook: Northeast Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

All the markets mentioned a need for more infrastructure investment. This is particularly vital for the **New York City metro areas**, **Long Island**, **northern New Jersey**, and **Jersey City**. While infrastructure investment in these markets is required to keep the daily foundations of the economy operating, other markets in the region feel that infrastructure investment will spur new growth. Focus groups in **Pittsburgh**, **Westchester, NY/Fairfield, CT**, and **Buffalo** suggested that infrastructure development would make new suburban neighborhoods more attractive to future developers. Local market experts in **Philadelphia** mentioned the investment needed to support the basic infrastructure in the market, but also highlighted a need for increased investment in education. The belief is that good schools will make other investments in additional neighborhoods feasible.

Investment and development opportunities vary based on the characteristics of each market. A new characteristic in 2019 is increased interest in industrial opportunities in **Brooklyn**, **New York City's other boroughs**, and **Long Island**. The interest is driven by the trend of finding "Last Touch™" e-commerce delivery. **Pittsburgh** and **Philadelphia** offer the opportunity to invest at lower entry price points, but still be in proximity to a significant percentage of the U.S. population. **Pittsburgh** also continues to look for ways to take advantage of the amount of technology research and development taking place in the city. **Philadelphia** enjoys a highly educated workforce and is finding that the suburbs are attractive to younger workers looking to start a family and companies that want to be close to that particular labor supply. **Manhattan** is still a gateway market. Investors from around the world continue to look for investment opportunities, but with asset pricing at record levels and a significant amount of new supply in office and multifamily scheduled to be delivered, the market may see a pause in investment activity.

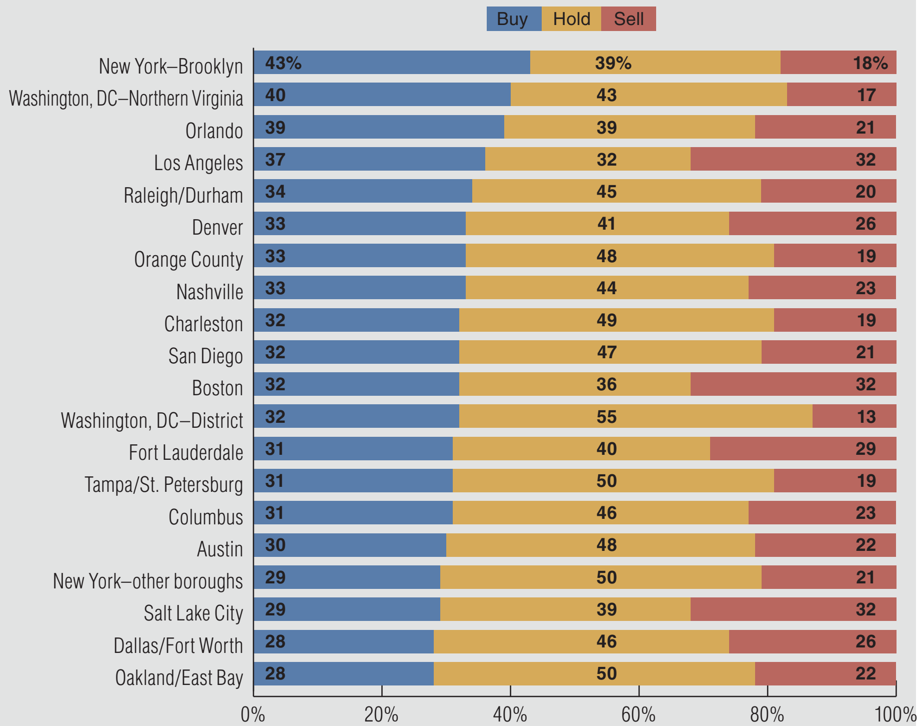
Northeast: New England

"Boston is at the center of a number of real estate trends like redevelopment, technology, and sustainability."

The respondents to the 2019 survey continue to feel that **Boston** will be a good place in which to invest and develop in the coming year. In addition, the respondents feel like **Boston** will offer a number of opportunities. The survey results also reveal the idea that the same respondents like the potential for investment in **Providence**. The other markets in the region are considered fair locations for investment and development in 2019.

The 2019 New England population growth rate is projected to trail the U.S. rate. Despite the slower overall population growth rate, **Boston** has enjoyed good net migration rates over the past five years. **Hartford** is the only market in the region to experience negative net migration over the same period. The New England markets are well educated.

Exhibit 4-8 **U.S. Retail Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2019* survey.

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

Boston, **Portland**, and **Hartford** all have a higher percentage of their population with a postsecondary degree than the national rate. The population in the New England region also tends to be older than the national average. Only **Boston** has a higher percentage of younger workers, with a higher percentage of its population between the ages of 25 and 44 than the national average. **Portland**, **Providence**, and **Hartford** have a higher percentage than the national average of the population between ages of 45 and 64. These markets tout the advantage of having a more experienced workforce, although they do cite the need to attract younger workers.

Employment growth in the New England region also is projected to be slower than the national rate in 2019. Only **Boston** is projected to see employment grow at a rate near the comparable U.S. rate. The labor force participation rates in the New England markets are well above the national rate. The **Portland** economy, with a high participation rate and low unemployment rate, continues to look for ways to attract new residents to enter the labor force. The tight labor market has pushed labor costs higher, which is reflected in the higher cost of doing business for each market. The per-capita GMP in **Boston** and **Hartford**, which is higher than the U.S. rate of GMP, does help offset some of the higher costs.

The trends for development that are expected for much of the United States also apply to the markets in the New

England region. Investment opportunities are seen as being readily available in **Boston** for 2019. Survey respondents continue to like the central business district (CBD) office market as a number of neighborhoods continue to be developed. One advantage of having an older population is that markets like **Portland**, **Hartford**, and **Providence** are seen as good locations for various forms of housing for residents over 55 years of age.

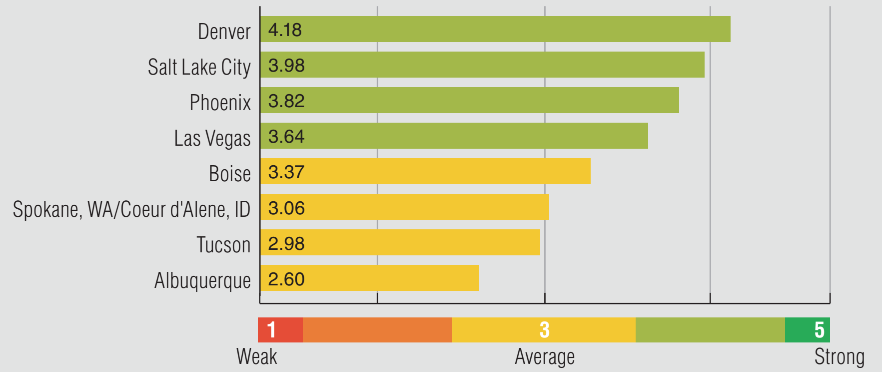
West: Mountain Region

"The quality of life offered in the Mountain region should continue to be attractive to millennials looking to start families."

The markets that make up the Mountain region continue to exhibit strong demographic and economic growth. The comparatively low cost of living and of doing business is attractive to new residents and conducive to employment growth. The *Emerging Trends in Real Estate® 2019* survey respondents see the good to excellent investment and development opportunities in most of the markets in the region.

The 2019 population growth rate is projected to be well above the national rate in **Boise**, **Phoenix**, **Las Vegas**, **Salt Lake City**, **Denver**, and **Spokane, WA/Coeur d'Alene, ID**. Net migration into these markets is particularly strong in **Phoenix**, **Denver**, and **Las Vegas**. **Boise** attributes the strong flow of in-migration to helping drive economic activity in the market. **Phoenix**, **Spokane, WA/Coeur d'Alene, ID**, and **Salt Lake City** continue to benefit from in-migration from higher-cost states. **Tucson** and **Albuquerque** have growth rates that trail those seen in the rest of the region, but are still equal to the U.S. rate. The age breakdown of the population also is seen as favorable in many of the markets, with the percentage of population under age 44 well above the national average. This is particularly true in **Salt Lake City**, **Boise**, and **Phoenix**. **Denver** benefits from a large percentage of the population between the ages of 25 and 44, which is supporting the need for labor in the market. **Albuquerque** and **Tucson** continue to be attractive destinations for baby boomers who are in their pre- or full-retirement years.

Exhibit 4-9 **Local Outlook: Mountain Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

Strong population growth is needed in the Mountain region markets to support the growth in their economies. Projected employment growth in all of the markets is above the national average over the next five years. **Las Vegas**, **Phoenix**, **Boise**, and **Salt Lake City** are expected to see employment growth of at least twice the U.S. rate. In-migration will be vital to **Salt Lake City** and **Denver**, which have labor participation rates exceeding 70 percent. Focus group respondents in **Phoenix** and **Boise** see the trend of companies relocating from more expensive locations continuing in 2019. **Denver** and **Salt Lake City** are the two most productive markets in the region, with GMP per capita that is well above the national rate. Entrepreneurial activity is also adding to employment creation in **Las Vegas**, **Salt Lake City**, **Boise**, and **Denver**, where new businesses are being created at a faster rate than the national average.

All the markets in the region point to the quality of life in their metropolitan area as being attractive to new residents. These markets remain affordable, although to some extent they have been the victims of their own success. Single-family home affordability in **Denver** is now below the national average, while affordability has trended down in **Las Vegas** and **Phoenix**. Housing development is up in all of the markets, but **Phoenix**, **Boise**, and **Spokane, WA/Coeur d'Alene, ID**, report significant issues with a shortage of construction labor. The increases in the cost of living are being offset in **Denver**, **Salt Lake City**, and **Phoenix** by higher incomes.

Real estate development and investment activity is robust in all of the markets in the region. **Phoenix**, **Denver**, and **Salt Lake City** report strong activity in nearly all property types. **Salt Lake City** expects to see new opportunities as a result of the expansion of the airport. Focus groups for **Boise**, **Spokane, WA/Coeur d'Alene, ID**, and **Las Vegas** mention that their metro areas could benefit from increased infrastructure investment, but that they continue to see rising interest from national and regional investors. Some of the more active markets recently are seeing pockets where there may be a slowdown due to higher amounts of new supply. **Phoenix** and **Salt Lake City** both report areas where office development may need to pause for demand to catch up. **Albuquerque** and **Tucson** report opportunities to redevelop underused locations near population centers, and select new development to meet the growing service economy.

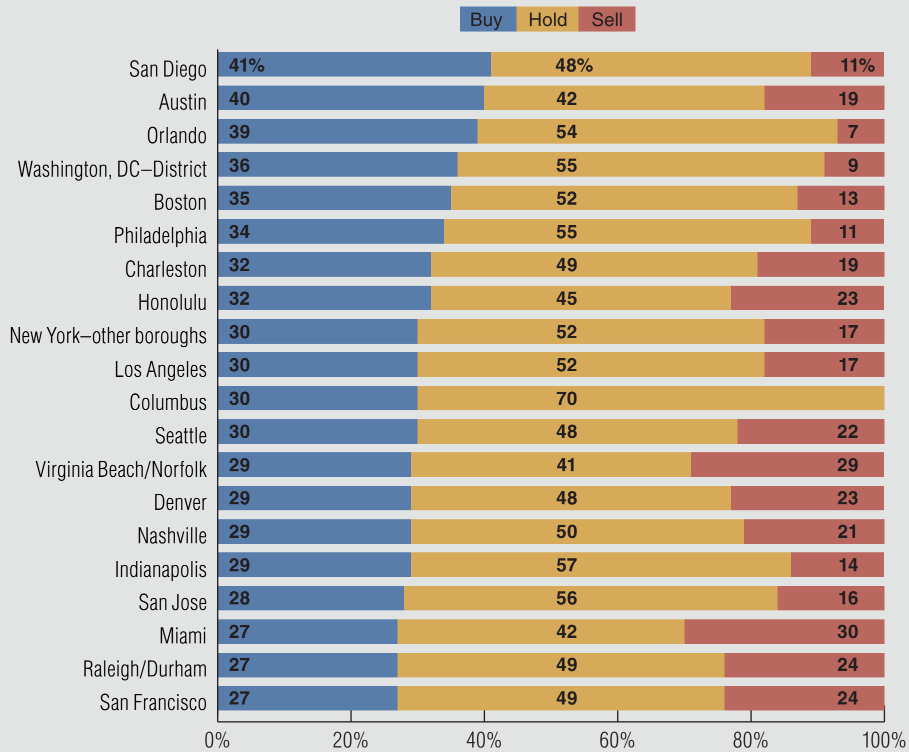
West: Pacific

"We expect the economy of the coastal cities to continue to evolve but are confident the knowledge base will be a constant."

The markets in the Pacific region are again popular with respondents to the *Emerging Trends in Real Estate®* survey. Respondents to the 2019 survey feel that investment opportunities are good in all 12 markets in the region and that development opportunities are good in 11. Local market respondents also feel that in 2019 investor demand will be particularly strong in eight of the 12 markets and good in the remaining four.

The demographic picture in the Pacific region is still positive, but issues are beginning to develop. Markets such as the **Inland Empire**, **Portland**, **Tacoma**, **Seattle**, and **Sacramento** are expected to see 2019 population growth at twice the national rate. **Orange County**, **San Diego**, **San Francisco**, **San Jose**, and **Oakland** expect growth near the national rate. Finally, **Honolulu** and **Los Angeles** could see growth that is positive but well below the national rate. The slower growth in **Los Angeles** and **Honolulu** has been made worse by the fact that these two markets are the only ones in

Exhibit 4-10 **U.S. Hotel Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2019* survey.

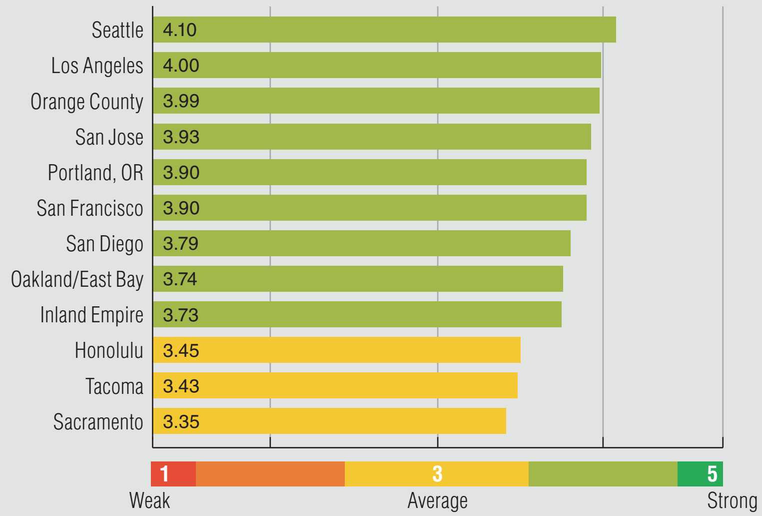
Note: Cities listed are the top 20 rated for investment in the hotel sector; cities are ordered according to the percentage of "buy" recommendations.

the region experiencing negative net migration over the past five years.

Costs are a real concern in Pacific region markets, particularly the cost of housing. **Tacoma** is the only market in the region where the average household income can theoretically afford the average cost of a single-family home. **Sacramento**, **Portland**, **Inland Empire**, and **Seattle** are the next most affordable markets in terms of home prices. Focus groups in **Los Angeles**, **San Francisco**, **San Jose**, **Oakland**, **Orange County**, and **Honolulu** all attribute the lack of affordable housing to potentially hindering future economic growth. In the case of **San Francisco**, concern exists simply about the availability of enough housing! The burdens of regulation, high construction costs, and rising NIMBY sentiment are cited as significant issues in **Portland**, **San Francisco**, **Oakland**, and **Orange County**. Are there solutions? The implementation of new construction processes and the rise of urbanized suburban developments may be solutions for **San Francisco**, **San Jose**, and **Oakland**. **Sacramento** and the **Inland Empire** are markets that may actually benefit from the higher cost in other markets as they report seeing companies and employees move from higher-cost areas into the market.

The rate of employment growth in the Pacific region markets over the next five years is projected to exceed the national average in all markets except **Los Angeles** and **Honolulu**. In the case

Exhibit 4-11 **Local Outlook: Pacific Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

of **Honolulu**, the slower growth may be due to the extremely low unemployment rate. The economies of **San Francisco**, **Seattle**, **San Jose**, and **Portland** appear to be operating near capacity. The labor force participation rates in these markets are well above the national rate as is the GMP produced per capita. This is evidenced by the comments from focus group participants in **Seattle** and **Portland** that attracting qualified labor is getting more difficult and could be hurting employment growth. Attracting qualified labor is also a concern in markets where the economy is strong but has room to grow. **Sacramento**, **San Diego**, and **Honolulu** also expressed a concern about each market's ability to attract enough qualified workers.

The Pacific region contains a number of markets that are on the cutting edge of technological development. It could be said that this region may also be where we could see real estate trends developing that may well spread to other parts of the United States. **San Francisco** and **San Jose** are seeing rising trends in buildings designed to meet the rapidly changing technology needs of tenants. Focus group participants in **Portland** admit that building owners in their market could do a better job adapting to changing tenant requirements. **Sacramento**, **Los Angeles**, **Orange County**, and **San Diego** also are reporting changing development trends to adjust to technology requirements, but also the influence of coworking space on the market. Rising costs and regulations in core cities are increasing the discussion around transit node development and the urbanization of the suburbs. **San Francisco**, **San Jose**, and **Portland** all report that the right suburban locations are becoming more attractive. Industrial demand is good in most markets. **Seattle**, **Tacoma**, and **Oakland** are seeing strong demand in distribution space, while **Sacramento** and **San Diego** are seeing increased demand for light-industrial and flex properties. **Los Angeles** and the **Inland Empire** continue to report good industrial activity, but some concern exists regarding the potential for overbuilding in the near term.

Midwest: East

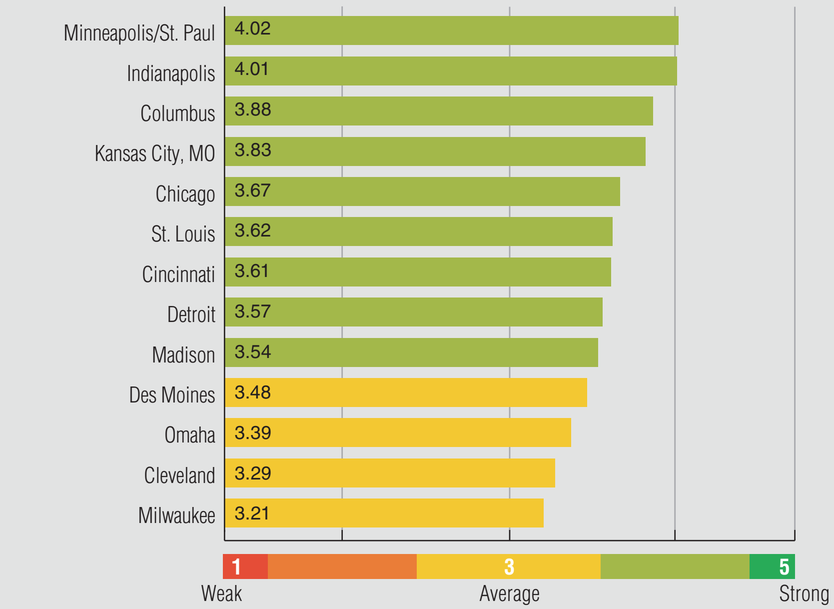
"Investors who take the time to look continue to be surprised by the number of hidden gems they can find in the region."

Emerging Trends online survey respondents ranked the 2019 investment and development opportunities as good for the eight markets located in the Midwest's East region. Despite the region's slower demographic and economic growth rates, survey respondents like the educated and productive workforce along with lower business and living costs. Local market respondents feel that the markets in the region offer significant investment and development opportunities that may actually exceed the current level of investor demand.

Chicago is the largest market in the region. In fact, by population, **Chicago** is over twice the size of the next-largest market in the region. **Chicago** remains an attractive gateway market for investment, and interest appears to be on the rise as other gateway markets become increasingly expensive. A continuing trend in the markets of the region is the revitalization of neighborhoods and areas within the market. **Detroit**, **Indianapolis**, **Cleveland**, and **Cincinnati** can all point to successful projects that have revitalized neighborhoods. It isn't surprising that the markets in this region are particularly interested in the potential of the new opportunity zone legislation to spur increased levels of new development.

Population growth has historically trailed the U.S. average, but 2019 population growth rates in **Indianapolis**, **Columbus**, and **Madison** are all projected to exceed

Exhibit 4-12 **Local Outlook: Midwest Region**



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Average score of local market participants' opinions on strength of local economy, investor demand, capital availability, development and redevelopment opportunities, public/private investments, and local development community.

the national rate. These markets continue to benefit from positive levels of net migration. Employment growth in this group of markets also is expected to lead the region, and also exceed the projected national growth rate. This growth comes along with concerns of being able to attract enough qualified labor. **Indianapolis** in particular has noted that growth will depend on luring new workers to the market. **Columbus** and **Madison** have labor force participation rates well above the national rate and sub–3 percent unemployment rates. Attracting new workers will be critical to future growth. All three of these markets have a smaller percentage of firms in smaller (i.e., fewer than 100 employees) firms, although new business creation is on the rise as noted by the higher percentage of firms less than one year old.

The Midwest's East region has a reputation of losing younger residents to other areas of the United States, but the analysis of the age distribution of the population tells a different story. **Cincinnati**, **Columbus**, **Indianapolis**, and **Madison** all have a higher percentage of residents under 24 years of age when compared with the same statistic on the U.S. level. **Chicago**, **Columbus**, **Indianapolis**, and **Madison** also have a higher population percentage in the prime worker years of 25 to 44 than the United States as a whole. In fact, only **Cleveland** and **Detroit** have a higher percentage of residents over the age of 65 than the national rate. On the other hand, these two markets also have a higher percentage of population between the ages of 45 to 64. A concentration higher than the national rate of more experienced workers could be behind the higher than the national rate of productivity in the region.

While every market in the region has high levels of productivity, **Madison**, **Chicago**, and **Milwaukee** shine in this category.

Quality of life and cost of living are two of the most competitive advantages for markets in the region. **Cleveland** and **Detroit** boast some of the most affordable single-family housing in the United States. Affordable housing becomes even more attractive when combined with the relatively higher real per-capita personal incomes in the market. Business costs in the region also remain well below the national level. Business costs in **Cincinnati**, **Cleveland**, and **Indianapolis** are particularly attractive. While costs are above the national level in **Chicago**, they compare very well to those in other gateway markets.

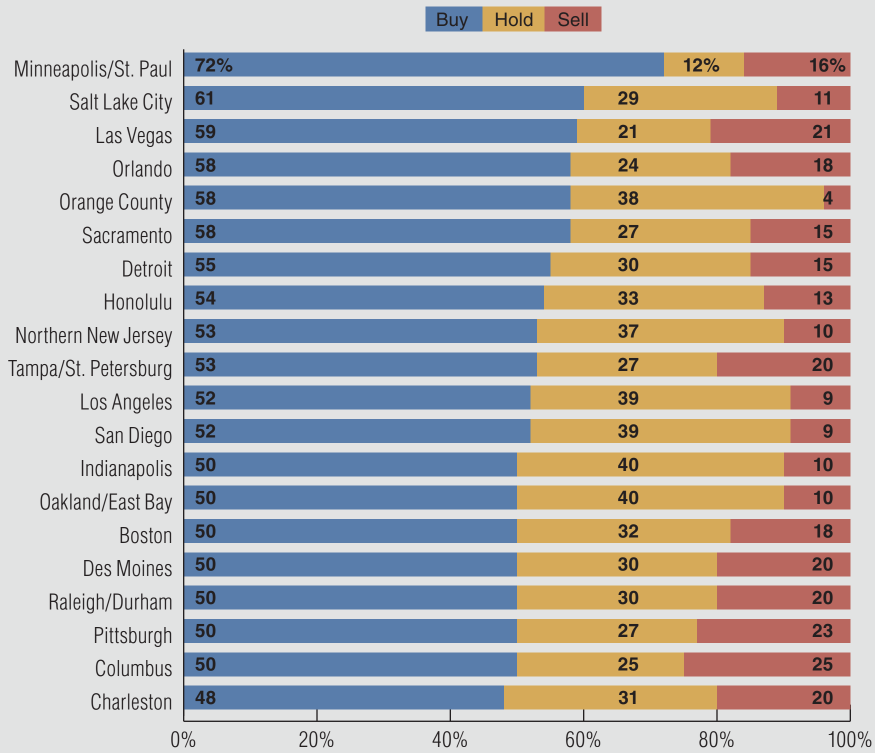
Midwest: West

"The competitive cost structure for companies and employees could be a real advantage going forward."

The outlook for 2019 investment and development opportunities in the markets that make up the Midwest's West region is good according to the online *Emerging Trends* survey respondents. In general, demographic growth in these markets is equal to or greater than the U.S. average. Current and projected economic growth also is equal to or better than the U.S. average. The result is that investors are seeing the real estate opportunities that are available.

Minneapolis/St. Paul, **Kansas City**, **Omaha**, and **Des Moines** are projected to see 2019 population growth that is greater than the national rate. These markets are benefiting from positive net migration as new residents are moving into the markets. Positive net migration is vital to supporting the labor forces in these markets since every market in the

Exhibit 4-13 **U.S. Multifamily Property Buy/Hold/Sell Recommendations**



Source: *Emerging Trends in Real Estate 2019* survey.

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

region currently has a labor force participation rate that is well above the national rate along with lower unemployment rates. Focus groups in **St. Louis** and **Minneapolis/St. Paul** both report labor shortages as hindering economic activity in general and construction projects specifically.

A continuing concern for the markets in this region is their ability to retain and attract younger workers. The **St. Louis** focus group mentioned this as a specific area of concern. While this is still a focus area for the other markets, **Des Moines**, **Kansas City**, **Minneapolis/St. Paul**, and **Omaha** all have a higher percentage of population under age 44 than the national average. The labor force may be stretched in these markets, but it is also very productive, with the gross metro product (GMP) per capita higher than the national level in four of the five markets. This rate is very good in **Des Moines** and **Minneapolis/St. Paul**.

The business dynamics in the region are more dependent on larger employers than the national average, particularly in **Des Moines**, **Omaha**, and **Kansas City**. Small-business creation is growing in each of the markets and is particularly strong in **Kansas City** and **Minneapolis**. One positive result of the dependence on larger employers is the generally higher wages. Per-capita incomes are higher in all five markets, particularly in **Omaha**, **Minneapolis/St. Paul**, and **St. Louis**.

The higher incomes combine well with the lower living costs and perceived high quality of life in the region. Single-family home affordability is among the best in the United States, with **Des Moines** and **Omaha** being particularly affordable.

Local market survey respondents feel that the real estate investment and development opportunities are strong in the region's markets. In many cases, the opportunities are targeted in specific submarkets and neighborhoods. Each market continues to look for the opportunity to replicate this success across the metropolitan area. A number of markets see opportunities in the expansion of the industrial sector as the region remains important in the national distribution of goods and the rise of new consumer supply chain dynamics. **St. Louis** and **Kansas City** have both benefited from this current trend. **Minneapolis/St. Paul** is seeing opportunities for redevelopment of large single-use properties to mixed-use projects. **Des Moines** and **Omaha** are seeing higher levels of development, particularly multifamily, in the continued growth and revitalization of their urban cores.

Additional market data from the *Emerging Trends* survey and district council focus groups are available at **uli.org/et19** 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, 2005–2019.

Exhibit 4-14 **Economy**

	2019 population			Population distribution % of total population				Business costs					2019 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	2019 real GMP per capita	GMP per capita 5-year projected growth	Real per-capita income	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	**330.67**	**0.7**	**1,117**	**31%**	**26%**	**26%**	**16%**	**$53,423**	**1.2**	**$46,293**	**1.7**	**100**	**151,174.14**	**0.6**	**1.0**	**1.0**	**1.0**	**1.0**
Albuquerque	0.92	0.9	2.66	32%	27%	25%	17%	$43,977	0.7	$37,600	1.4	98.7	400.44	0.9	1.8	1.1	0.7	1.0
Atlanta	6.06	1.3	95.03	33%	29%	26%	13%	$58,540	0.8	$45,309	1.2	97.0	2,827.21	1.0	1.7	1.3	0.8	1.0
Austin	2.23	2.3	42.79	36%	31%	23%	11%	$63,172	0.7	$46,713	1.0	99.6	1,096.89	2.0	1.6	1.2	0.8	1.1
Baltimore	2.83	0.4	–2.66	30%	27%	27%	16%	$62,918	1.7	$49,708	1.5	110.4	1,438.42	0.6	2.0	1.2	0.7	0.9
Birmingham	1.16	0.4	2.21	31%	27%	26%	16%	$50,098	0.9	$47,806	1.2	88.8	541.89	0.4	1.5	1.0	0.9	0.9
Boise	0.74	1.6	7.03	34%	28%	24%	15%	$42,939	0.8	$39,709	1.4	95.6	333.80	1.3	1.6	1.0	1.1	0.9
Boston	4.90	0.5	10.95	30%	27%	27%	16%	$82,335	1.2	$58,200	1.3	117.5	2,811.18	0.5	2.2	1.3	0.8	0.9
Buffalo	1.13	–0.3	–4.98	29%	24%	27%	20%	$46,238	1.0	$45,667	1.2	98.4	573.27	–0.2	1.7	1.0	0.9	1.0
Cape Coral/Fort Myers/Naples	1.16	1.9	46.73	25%	22%	26%	27%	$37,007	1.2	$54,074	1.5	98.6	421.10	1.8	1.4	0.9	1.0	1.5
Charleston	0.81	1.6	7.95	32%	28%	25%	15%	$46,342	0.9	$42,763	1.3	98.4	368.95	1.5	1.5	1.0	1.0	1.2
Charlotte	2.62	1.5	55.49	32%	28%	26%	14%	$59,566	1.0	$46,210	1.2	95.0	1,239.93	1.3	1.6	1.3	1.0	1.0
Chicago	9.54	0.2	–33.63	31%	28%	26%	15%	$63,630	0.9	$49,417	1.3	105.5	4,796.21	0.4	1.9	1.2	0.9	0.9
Cincinnati	2.20	0.3	3.04	32%	26%	26%	16%	$56,727	1.0	$49,982	1.2	92.2	1,115.35	0.2	1.7	1.1	1.1	1.0
Cleveland	2.06	–0.1	–8.06	28%	25%	28%	19%	$59,142	1.0	$50,294	1.1	92.7	1,080.39	–0.1	1.9	1.1	1.1	0.9
Columbia	2.13	0.8	9.12	34%	28%	25%	13%	$58,674	1.0	$46,916	1.2	94.3	1,118.57	0.7	1.8	1.3	0.7	0.9
Columbus	7.68	1.7	10.37	35%	29%	24%	12%	$68,459	0.8	$46,282	0.9	99.3	3,790.26	1.4	1.6	1.3	1.0	0.9
Dallas/Fort Worth	0.67	1.2	87.41	26%	21%	28%	25%	$24,659	1.2	$37,189	1.0	99.0	207.42	0.8	1.7	0.8	0.9	1.4
Deltona/Daytona Beach	2.97	1.3	20.05	31%	31%	25%	13%	$67,242	0.9	$49,775	1.1	107.7	1,532.74	1.2	1.7	1.3	0.9	1.0
Denver	0.67	1.4	19.33	34%	29%	24%	13%	$72,446	0.9	$48,402	1.4	95.1	379.68	1.3	1.6	1.5	0.8	0.9
Des Moines	4.32	0.0	7.40	30%	25%	28%	17%	$55,692	1.0	$47,324	1.2	96.1	2,044.41	0.0	2.0	1.3	1.2	0.9
Detroit	1.99	1.1	–7.98	27%	27%	27%	18%	$48,637	1.0	$40,082	1.2	108.0	869.21	1.2	1.8	1.3	0.7	1.0
Fort Lauderdale	0.29	0.5	28.94	38%	25%	22%	16%	$41,333	1.4	$39,531	1.6	97.3	145.25	0.5	1.6	0.8	0.5	1.0
Gainesville	0.91	0.8	3.72	31%	25%	26%	18%	$41,862	0.8	$41,364	1.1	91.5	431.94	0.8	1.6	1.1	1.3	1.0
Greenville, SC	1.21	0.1	9.25	30%	24%	28%	18%	$67,084	1.3	$53,214	1.3	105.2	646.71	0.0	1.8	1.2	1.0	0.7
Hartford	0.99	0.2	–0.19	30%	28%	23%	18%	$60,166	0.8	$40,711	1.3	135.7	488.72	0.3	1.5	1.0	0.6	1.4
Honolulu	7.15	1.7	–0.45	35%	30%	24%	11%	$69,195	1.2	$46,207	1.2	102.7	3,205.20	1.6	1.6	1.1	1.3	0.9
Houston	2.08	1.0	67.09	33%	28%	25%	14%	$62,364	1.2	$49,666	1.1	93.3	1,100.52	0.9	1.8	1.2	1.0	0.9
Indianapolis	4.72	1.6	9.84	35%	28%	24%	13%	$30,996	1.0	$31,870	1.1	109.4	1,528.85	1.6	1.4	0.7	1.0	1.0
Inland Empire	1.56	1.3	–15.70	31%	27%	26%	16%	$44,262	1.1	$43,911	1.4	98.6	725.60	1.3	1.7	1.3	0.8	1.1
Jacksonville	4.02	0.3	–0.97	30%	25%	28%	18%	$59,878	1.0	$52,547	1.7	115.0	1,840.87	0.2	1.1	1.1	0.7	0.8
Kansas City, MO	2.17	0.8	–1.26	32%	27%	25%	15%	$56,167	1.2	$47,057	1.2	95.4	1,118.99	0.8	1.8	1.3	0.8	0.9
Knoxville	0.89	0.6	6.67	30%	25%	27%	19%	$43,142	1.2	$43,484	0.9	89.9	403.60	0.6	1.7	1.1	1.1	1.0
Las Vegas	2.29	1.4	47.77	31%	29%	25%	15%	$47,475	1.3	$39,255	1.4	100.9	1,028.20	1.7	1.4	1.0	0.7	2.6
Long Island	2.87	0.0	–4.57	29%	25%	28%	18%	$59,245	1.3	$52,667	1.4	118.0	1,368.78	0.1	1.8	0.9	0.8	0.9
Los Angeles	10.20	0.2	–18.29	30%	30%	26%	15%	$68,664	1.3	$43,949	1.3	120.4	4,531.22	0.2	1.8	1.0	0.8	1.1
Louisville	1.31	0.6	3.69	30%	27%	27%	16%	$53,103	0.6	$46,248	1.1	91.4	682.30	0.4	1.5	1.0	1.2	0.9
Madison	0.67	0.8	0.67	33%	27%	25%	15%	$70,167	1.4	$50,540	1.3	98.2	411.53	0.9	1.4	1.0	0.9	0.9
Memphis	1.36	0.5	2.67	33%	28%	25%	14%	$48,589	0.9	$43,887	1.0	91.4	659.98	0.4	1.7	1.0	0.8	1.0
Miami	2.80	0.9	29.03	28%	28%	27%	17%	$49,532	0.9	$38,638	1.2	111.2	1,212.80	0.8	1.7	1.1	0.6	1.1

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 4-14 **Economy**

	2019 population			Population distribution % of total population				Business costs					2019 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	2019 real GMP per capita	GMP per capita 5-year projected growth	Real per-capita income	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	**330.67**	**0.7**	**1,117**	**31%**	**26%**	**26%**	**16%**	**$53,423**	**1.2**	**$46,293**	**1.7**	**100**	**151,174.14**	**0.6**	**1.0**	**1.0**	**1.0**	**1.0**
Milwaukee	1.58	0.1	–2.27	32%	26%	26%	16%	$61,034	1.2	$49,363	1.4	96.3	882.14	0.2	1.9	1.1	1.3	0.8
Minneapolis/St. Paul	3.68	0.8	17.58	32%	28%	26%	14%	$63,843	1.1	$51,054	1.4	102.7	2,038.06	0.7	1.8	1.2	1.0	0.9
Nashville	1.97	1.4	17.87	33%	28%	25%	14%	$62,006	1.0	$51,000	1.0	95.4	1,027.31	1.3	1.8	1.2	0.9	1.0
New Orleans	1.29	0.4	1.06	30%	28%	26%	16%	$55,186	1.4	$44,938	1.2	94.5	587.73	0.3	1.7	0.9	0.8	1.4
New York–Brooklyn	2.65	0.2	–11.42	32%	31%	24%	13%	$49,394	1.3	$47,447	1.6	125.2	763.30	0.4	2.1	0.6	0.5	0.7
New York–Manhattan	1.67	0.2	–2.15	24%	36%	23%	16%	$327,643	1.7	$55,942	1.9	125.2	2,647.19	0.4	1.2	2.0	0.2	1.1
New York–other boroughs	4.33	0.2	–5.94	30%	29%	26%	14%	$46,220	1.1	$32,297	1.1	125.2	1,151.98	0.4	1.7	0.6	0.6	0.7
Northern New Jersey	6.56	0.3	–9.29	30%	25%	28%	17%	$62,533	1.0	$52,733	1.6	120.0	3,070.52	0.2	2.0	1.2	0.7	0.8
Oakland/East Bay	2.87	1.0	7.90	29%	29%	26%	15%	$61,581	1.4	$51,198	1.2	120.0	1,207.17	0.9	1.8	1.1	1.1	0.9
Oklahoma City	1.41	1.0	3.48	35%	28%	23%	14%	$49,708	1.4	$44,864	1.3	93.5	658.18	1.0	1.5	0.9	1.0	1.0
Omaha	0.95	1.0	2.23	35%	28%	24%	13%	$60,893	0.8	$51,528	1.1	95.1	511.52	0.6	1.7	1.2	0.9	0.9
Orange County	3.24	0.8	–9.08	30%	29%	26%	16%	$80,012	1.4	$49,457	1.3	122.0	1,669.36	0.9	1.8	1.3	1.2	1.2
Orlando	2.62	1.7	70.78	32%	29%	25%	15%	$47,236	0.8	$37,629	1.2	101.8	1,321.30	1.6	1.7	1.2	0.7	1.9
Philadelphia	6.13	0.2	–5.18	31%	27%	27%	16%	$66,830	1.3	$51,347	1.2	108.1	2,978.70	0.3	2.2	1.2	0.7	0.8
Phoenix	4.92	1.6	88.32	33%	27%	24%	16%	$46,851	1.1	$40,219	1.2	100.2	2,152.10	1.6	1.8	1.3	0.9	1.0
Pittsburgh	2.33	–0.1	3.58	26%	24%	28%	21%	$57,559	1.2	$50,702	1.2	99.5	1,193.77	0.0	2.1	1.1	1.0	0.9
Portland, ME	0.54	0.4	0.79	26%	25%	29%	20%	$54,084	0.7	$46,534	1.2	106.9	288.79	0.2	1.8	1.0	0.9	1.1
Portland, OR	2.53	1.2	17.67	29%	30%	25%	15%	$66,237	0.9	$45,840	1.2	103.0	1,226.05	1.1	1.7	1.1	1.2	0.9
Providence	1.63	0.2	0.27	30%	25%	28%	18%	$45,752	1.1	$45,879	1.3	105.5	742.00	0.2	1.9	0.9	0.9	1.0
Raleigh/Durham	2.66	1.5	63.31	33%	27%	26%	14%	$55,929	1.4	$46,584	1.1	98.6	1,246.03	1.2	1.8	1.1	0.9	0.9
Richmond	1.32	0.8	5.29	31%	27%	26%	16%	$56,646	0.9	$49,528	1.2	97.5	688.98	0.7	1.8	1.3	0.8	0.9
Sacramento	2.38	1.3	6.36	32%	27%	25%	15%	$49,531	1.4	$46,186	1.2	105.1	1,004.05	1.3	1.6	1.0	0.7	0.9
Salt Lake City	1.25	1.4	2.97	37%	30%	21%	11%	$65,469	1.3	$42,554	1.2	99.3	752.78	1.4	1.6	1.3	1.0	0.8
San Antonio	2.56	1.7	23.79	34%	28%	24%	14%	$45,878	0.8	$42,552	1.0	94.5	1,079.46	1.3	1.6	1.1	0.8	1.2
San Diego	3.40	0.8	0.14	31%	29%	25%	15%	$62,675	1.6	$44,522	1.4	120.7	1,509.80	0.9	1.7	1.1	1.0	1.2
San Francisco	1.68	0.5	5.12	25%	32%	26%	17%	$158,192	2.0	$82,853	1.8	129.4	1,165.70	0.8	2.1	1.7	0.5	1.1
San Jose	2.03	1.0	0.98	31%	29%	25%	14%	$131,955	1.4	$65,974	1.6	130.9	1,153.20	1.0	2.0	1.2	1.4	0.8
Seattle	3.09	1.1	25.72	29%	31%	26%	14%	$95,438	0.9	$59,931	1.5	115.9	1,770.80	0.9	1.6	1.0	1.1	0.9
Spokane, WA/Coeur d'Alene, ID	0.74	1.1	5.73	31%	26%	25%	18%	$39,376	0.9	$39,817	0.8	99.9	317.36	1.0	1.7	0.9	0.9	0.9
St. Louis	2.81	0.2	–0.56	30%	26%	27%	17%	$51,935	1.0	$50,117	1.2	93.1	1,400.39	0.3	1.9	1.1	0.9	1.0
Tacoma	0.91	1.4	6.25	32%	28%	25%	14%	$44,497	1.2	$39,084	0.9	105.0	328.72	1.0	1.5	0.8	0.9	0.9
Tallahassee	0.39	0.9	4.32	37%	26%	23%	14%	$38,505	1.1	$38,777	1.5	96.5	185.03	0.8	1.4	0.8	0.5	1.0
Tampa/St. Petersburg	3.20	1.1	55.46	27%	26%	27%	20%	$42,952	1.2	$39,995	1.3	102.0	1,378.73	1.1	1.9	1.3	0.8	1.1
Tucson	1.04	0.8	14.13	30%	24%	24%	21%	$34,323	1.3	$38,064	1.3	97.4	388.89	0.8	1.8	1.0	0.8	1.0
Virginia Beach/Norfolk	1.74	0.6	2.96	32%	26%	25%	16%	$49,619	1.1	$44,698	1.3	125.2	793.56	0.4	1.6	1.0	0.9	1.1
Washington DC–District	0.71	0.9	0.29	29%	37%	21%	12%	$175,080	0.9	$60,424	2.1	92.5	805.09	0.6	1.1	1.3	0.2	0.9
Washington DC–MD suburbs	2.35	0.7	5.09	31%	28%	27%	15%	$60,806	1.4	$54,649	1.6	87.9	987.36	0.7	0.9	1.2	0.7	0.9
Washington DC–Northern VA	3.07	1.2	7.35	32%	31%	26%	12%	$80,667	1.0	$53,877	1.4	93.3	1,520.48	1.1	0.8	1.7	0.5	0.9
Westchester, NY/Fairfield, CT	1.94	0.1	–3.20	30%	25%	28%	17%	$82,590	1.6	$80,065	1.8	125.2	888.81	0.1	1.2	1.2	0.7	0.9
West Palm Beach	1.51	1.2	42.97	26%	24%	25%	25%	$49,541	1.1	$60,604	1.3	109.0	636.82	1.1	1.9	1.3	0.7	1.3

Exhibit 4-15 **Housing**

	Households		Median home prices				2019 single-family home metrics as % of previous cycle peak					Multifamily metrics	
Market	2019 total (000s)	5-year projected annual growth % change	2019 price	2018–2019 % change	2019 as % of previous cycle peak	Affordability index*	Permits	Starts	Completions	Sales	Walk Score	Rent/cost of ownership**	Rent as % of household income
United States	**124,896**	**1.0**	**$262,723**	**3.0**	**118%**	**151.7**	**85.2%**	**87.8%**	**74.1%**	**90.3%**	**54**	**0.8**	**29.1**
Albuquerque	354.07	1.2	$214,024	4.1	108%	145.8	57.3%	57.0%	49.7%	63.7%	43	0.5	18.4
Atlanta	2,254.02	1.7	$202,298	1.6	118%	178.7	67.5%	65.8%	61.1%	95.8%	49	0.8	22.1
Austin	810.29	2.6	$295,162	0.6	156%	142.4	101.4%	102.7%	111.6%	101.4%	40	0.6	19.4
Baltimore	1,085.06	0.8	$276,120	3.2	97%	170.0	73.7%	70.7%	63.8%	57.5%	69	0.6	18.2
Birmingham	460.78	0.7	$204,113	2.0	124%	157.4	53.4%	53.9%	47.6%	98.9%	35	0.6	19.3
Boise	270.87	1.9	$223,740	2.4	109%	151.7	75.4%	78.0%	72.1%	67.3%	40	0.5	16.9
Boston	1,868.19	0.9	$483,766	4.1	118%	112.1	97.0%	102.2%	104.9%	120.8%	81	0.7	32.5
Buffalo	475.56	0.0	$147,530	4.3	139%	247.8	89.3%	88.6%	72.1%	64.5%	68	0.8	19.0
Cape Coral/Fort Myers/ Naples	492.11	2.3	$314,761	2.7	89%	208.5	54.2%	55.5%	55.1%	71.5%	38	0.5	23.2
Charleston	320.14	2.1	$268,856	1.4	125%	137.9	93.8%	95.9%	92.0%	133.2%	40	0.6	22.4
Charlotte	993.46	1.8	$226,528	0.7	145%	154.6	114.0%	115.6%	104.7%	94.9%	26	0.7	20.6
Chicago	3,566.92	0.6	$269,595	3.3	98%	150.8	52.2%	50.7%	47.0%	71.2%	78	0.7	23.9
Cincinnati	870.17	0.7	$165,193	2.3	114%	232.1	64.3%	62.3%	63.3%	78.6%	50	0.7	16.7
Cleveland	875.74	0.4	$153,125	2.4	110%	231.5	84.0%	79.8%	74.4%	91.9%	60	0.8	19.4
Columbus	838.78	1.2	$191,451	1.9	128%	196.2	85.0%	82.4%	80.9%	101.9%	41	0.7	17.6
Dallas/Fort Worth	2,718.35	2.0	$256,098	2.0	171%	145.4	101.7%	99.7%	106.5%	106.6%	46	0.6	21.2
Deltona/Daytona Beach	290.24	1.6	$199,546	3.9	99%	145.3	50.3%	52.0%	48.3%	77.6%	37	0.8	30.7
Denver	1,161.99	1.9	$409,902	1.6	164%	107.8	82.7%	82.8%	81.1%	107.1%	61	0.5	21.6
Des Moines	261.10	1.9	$196,808	0.8	129%	191.3	106.3%	97.6%	102.1%	81.8%	45	0.6	15.9
Detroit	1,724.40	0.6	$178,844	4.3	97%	201.4	60.0%	59.4%	57.2%	76.0%	55	0.8	20.1
Fort Lauderdale	743.02	1.3	$296,753	1.4	80%	111.4	70.9%	65.6%	58.8%	84.9%	59	0.7	32.3
Gainesville	115.95	1.0	$198,546	2.9	86%	177.2	60.4%	60.8%	55.8%	80.0%	34	0.5	19.8
Greenville, SC	357.88	1.4	$197,406	1.6	128%	162.6	107.0%	103.1%	100.9%	113.9%	41	0.6	20.3
Hartford	473.15	0.4	$250,694	5.1	95%	194.3	57.4%	56.8%	45.0%	92.0%	71	0.6	18.9
Honolulu	315.89	0.5	$776,667	1.2	121%	62.0	83.1%	85.4%	68.5%	78.8%	64	0.5	37.4
Houston	2,514.48	2.0	$234,742	0.9	154%	159.0	79.7%	83.0%	88.5%	88.5%	49	0.6	20.2
Indianapolis	810.77	1.3	$172,985	0.8	141%	214.8	83.2%	79.2%	77.3%	111.7%	30	0.7	17.2
Inland Empire	1,448.99	1.7	$358,480	4.0	89%	91.4	38.3%	39.3%	32.6%	70.2%	41	0.5	26.4
Jacksonville	601.13	1.7	$235,209	2.7	110%	153.7	72.4%	75.5%	77.0%	92.6%	27	0.6	19.9
Jersey City	270.09	1.1	$364,959	6.1	95%	89.9	99.7%	112.7%	91.7%	78.7%	87	0.8	34.3
Kansas City, MO	844.87	1.0	$203,066	2.2	131%	193.2	84.8%	82.7%	82.3%	88.7%	34	0.6	17.0
Knoxville	361.02	1.0	$179,313	2.1	115%	173.6	53.9%	56.5%	57.6%	93.3%	31	0.6	17.5
Las Vegas	834.66	1.9	$254,969	2.2	80%	124.4	71.8%	72.8%	58.1%	128.9%	41	0.6	22.4
Long Island	939.13	0.4	$493,822	3.9	104%	115.5	57.5%	57.1%	50.7%	62.2%	95	0.6	24.3
Los Angeles	3,363.58	0.4	$602,499	7.2	104%	58.9	76.2%	79.5%	77.9%	61.9%	67	0.5	36.6
Louisville	526.45	1.0	$175,503	2.3	128%	194.9	89.5%	87.0%	83.9%	50.9%	33	0.7	17.4
Madison	280.65	1.2	$272,388	2.0	120%	161.5	78.8%	79.1%	88.1%	95.5%	49	0.4	13.0
Memphis	517.49	0.9	$172,405	2.2	121%	180.1	30.2%	30.3%	27.0%	75.9%	37	0.6	18.7
Miami	957.60	1.2	$350,483	1.8	92%	75.2	52.7%	54.5%	57.1%	79.5%	79	0.6	38.5
Milwaukee	647.41	0.5	$249,575	2.3	113%	153.1	62.3%	63.3%	55.3%	95.8%	62	0.6	20.8

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 4-15 **Housing**

	Households		Median home prices				2019 single-family home metrics as % of previous cycle peak					Multifamily metrics	
Market	2019 total (000s)	5-year projected annual growth % change	2019 price	2018–2019 % change	2019 as % of previous cycle peak	Affordability index*	Permits	Starts	Completions	Sales	Walk Score	Rent/cost of ownership**	Rent as % of household income
United States	**124,896**	**1.0**	**$262,723**	**3.0**	**118%**	**151.7**	**85.2%**	**87.8%**	**74.1%**	**90.3%**	**54**	**0.8**	**29.1**
Minneapolis/St. Paul	1,431.47	1.1	$265,894	3.1	114%	167.4	57.7%	56.6%	51.8%	88.7%	69	0.7	20.5
Nashville	776.68	1.8	$252,593	1.9	137%	142.3	93.1%	91.2%	95.4%	97.4%	28	0.6	21.7
New Orleans	494.21	0.8	$205,103	2.4	119%	155.9	55.2%	61.4%	60.1%	88.5%	58	0.7	26.4
New York–Brooklyn	953.27	0.5	$665,498	6.0	117%	43.5	36.8%	40.5%	99.2%	79.8%	89	0.5	39.6
New York–Manhattan	789.26	0.5	$869,760	4.5	79%	51.9	42.0%	26.1%	56.3%	80.5%	97	0.6	50.0
New York–other boroughs	1,474.63	0.5	$476,569	5.5	103%	73.2	57.9%	59.0%	88.7%	71.3%	78	0.6	40.6
Northern New Jersey	669.28	1.0	$237,800	3.0	98%	152.8	75.7%	78.5%	77.1%	78.3%	33	0.6	19.4
Oakland/East Bay	2,359.45	0.6	$388,106	5.0	95%	137.2	97.4%	94.1%	91.5%	86.5%	80	0.7	28.6
Oklahoma City	1,028.34	1.1	$812,312	6.7	113%	65.7	94.2%	91.3%	85.7%	61.3%	72	0.4	27.3
Omaha	544.21	1.2	$155,367	1.7	117%	213.6	108.9%	107.8%	98.5%	93.3%	33	0.6	13.8
Orange County	370.63	1.3	$180,870	2.4	131%	207.9	96.0%	89.7%	96.6%	97.8%	45	0.7	16.7
Orlando	1,061.81	1.0	$823,232	3.7	116%	57.1	91.6%	87.6%	80.5%	58.8%	54	0.3	27.3
Philadelphia	612.87	1.6	$349,024	3.1	92%	109.8	75.0%	74.4%	65.4%	104.2%	42	0.6	31.2
Phoenix	2,315.55	0.7	$245,982	3.8	105%	178.1	88.9%	91.6%	86.0%	83.6%	79	0.7	23.0
Pittsburgh	1,821.02	2.1	$250,897	2.1	94%	135.6	74.3%	74.4%	63.9%	78.6%	41	0.6	20.2
Portland, ME	1,014.34	0.3	$154,575	2.8	119%	247.5	99.9%	103.9%	110.0%	103.8%	62	1.0	22.0
Portland, OR	225.53	0.7	$281,120	2.8	115%	147.3	72.0%	68.6%	67.7%	79.4%	61	0.5	19.1
Providence	986.14	1.6	$392,803	2.9	133%	105.3	113.0%	114.9%	103.0%	76.0%	65	0.5	22.3
Raleigh/Durham	641.31	0.4	$302,892	4.8	104%	129.2	69.8%	72.9%	67.8%	87.9%	79	0.6	25.4
Richmond	1,045.13	1.8	$234,489	1.4	129%	168.4	114.7%	114.1%	109.2%	88.0%	30	0.7	20.5
Sacramento	512.01	1.2	$270,154	4.2	116%	149.2	82.7%	82.6%	81.7%	86.2%	51	0.5	18.0
Salt Lake City	858.25	1.5	$376,476	6.7	100%	108.6	51.6%	51.2%	44.5%	81.3%	47	0.5	23.4
San Antonio	412.03	1.8	$304,963	2.6	132%	131.2	140.5%	145.4%	132.5%	76.4%	57	0.5	17.2
San Diego	876.07	1.9	$215,065	1.1	141%	151.7	61.3%	64.4%	62.8%	107.4%	38	0.6	19.3
San Francisco	1,184.90	1.1	$640,547	5.0	106%	64.8	54.7%	53.4%	43.9%	78.2%	51	0.4	28.4
San Jose	661.12	0.7	$1,280,964	7.9	144%	48.2	78.8%	72.8%	70.9%	62.9%	86	0.3	32.0
Seattle	679.01	1.0	$1,259,795	5.9	151%	51.4	85.4%	77.5%	75.0%	66.6%	51	0.3	26.0
Spokane, WA/Coeur d'Alene, ID	1,237.35	1.5	$527,186	4.8	128%	98.4	142.2%	141.9%	126.3%	98.4%	73	0.5	24.8
St. Louis	294.93	1.7	$234,863	2.6	113%	143.6	88.8%	90.0%	83.4%	90.5%	48	0.5	17.8
Tacoma	1,128.95	0.6	$182,384	2.3	124%	208.2	73.9%	71.0%	66.8%	82.8%	65	0.7	17.3
Tallahassee	338.01	1.9	$329,032	4.7	109%	112.3	76.1%	80.8%	78.5%	97.3%	53	0.5	19.6
Tampa/St. Petersburg	150.48	1.4	$194,633	1.7	103%	188.1	61.5%	65.9%	57.0%	75.4%	32	0.5	16.5
Tucson	1,288.45	1.4	$226,924	2.7	101%	144.4	84.4%	82.9%	83.3%	97.4%	50	0.7	25.1
Virginia Beach/Norfolk	421.34	1.1	$215,913	2.5	88%	134.8	47.8%	48.9%	41.9%	83.1%	42	0.5	18.9
Washington, DC–District	308.12	1.1	$530,857	4.8	118%	80.0	146.0%	161.6%	76.4%	90.0%	77	0.5	27.5
Washington, DC–MD suburbs	834.44	1.0	$359,908	3.4	88%	155.1	69.1%	63.3%	82.2%	55.2%	69	0.6	19.3
Washington, DC–Northern VA	1,109.91	1.5	$459,362	3.0	102%	140.5	61.5%	62.2%	58.2%	62.3%	60	0.6	20.1
Westchester, NY/Fairfield, CT	691.96	0.4	$457,636	5.5	89%	127.0	87.2%	83.3%	50.9%	72.2%	68	0.7	28.5
West Palm Beach	967.85	2.0	$242,947	2.7	90%	131.5	93.9%	94.6%	83.5%	91.9%	42	0.7	26.7

Exhibit 3-16 **Local Market Perspective: Investor Demand**

Weak | | Average | | Strong

Boston	4.59	Northern New Jersey	3.71
Seattle	4.57	West Palm Beach	3.70
Denver	4.55	Houston	3.65
Austin	4.53	Richmond	3.63
New York–Brooklyn	4.53	Long Island	3.63
Nashville	4.51	Cincinnati	3.61
New York–Manhattan	4.49	Madison	3.60
Orange County	4.44	Virginia Beach/Norfolk	3.59
San Francisco	4.44	Las Vegas	3.58
Los Angeles	4.43	Cape Coral/Fort Myers/Naples	3.54
Dallas/Fort Worth	4.42	Tacoma	3.50
San Jose	4.32	Louisville	3.44
Atlanta	4.30	St. Louis	3.40
Raleigh/Durham	4.30	Pittsburgh	3.39
Charlotte	4.24	Jacksonville	3.38
Minneapolis/St. Paul	4.22	Omaha	3.36
Orlando	4.21	Detroit	3.32
Miami	4.21	Boise	3.25
Washington, DC–District	4.19	Sacramento	3.24
Portland, OR	4.15	Westchester, NY/Fairfield, CT	3.22
Oakland/East Bay	4.14	Des Moines	3.18
Salt Lake City	4.12	Gainesville	3.12
Washington, DC–Northern VA	4.10	Baltimore	3.12
Tampa/St. Petersburg	4.06	New Orleans	3.10
Fort Lauderdale	4.06	Oklahoma City	3.10
San Diego	4.05	Knoxville	3.06
Jersey City	4.00	Milwaukee	3.06
Phoenix	3.97	Cleveland	3.00
New York–other boroughs	3.86	Spokane, WA/Coeur d'Alene, ID	3.00
San Antonio	3.86	Tallahassee	3.00
Indianapolis	3.85	Deltona/Daytona Beach	2.92
Inland Empire	3.84	Tucson	2.91
Honolulu	3.84	Birmingham	2.87
Philadelphia	3.82	Memphis	2.86
Columbus	3.82	Providence	2.59
Kansas City, MO	3.81	Portland, ME	2.56
Chicago	3.76	Albuquerque	2.38
Greenville, SC	3.76	Hartford	2.05
Charleston	3.75	Buffalo	2.00
Washington, DC–MD suburbs	3.75		

Source: *Emerging Trends in Real Estate 2019* survey.
Note: Ratings reflect perspective of local market participants.

Exhibit 3-17 **Local Market Perspective: Development/ Redevelopment Opportunities**

Weak | | Average | | Strong

Miami	4.00	Inland Empire	3.55
Portland, OR	3.99	Washington, DC–MD suburbs	3.55
San Antonio	3.99	Oakland/East Bay	3.52
Fort Lauderdale	3.97	Boise	3.50
Charlotte	3.97	Virginia Beach/Norfolk	3.50
Columbus	3.95	Omaha	3.50
Raleigh/Durham	3.95	West Palm Beach	3.50
St. Louis	3.92	Seattle	3.50
Dallas/Fort Worth	3.91	Northern New Jersey	3.48
Atlanta	3.90	Orange County	3.48
Orlando	3.88	New York–Manhattan	3.47
Tampa/St. Petersburg	3.88	Milwaukee	3.47
Indianapolis	3.88	Madison	3.44
New York–Brooklyn	3.86	Greenville, SC	3.44
Cleveland	3.86	Knoxville	3.44
Pittsburgh	3.86	New Orleans	3.40
Kansas City, MO	3.85	Tacoma	3.39
Minneapolis/St. Paul	3.85	San Jose	3.37
New York–other boroughs	3.82	Long Island	3.36
Nashville	3.82	Cape Coral/Fort Myers/Naples	3.36
Des Moines	3.82	Tallahassee	3.36
Detroit	3.81	San Diego	3.35
Salt Lake City	3.80	Memphis	3.33
Washington, DC–Northern VA	3.78	Jersey City	3.32
Denver	3.78	Baltimore	3.31
Cincinnati	3.77	Honolulu	3.25
Boston	3.73	Spokane, WA/Coeur d'Alene, ID	3.25
Philadelphia	3.73	Oklahoma City	3.20
Phoenix	3.72	Westchester, NY/Fairfield, CT	3.19
Austin	3.70	Gainesville	3.18
Washington, DC–District	3.68	Deltona/Daytona Beach	3.15
Houston	3.68	Birmingham	3.13
Richmond	3.67	Tucson	3.00
Los Angeles	3.63	San Francisco	2.98
Louisville	3.63	Portland, ME	2.88
Jacksonville	3.58	Buffalo	2.88
Las Vegas	3.58	Albuquerque	2.80
Chicago	3.58	Providence	2.73
Sacramento	3.55	Hartford	2.56
Charleston	3.55		

Source: *Emerging Trends in Real Estate 2019* survey.
Note: Ratings reflect perspective of local market participants.

Property Type Outlook

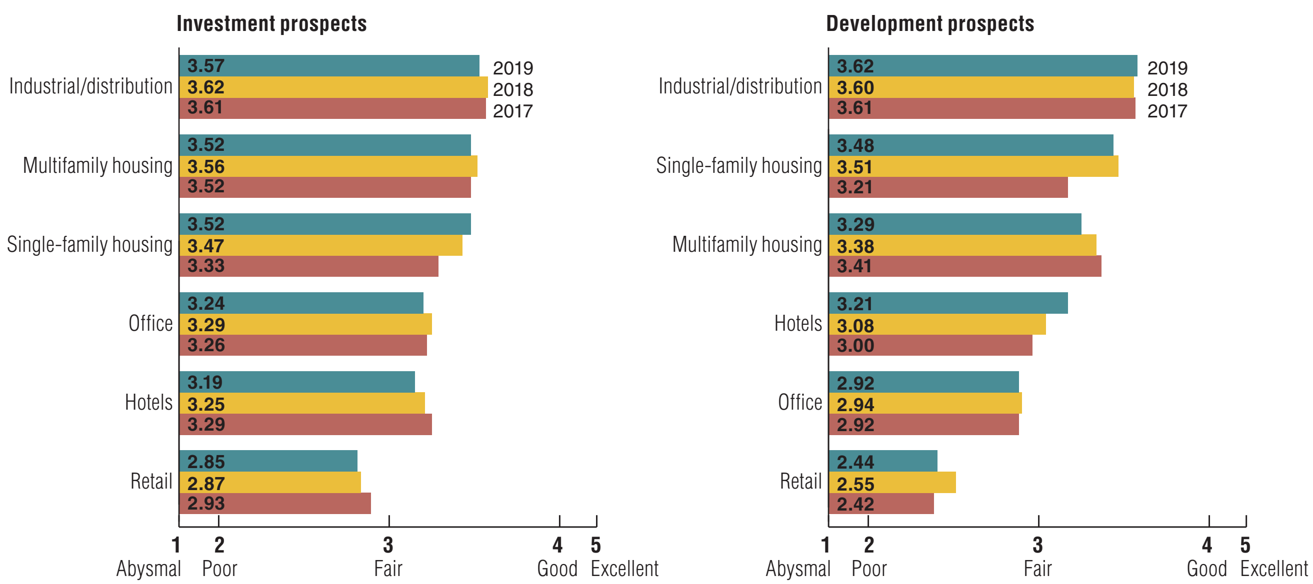
"The pace of change in all property types makes investing more complicated today. There is more investment committee discussion about the future viability and/or adaptability of properties."

Given the differences in demand drivers among property types, and the variation in the supply cycle for each, the degree of agreement, or common perspectives among developers, investors, and managers, on the outlook for the coming year or two is extraordinary.

For the short term, the theme appears to be "happy days are here again." At 2020 or beyond, the sense of an ebullient future rapidly evaporates. Perhaps this is not such a surprise, since our interviews and surveys were executed just as the nation's gross domestic product (GDP) spurted to an annualized 4.1 percent growth rate and the unemployment rate dipped to 3.9 percent. The propensity to expect those measures to strengthen, however, was sharply arrested by the awareness of a long cycle nearing its end and by the awareness of structural shifts not only in the economy, but also in the real estate industry itself.

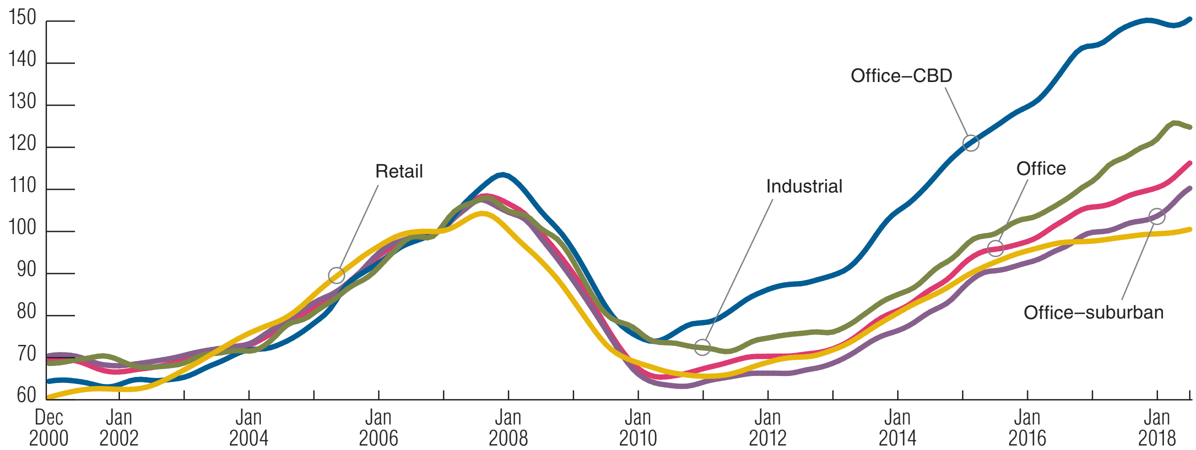
In many ways, those structural shifts have created a "barbell" economy, with very different conditions at the upper and lower ends of the market. The middle market—for homes, for retail, for offices—has been thinning out while the ends of the barbell fatten. The pressure of increasing costs—for land, for financing, for construction materials—is accommodated at the upper end of the property markets. And development has been directed

Exhibit 5-1 **Prospects for Major Commercial Property Types, 2017–2019**



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

Exhibit 5-2 **RCA Commercial Property Price Index, by Sector**



Source: Real Capital Analytics; data through July 2018, as of August 2018.

toward that segment. But those same rising costs constrain new supply for residential and commercial tenants requiring more economical space, and this just exacerbates the affordability problem—which is not just a housing issue anymore.

Also evident across the spectrum of property types is an awareness that "the end user is king." "Curation" and "concierge services" have become part of the vocabulary of property management. The phenomenon of amenity creep tends to ratchet upward in response to user preferences, and it is very difficult to reverse once a level of service has been established as "standard."

All property types continue to be affected by technological change. Most commentaries focus on how new technology affects the way business behaves. But the more fundamental effect is on the way that businesses think. Often, the response to anticipating users' future requirements and the consequent shift in business operations is to ask, "Is there an app for that?" and, if not, to try to get ahead of change by supporting the development of such apps. That's fine for one end of the barbell, but perhaps a whole range of market needs require another kind of solution—one more personal than technological, more individualized than tool-driven.

Finally, from a capital-allocation perspective, the barbell shape evokes the dilemma of yield seeking versus risk aversion. As the climax of the current cycle approaches, the search for yield is pushing real estate toward ever more opportunistic and entrepreneurial ventures. Once past the peak, though, capital conservation will likely be rotating to the fore. Indeed, the softening of transaction volume since 2015 may be a strong indicator that the trend after 2019–2020 will be an upward repricing of real estate risk.

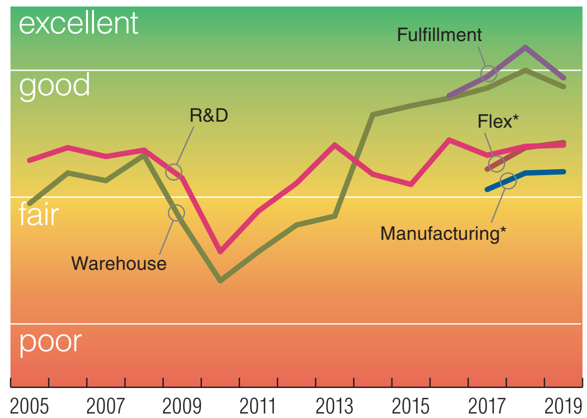
Industrial

Logistics real estate remains the consensus overweight among investors thanks to a compelling story of cyclical and structural factors that have united to deliver superior returns.

A long and broad-based economic expansion has generated demand from the makers, movers, and sellers of goods who need to get product to ever-discerning consumers around the world. The rapid growth of e-commerce, accompanied by technological advancements such as predictive analytics, has forged a mind-set shift among consumers and businesses for unprecedented levels of service. The gold standard is the trifecta of faster delivery, greater product variety, and consistently in-stock inventory. The result of this shift is a spike in demand for logistics space, especially at the consumption end of the supply chain.

According to a recent survey, the proportion of consumers who believe that receiving goods in three to four days constitutes "fast shipping" fell to 35 percent in 2017, down from 42 percent in 2016 and 53 percent in 2015. While just one aspect of consumer service, this shift illustrates how quickly expectations are shifting as e-commerce continues to gain market share. For many traditional retailers, e-commerce now represents up to 25 percent of overall sales, and a much higher proportion of growth—in other words, e-commerce has become a primary consideration.

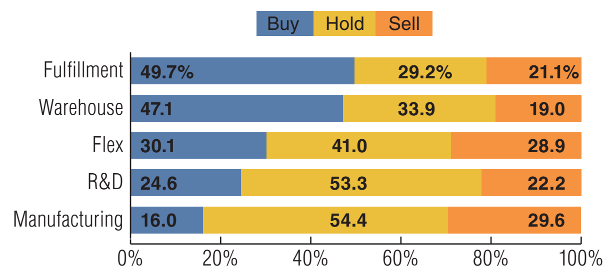
Exhibit 5-3 **Industrial/Distribution Investment Prospect Trends**



Source: *Emerging Trends in Real Estate* surveys.

*Third year in survey.

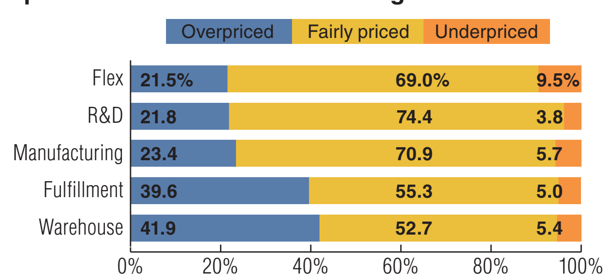
Industrial/Distribution Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

Opinion of Current Industrial Pricing



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

On the supply side, scarce land, regulatory barriers, and rapidly increasing replacement costs have kept new space contained compared with prior cycles.

This combination of strong demand and limited new supply has brought pricing power to landlords. Rents have been reaching new peaks in most markets across the United States and Canada. Rapid income growth has attracted capital to the sector, a trend that has gained even more steam as industrial outperformed the National Council of Real Estate Investment Fiduciaries (NCREIF) benchmark from 2011 to 2017. And, a wave of capital seeking to increase allocations to industrial has continued to push cap rates to new lows.

Many of the forces that have shaped recent outperformance should persist through this cycle and beyond. Still, more changes are coming as owners, operators, and users incorporate new technology and adjust to other emerging trends that are poised to ripple through supply chains and, by default, logistics real estate.

Demand: Not Just E-Commerce

Demand for logistics space can be grouped into three main drivers: consumers' basic daily needs, cyclical spending, and structural trends. In the first half of 2018, leasing activity was spread about evenly through these categories, with a slight shift toward more activity on the structural side than in prior years. Transportation companies were active lessees of space as they built out networks to accommodate greater parcel-delivery volumes resulting from e-commerce. Today, e-commerce fulfillment represents approximately 20 percent of new leasing, with online sales generating three times the demand for warehouse/distribution space compared with in-store sales.

But e-commerce is just part of the story. An overall paradigm shift is elevating the role of location within supply chains. By securing space in the right location, logistics occupiers can respond with greater agility to service-level expectations and optimize their costs, making them willing to pay more for the right space in the best place. Labor, too, is an important part of this shift and, as one interviewee aptly pointed out, industrial properties are now being marketed with an emphasis on amenities to attract workers.

Demand for buildings that can facilitate the final step of the supply chain, also known as Last Touch™, is surging, particularly in 24-hour cities with large, high-income populations. Given the difficulty and cost of bringing new product online in these locations, effective rents in Last Touch™–capable buildings have been growing at a multiplier of the U.S. rate, attracting investors as well.

Supply: If You Build It . . .

As noted above, logistics locations near dense urban areas come at a premium. However, supply is constrained by available land, regulations, and replacement costs, and these constraints are much higher in locations near consumers. Given record-low vacancy rates in most markets across the United States, developers are now bringing product to these markets and submarkets where possible. Furthermore, the economics of development have been incentivizing larger projects to a higher degree than ever before, with new supply consisting largely of big boxes. As a result, one-third of new construction is concentrated in just a handful of markets: Dallas, California's Inland Empire, Atlanta, and Pennsylvania. Within these markets, most projects are outside the urban core, in outlying submarkets where large plots of land are more plentiful. Demand has kept pace with new supply. Illustrating the broad-based strength of industrial demand, markets with little new or available supply have seen rapid rent growth, while markets with more new supply have captured the bulk of leasing volume.

Vacancy and Rents: Capacity Constraints Intensifying Rent Growth

In 2017, the U.S. market effectively hit capacity constraints, with users forced to wait for new product to come online before they could expand. The national vacancy rate fell to a historic low of 4.6 percent, with several key markets recording vacancy rates of less than 3 percent. This lack of available space caused net absorption to decline in 2017 and early 2018, even as latent demand accelerated. As a result, the market began to trade volume for price, with substantial (and widening) variation by market, submarket, and size category.

Markets with a mismatch between demand and supply are easy to identify based on what is happening with rent growth. In 2017 and early 2018, effective rents in coastal metropolises have grown at more than twice the rate of those in noncoastal metro areas. The San Francisco Bay area, Seattle, Los Angeles, and New Jersey/New York City are the clear leaders. In large inland cities like Chicago, Dallas, and Atlanta, rents have recovered and grown, albeit at a slower pace as new supply is brought online at a rapid clip in outlying submarkets. Even within these markets, rents in infill locations have grown at a multiple of outlying submarkets. Replacement costs are rising rapidly, with several interviewees pointing to double-digit increases in prices for certain building materials and low unemployment pushing up construction labor costs. High construction costs contribute to the upward pressure on rents.

Emerging Trends survey results reveal a strong preference for infill and secondary and tertiary markets as many investors are searching for upside on rental rates or higher yields; New York City's boroughs have some of the highest proportions of "buy" recommendations, along with markets like Nashville, Phoenix, and Cincinnati (see exhibit 4-4).

Investment Trends: "Capital Markets on Fire"

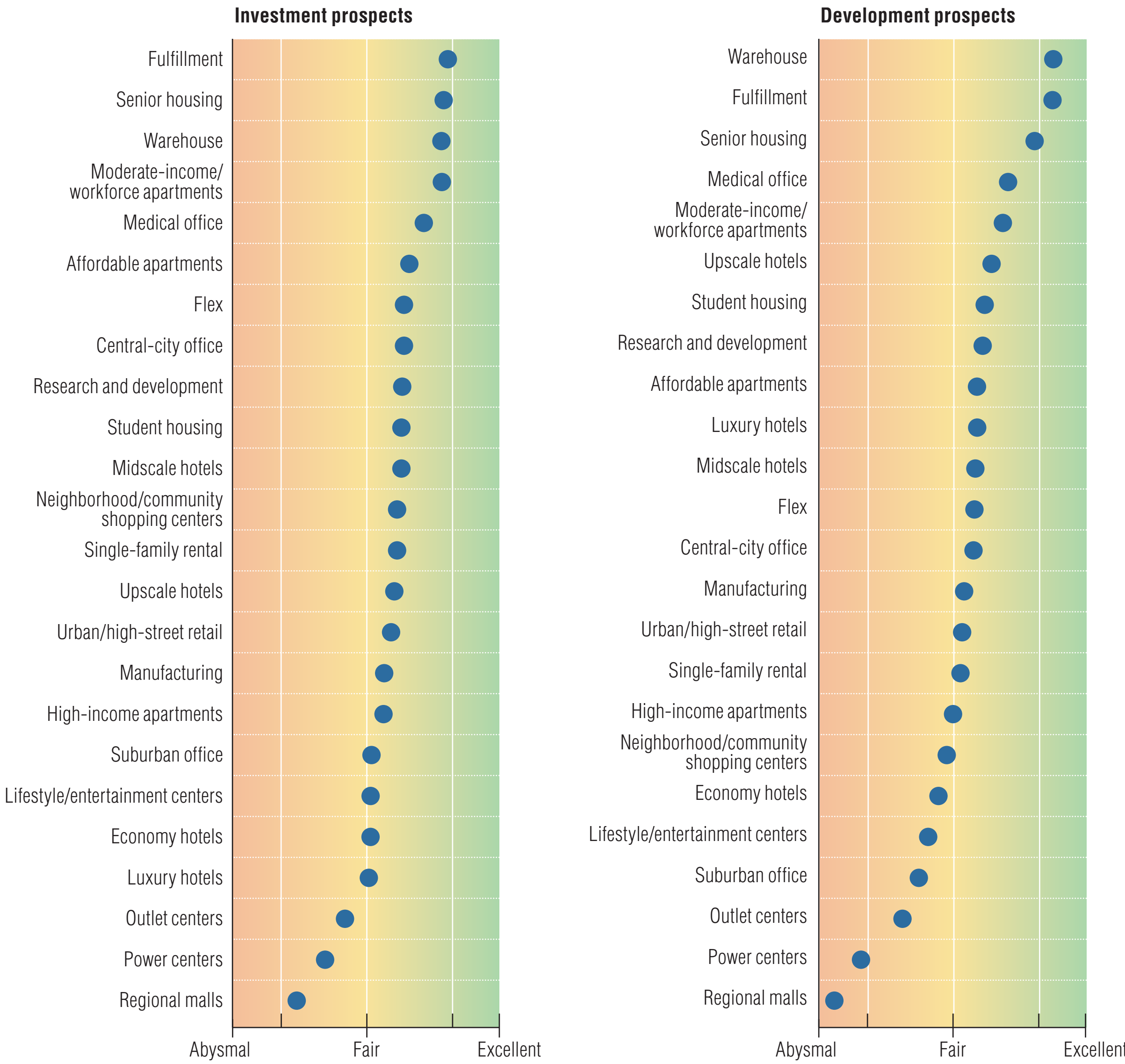
Industrial's strong fundamentals have not gone unnoticed. Capital has poured into the sector, pushing down cap rates and driving up values. One of the primary challenges in navigating today's market is the sourcing of deals. Pricing is at new peaks and development is more difficult than ever. There remains a wall of capital looking to be deployed in the logistics space. Buyer pools remain deep, particularly for high-quality assets. Evidence exists that more investors are venturing out on the risk spectrum. Cap rates in secondary and tertiary markets compressed significantly in early 2018; the spread between Class A and Class B/C product is narrowing, and more investors are focused on opportunistic value-add development opportunities. For most assets, the gap between in-place and market rents remains at a historically wide level. This embedded net operating income (NOI) growth will be harvested through the near term, maintaining positive momentum for asset values.

Outlook: Give Consumers What They Want

With market conditions solidly on the side of the landlords, the leasing environment is challenging for logistics customers looking to grow. Renewal activity is up and lease terms are getting longer as occupiers and operators seek to lock in occupancy and rates. The need to secure the right space to generate revenue and optimize costs is escalating. E-commerce represents 25 percent or more of some omnichannel retailers' sales and, in many cases, a substantially higher proportion of sales growth. Service levels cannot be ignored. At the same time, supply chain costs are rising. Certainly, logistics rents are contributing to rising expenses, but rents represent only a small proportion of core supply chain costs—currently about 5 percent. More important are increasing transportation costs, wages, and inventory carry costs. These will prompt more and more users to examine their supply chains to find ways to optimize both service levels and costs and adjust their distribution networks accordingly.

Prologis Research dug into supply chain economics and found that a decentralized distribution network for e-fulfillment is most sustainable over the medium to long term, with lower transportation costs outweighing the increased costs of distributed inventory. No one supply chain model works for every customer. Experimentation and fluidity should continue to produce a diverse range of user requirements. Consumer preferences are clearly putting the most demand at the consumption end of the supply chain.

Exhibit 5-4 **Prospects for Commercial/Multifamily Subsectors in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

Investment Outlook: Stay Ahead of Supply Chains for Long-Term Gains

One interviewee described the situation as an environment of growth coupled with anxiety. Investors are energized by the industrial sector's current growth profile and prospects, and yet they are nervous about record-high pricing and emerging macro headwinds. This paradox is illustrated by the *Emerging Trends* survey results: industrial/distribution was ranked as having the top investment and development prospects; about 80 percent of respondents said they would buy or hold fulfillment or warehouse product, yet approximately 40 percent of respondents said fulfillment/warehouse assets are overpriced. Still, with greater demand and less new supply than in prior cycles, the outlook for medium- to long-term growth is intact even as values are likely to fluctuate in tandem with the economic cycle.

Industry veterans see more changes coming. One such veteran noted that we are still in the early innings of e-commerce, while another has emphasized the importance of keeping a close eye on—and, where possible, staying ahead of—trends such as autonomous vehicles, predictive analytics, and robotics. While long-term investors should continue to examine how best to "future-proof" their portfolios against these disrupters, logistics facilities that can enable fast delivery, enhance access to labor, and avoid competition from nearby new supply should continue to outperform.

Single- and Multifamily Overview

In 2018, housing's $26.4 trillion business complex ecosystem of supply and demand forces answered—unequivocally—two big questions, and raised two more, probably as important.

The good news first: Young adults do and will value, work for, and attain the American dream of homeownership after all. More than one of every three homebuyers these days is 37 or younger. Questions as to millennials' broad and deep embrace of owning—albeit almost ten years later in life than prior generations due to a number of mostly financial factors—seem to have been resolved. We can see it in recent data from the U.S. Census Bureau: millennials experienced the largest gains in homeownership rates among all age groups in 2017.

Second, remaining expectations or hopes that immigration would somehow reinfuse America's job sites with a reliable stream of predictable, lower-cost semiskilled laborers in the next five years have largely disappeared. In their place, capital investment, strategic planning, and operational adjustments have pivoted toward modernizing materials flow and construction processes through far more automated, high-quality factory-based building systems. The shift has only just begun, and—given the highly fragmented, hyper-local nature of building shelter in America—may take years to play out.

Still, in both millennials' high-impact engagement with homeownership, and in reckoning that restocking a pool of inexpensive day worker construction labor is not a reasonable path forward, an inflection point has been reached in the past 12 months.

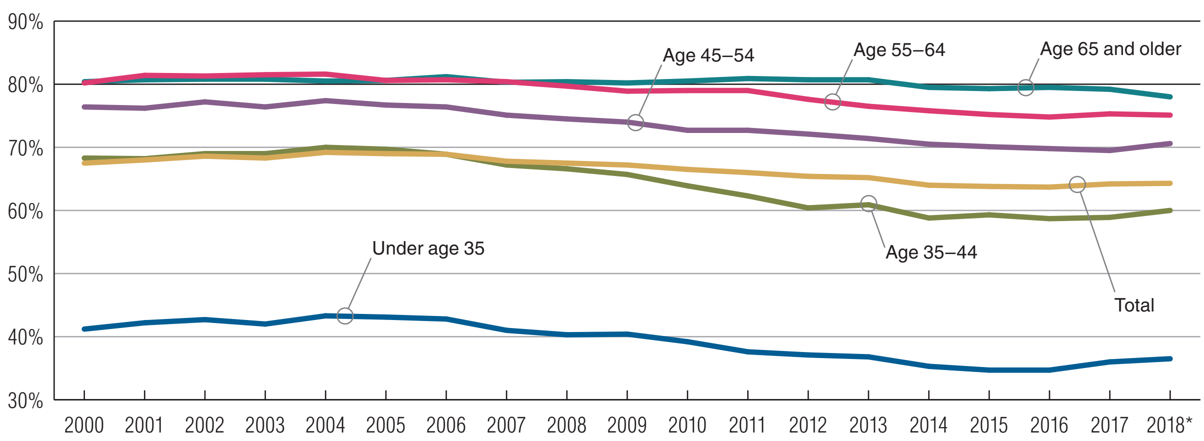
The bad news—which locks both single- and multifamily stakeholders into the same vicious circle with too many people bidding on too few residential properties—is that higher prices and more priced-out households are increasingly the only imaginable scenario. An underbuilt America means a scarcity of homes at all levels, which means that prices of houses—since everybody needs one—go up, and up, and up, as they have. The double whammy now is that costs and prices have gone up too far too fast in many areas around the nation.

The anticipated formation of 1.5 million new households in 2018 suggests that total single- and multifamily starts expectations of 1.3 million will fall short of demand, putting more upward price pressure on for-rent and for-sale properties.

Apartments

Three matters of interest eclipse all others among decision makers who will shape the trends in multifamily rental investment, development, and construction over the next 18 to 36 months. One is a source of marvel and eager anticipation; one pitches most multifamily business stakeholders into deep fits of anxiety; and the third might well be a blend of the other two.

Exhibit 5-5 **U.S. Homeownership Rates, by Age of Household, 2000–2018**



Source: National Association of Home Builders, accessed August 2018.

*Through second quarter.

Consider them separately, although in real life they connect, interweave like a triple helix of genetic information, and influence one another over time.

The place to begin is by acknowledging and appreciating an anticipated pivot point in the multifamily market. The eight-year post–Great Recession run-up in huge opportunity—with commensurately benign levels of risk—has, in large part, run its course. Multifamily business leaders have at last consumed—for the moment, anyway—the low-hanging fruit of a market that had been starved of development for more than a decade prior. With astonishing efficiency, design and engineering aplomb, effective marketing, and unprecedented margins, developers met a sudden and sustained surge of higher-end customer needs in America's high-velocity urban markets. This has helped seed a now-flourishing trend of renters-by-choice of all ages, income and wealth levels, and geographical areas.

"There are several disconnects going on in the marketplace at once, and no one trying to explain them connects the dots of what's a cause and what's an effect," says the chief executive officer of one of the nation's top 20 multifamily developers. "Even at 360,000 multifamily starts [this year], we're not building enough units in the right places to meet demand and keep rents in check, and now construction costs are going up faster than we can raise rents."

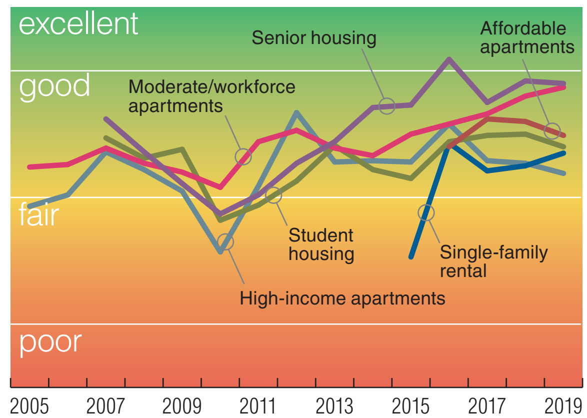
The sluice gates of demand for rental homes and communities still flow at every age and economic level, but what has changed—in a very big way—is that the expense of developing properties and improving existing stock has gone up fast, to a level that now exceeds income gains among would-be renters.

"We're past the point where incomes support compounding rent," says the president of a major multifamily asset management group. "In specific markets, we're seeing rents flatten and concessions in lease-ups, something you wouldn't have seen a couple of years ago."

According to one brokerage industry vice president for multifamily, "The wave of rentals coming to market will boost vacancy in neighborhoods where construction is most concentrated, nudging the national vacancy rate above 5 percent, as new units are absorbed. However, rising vacancy is not indicative of a broad-based shortfall in demand, as most markets are witnessing declining or stationary vacancy rates."

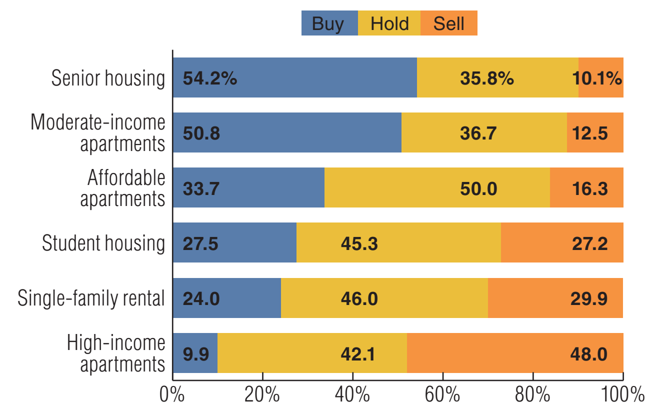
Remaining are strong forces of fundamental demand, from an age demographics perspective. Millions of 20-somethings are still funneling along at a high amplitude into rentals, now solidly

Exhibit 5-6 **Apartment Investment Prospect Trends**



Source: *Emerging Trends in Real Estate* surveys.

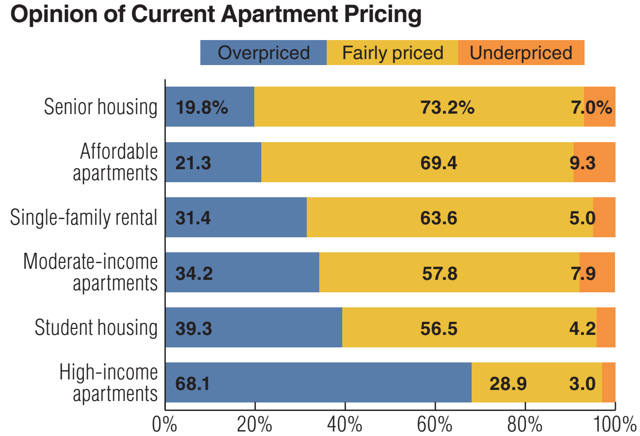
Apartment Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

Opinion of Current Apartment Pricing



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

supported by a macro economy that has reached virtually "full" employment. That economy has even started, slowly, to improve household wage and income opportunity for younger members of the workforce. Furthermore, aging baby boomers are increasingly renters-by-choice, in walkable, high-energy, culturally evolved communities—a financially lucrative market in the making that represents a big near-term operational upside.

The X-factor for the past seven or eight-plus years, swelling above normal the ranks of natural age-pattern demographic demand for multifamily rentals, has been a massive cohort of homeownership refugees who lost their homes during the mortgage meltdown on the demand side. Whereas multifamily developers, owners, and property managers had no hand in causing the X-factor of mortgage meltdown dynamics, a new X-factor will play a large role influencing both the challenges and opportunities of the next stretch of real estate dynamics.

The game that developers changed during the latest run—likely forever—has to do with who chooses to rent versus who has to. A lot of that recent demand, particularly for higher-end, highly amenitized, connected, urban-chic communities that have become the symbol of metro magnetism—among well-heeled younger adults and a fresh influx of retiree downsizers alike—speaks to a newly tapped class of folks who prefer renting to owning.

The two questions for those developers, and those who own, operate, and manage properties for the lion's share of 20 million–plus rental households, are as follows:

- Can they retain their newfound hold among those discretionary renters-by-choice who have fueled multifamily's juggernaut because they want to rent?

- Can they continue to make money operating, managing, and improving properties for the much, much bigger share of Americans who rent because they have to do so, having no other affordable option?

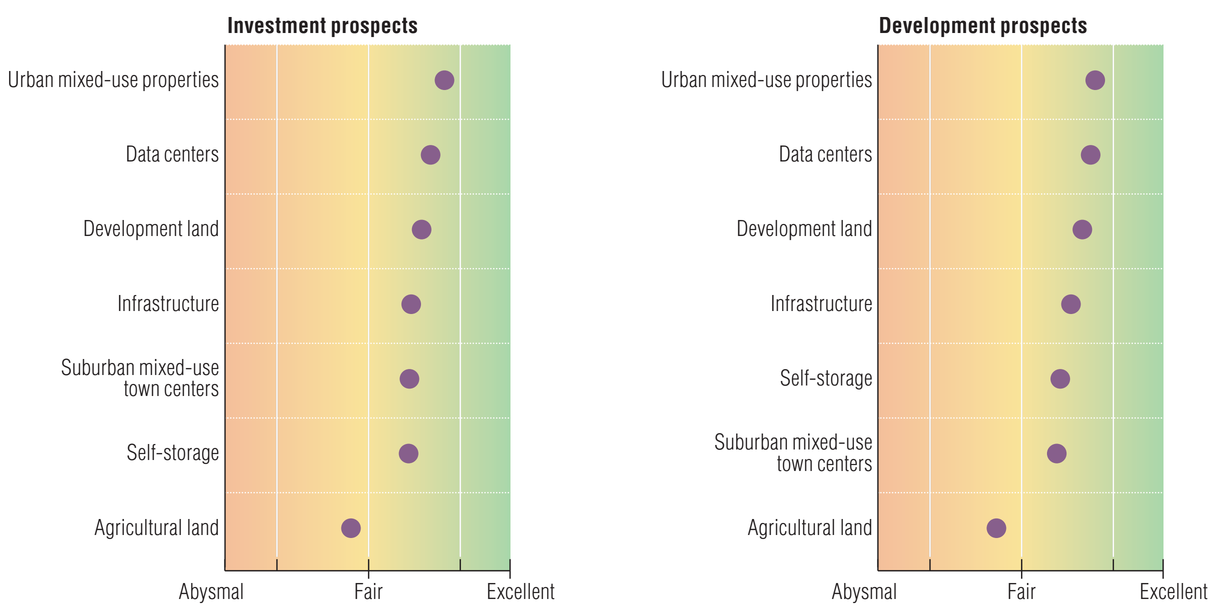
In light of such a moment of reckoning, there are three priority areas that will go far toward helping to either normalize business prosperity going forward, or, alternatively, emerge as formidable headwinds for real estate investment in multifamily.

The Rise of Applied Technology

The first priority area centers on emerging technology's ability to favorably influence the expense to develop and build a multifamily community, and the cost to operate and manage a property once it is leased.

Technologies—modular, factory-based, automated building technology as well as property management data, consumer

Exhibit 5-7 **Prospects for Niche and Multiuse Property Types in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

Senior Housing: An Update

The senior housing and care sector is generating buzz. Recent surveys from Institutional Real Estate Inc. (IREI) and National Real Estate Investor (NREI)/National Investment Center for Seniors Housing & Care (NIC) and results from this year's *Emerging Trends in Real Estate®* survey show keen investor interest. Dollars are flowing into the sector. Debt providers set generous annual allocations. Dedicated and commingled private equity funds are being raised as institutional investor interest accelerates. Some core funds even have senior housing allocations. Nearly 60 percent of the three largest health care REITs' investments are in senior housing. And foreign capital has arrived, with 9 percent of the top 20 buyers' expenditures originating from China in the past two years. Indeed, deals are being done. In the second quarter of 2018, more than $13.6 billion of transactions occurred on a rolling four-quarter total for the senior housing and care sector.

A lot of favorable considerations. So, why the interest? First, private equity returns for senior housing properties have outpaced those of other commercial real estate for the last ten years on both appreciation and income return performance. According to first quarter 2018 NCREIF Property Index (NPI) results, the total return for senior housing on a ten-year basis was 10.52 percent—far outpacing the overall property index of 6.09 percent and apartment returns of 6.1 percent.

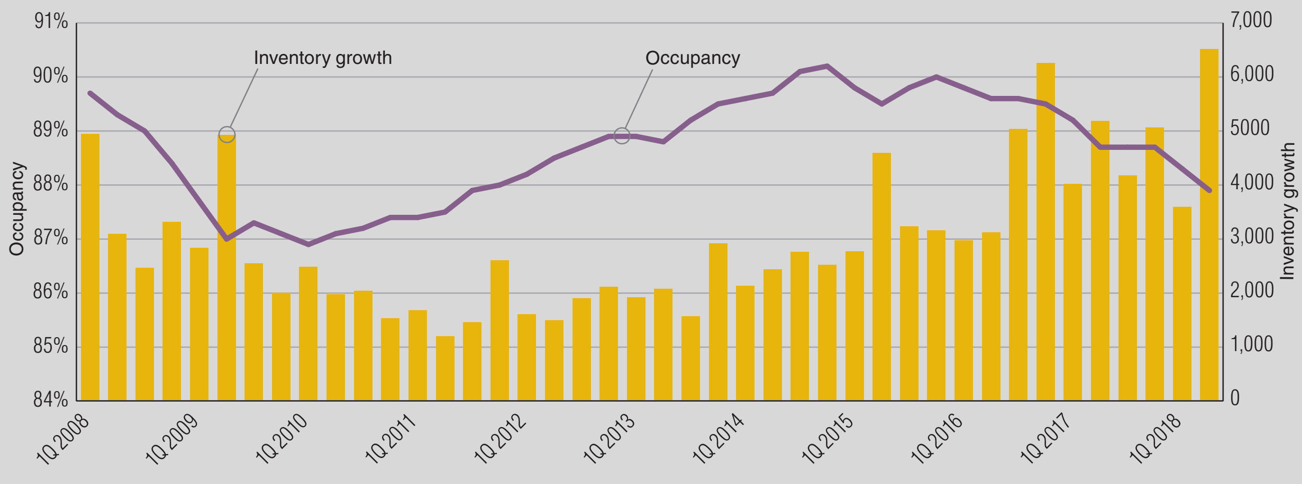
Second, investment in senior housing provides diversification because the sector is not as cyclical as other property types and was shown to be recession-resilient during the global financial crisis. Its "needs-based" demand characteristics allowed assisted living to withstand many of the downwind recession pressures faced by other commercial real estate sectors.

Third, while NOI growth may experience a dip in 2018, Green Street Advisors projects that senior housing will outpace the broader major-sector NOI averages in 2020, 2021, and 2022. Fourth, 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. Fifth, senior housing is increasingly recognized as a critical part of the solution for population health efficiencies and health care cost containment—a growing social, economic, and political reality.

Sixth, transparency and understanding of the sector are rising, 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 analysts' reports on health care REITs.

And lastly, as transaction volumes increase, investors have become more comfortable knowing that multiple exit strategies are likely.

Inventory Growth and Occupancy Rates: 31 Primary Senior Housing Markets, 1Q 2008–2Q 2018



Source: National Investment Center for Seniors Housing & Care.

What about demographics? Well, the perception of immediate demographic-driven demand by the baby boomers for senior housing is different from the reality. Today's typical senior housing resident is estimated to be 83 years of age or older. The oldest baby boomer today is 72, so it will be another ten years until the swell of baby boomers become residents.

However, we have now passed the nadir of births in the mid-1930s, the years when today's 83-year-olds were born. And growth in these senior-housing-aged cohorts is beginning to increase. Based on recently updated estimates from the U.S. Census Bureau, there were 8.5 million individuals aged 83 or more in 2017. In 2018, an additional 138,000 people are projected to age into the 83-plus cohort. By 2025, the U.S. Census Bureau estimates that this cohort will comprise 10.2 million people, for an increase of 1.6 million people over the eight-year period from 2017 to 2025.

Challenges exist. Rarely does an opportunity occur where there are no challenges. For senior housing, two challenges currently dominate: unit supply and labor shortages. First are supply/demand imbalances and occupancy challenges in some—but not all—markets. In the second quarter of 2018, the occupancy rate for senior housing slipped back to 87.9 percent, the lowest rate in seven years as inventory growth outpaced net demand. However, a very wide 16-percentage-point difference exists between second quarter 2018 occupancy rates for the most occupied senior housing market (San Jose at 95 percent) and the least occupied (San Antonio at 78.6 percent), according to NIC MAP® Data Service. Supply has been a more notable issue in many of the Sunbelt metropolitan markets, and less remarkable in the higher-barrier-to-entry markets such as northern California.

The second challenge is the labor market. Increasingly, operators are reporting labor shortages in all occupations across their operating platforms, ranging from care managers to executive directors. With the national unemployment rate falling below 4 percent, the challenge of recruiting and retaining employees is expected to only grow. Shortages in the health care professions as well as in other industry sectors, such as the construction trades, are slowly putting upward pressure on wage rates. In the 12 months ending in June, average hourly earnings rose 2.7 percent—up from 2.5 percent on average in 2017.

Taken in its entirety, it is a time for a cautious near-term approach in the senior housing sector. Currently, some operators 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 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.

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

interface, and customer care and communications tools—are widely available. As they are adopted, they can dramatically change the calculus of community investment, operations, and expected returns on the business. They can save time, money, and labor in the development stage and also in day-to-day management and administration.

One executive calls property management staffing the "Holy Grail," and likens scenarios that apply technology in an increasing number of aspects of the job to the "Uberization" of human resources, like leasing agents, so that they are present on an as-needed basis, with self-serve devices handling most of the heavy lifting. Another practice leader notes that technology "closes the gap between our customers and us," and he wonders aloud, "In a self-serve shared economy, how many people do you really need" as leasing agents at the respective properties, as owners and property managers look to wrest 15 to 25 percent of costs out of their current operations.

Technology provides one of the biggest opportunity areas to address the decoupling of household budgets and development expense. Factory conditions mean building processes can occur where climate is controlled, and where software and sensors laser-guide cutting and fitting, while integrating structural elements and building systems. This allows components to be brought to a site, pre-inspected, and approved for local codes and compliance, ready to be assembled like Legos. This, in turn, allows for faster lease-ups, generating cash flow far sooner than conventional build, finish, and merchandising timelines.

Meanwhile, as they adopt these technologies, developers, owner/operators, and property managers begin to solve for the chronic challenge of the labor and talent shortage bedeviling almost every industry sector. Stakeholders are keen to aggressively push for efficiencies in building, operations, real estate, and transactional technologies.

The Specter of Local Overreach

What they are not keen on is a growing push among municipalities, especially more expensive, economically dynamic ones, to permit local elected officials to impose and enforce rent-control guidelines and regulations. Rent control—a locality's reflexive instinct to protect its residents' sustained access to affordably priced apartments—has become an election plank in many a political candidate's platform. Where developers and apartment property owners see increased density in urban and infill areas as a solution to skyrocketing rent trends, local officials and advocates sometimes look at added residential density as a costly scourge—adding to noise, traffic, crime and infrastructure expense, as well as weighing on local school resources.

"Politicians get votes and win elections when they say that rent control is good," says the president of a national property and asset management firm.

Developers tend to look at rent control, however, as a lose/lose proposition. Fixing and regulating rent increases not only can negatively affect net operating incomes along the daisy chain of owners, operators, and property management stakeholders, but also can suppress development altogether. The ultimate effect is viewed as an even greater scarcity of new and improved existing housing stock, pricing out even more local residents from access to rental dwellings.

Cracking the Code on Who and Why

The third key priority area for the multifamily apartment business sector's key stakeholders comes back to how their capital investment, construction, operations, and management models profitably and sustainably address the housing preferences and access of both those who now choose to rent and those who need to rent.

Since access to technology has been democratized—meaning nearly everybody now interacts with it on some level or other—conventional multifamily developers recognize that their world could get turned upside down if they do not pay close attention to how people interact with and transform technology and how technology, too, interacts with and changes human behavior and expectations.

Airbnb units, co-living, single-family-home rentals, micro apartments, and eventual hybrids of all four models have cropped up on the fringes of the long-term-lease, cash-generation business models that dominate the multifamily space today. Smart money—both inside and outside the established business leaders in the space—is closely tuned into what is happening on those fringes.

When it comes down to it, sanctuary, safety, livability, and all the other values we associate with home can take many forms and underlie many potential new business models, some of which we haven't even gotten on our radars yet.

"What do we do that nobody else does, and the consumer can't do for him- or herself?" wonders the CEO a top-five multifamily real estate investment trust (REIT). "Sign a lease, handle tenant issues, handle a move-out, and service, and turn the apartment. The rest of it, a customer can do, or might want the option to do, for a price they'll pay."

As one era ends in which multifamily businesses grew and became fully formed components in the housing ecosystem and also created a brand-new, healthy, and growing class of renters-by-choice, a new era begins.

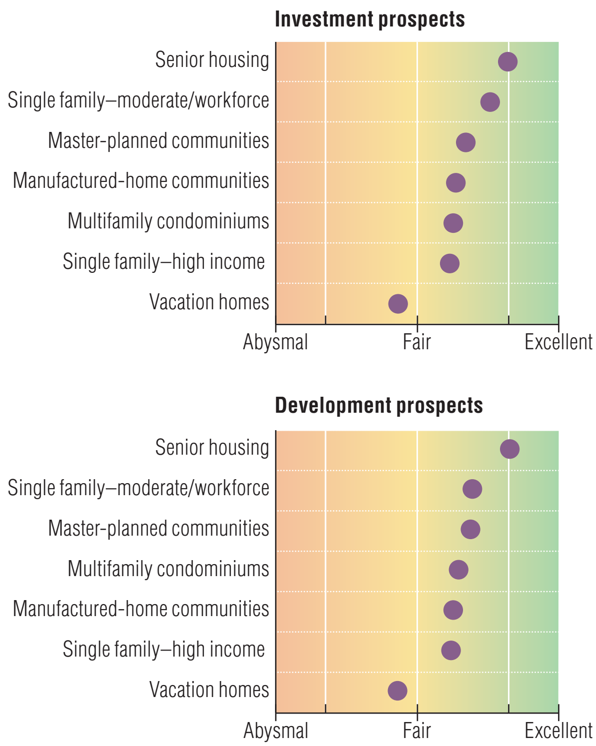
The next five- to ten-year period will be characterized by an interweaving of operational excellence and innovation; of data-backed real estate shrewdness and technology-supported design, development, and construction methods; and, ultimately, of the true convergence of real property and intellectual property as a means and solution to developing regenerative home and community equity.

Single-Family Homes

Ready or Not?

Housing's business community of investors, developers, builders, and their partners obsesses today over two words that represent one year: twenty-twenty.

Exhibit 5-8 **Prospects for Residential Property Types in 2019**



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

And the gnawing preoccupation likely will only intensify over the next 18 to 24 months.

Many regard 2020 as a horizon line, beyond which things could still be motoring along—or not. Lots of people—especially the ones controlling the purse strings on acquisition and development finance and investment—think the only responsible thing to do is to behave as if a downturn is inevitable somewhere near that horizon line, mitigating risk as they recognize its opacity.

And that is no mean feat. A set of current business conditions underlie a heady constructive basis for optimism about fundamental housing demand in the months ahead. Still, the gnawing sensation is palpable, progressive, and pervasive. Economic growth momentum, full employment and an open-spigot flow of new jobs, household formations, and even sparks of traction in household wage increases create a climate for expectations that single-family, for-sale growth will wind up in the high single digits in 2018. The outlook is for levels of growth exceeding 10 percent the following year, with momentum carrying well into the year after that, 2020.

Add to these favorable forces the fact that the United States has thus far been building new homes at levels lower than any seen since the mid-1990s, when the population was 20 percent less than it is now. Evidence would suggest that housing's recovery could yet have plenty of headroom for growth. Still, a premonitory uncertainty crops up in nearly every discussion about what lies just beyond the horizon of the next 24 or so months.

The two words—twenty-twenty—conjure for every stakeholder the fullest appreciable sense of both where one's firm is today and how the options stack up against one another near or beyond that bright horizon line.

Business Model Blues

The mounting uneasiness is existential. In its throes, an expected series of realignments and adjustments affect capital investment and structure, mergers and acquisitions, operations and construction, land positioning, design and marketing, and geographical concentration.

But something more than that is happening.

Attempting to "time the cycle" is not an unfamiliar challenge to many of the single-family for-sale industry's wizened participants. Many have weathered several housing cycles, including the worst housing meltdown since the Great Depression. They normally reduce exposure, monetize assets, and hang onto their ankles as a slowdown takes hold. What's new and different to them is a whole new set of concurrent options and opportunities that, bluntly, matter in every possible way as to how they do their business.

Change that feeds into those options at an exponential pace issues from two phenomena. They are separate but related: people's interaction with technology, and technology's interaction with people.

These phenomena change more than cycle-timing. They touch how housing development and construction create value for people who need, want, and aspire to shelter and community. From Google's Nest to co-living, from Rocket Mortgage to Opendoor services that allow existing homeowners to swap a home they're in for something new, from smart homes to driverless car communities to smarter building, from microchips to sensors, technology and data are changing not only what builders can design, build, and sell, but also what people want to live in and where that is, and what it's all worth to them.

Together, the confluence of a mature real estate cycle and a structural shift in how American households continue to lean into the American dream can be daunting. The convergence changes how a firm—ranging from a pickup truck builder, to a subdivision developer, to a multiregional enterprise—looks at how each can play offense with opportunity, and where and how they will need to defend against risk of failure.

Homebuilding's most significant bellwethers, evident in several of the bigger dollar-value mergers and acquisitions activity in the space over the past 12 months, come in two forms. One concerns land, or, namely, access to it without excessive and expensive exposure to risk associated with it. Strategic ventures among some of the nation's biggest homebuilding and investment firms give a homebuilder options to a cadenced flow of lots, and at the same time, give a land developer relatively secure visibility into forward demand for lots.

Merchant builders continue to explore a business model that gets them out of messy, risky guesswork around when a market cycle will reward them, forgive a miscalculation, or punish them brutally as it did during the Great Recession. Rather than continue the boom-and-bust cycle, builders are looking instead to future-proof themselves by adopting a model that focuses more exclusively on highly profitable vertical construction, marketing, and sales, rather than land appreciation from the time of purchase to the time the property turns as inventory.

In a similar vein, acquisition deals over the past year have focused almost entirely on acquirers' ability to expand market share in America's most active new-home markets. In turn, acquirers aim to leverage market-share gains for greater clout dealing with building trades, materials suppliers, land sellers on the expense side of the balance sheet, and, on the revenue side of the equation, to improve the efficiency and effectiveness of their sales and marketing spend on homebuyers. This tactic, which analysts have dubbed "deep local market scale," maps to the same strategic impetus as a homebuilder's integrated alignment with a major land developer.

Deep local scale gives a new-home builder opportunity to create greater relative value—for both customers and company stakeholders—per building lot. Again, if a builder can subtract expenses on vertical construction processes and cost of sales, and by doing so, funnel meaningful value to a homebuyer in the form of customer care and experience, the firm hopes to exit the tyranny of real estate boom-and-bust cycles.

"These deals are creating a crossroads as to what builders should do about their future," says an equity research analyst. This analyst believes that builders' more sustaining strategy is to scale on vertical—rather than horizontal—development, which is why they are moving more and more land off their books where they can take it on demand rather than carry its costs and its risks. "Given the house-versus-land split, builders are opting to build strategic plans around profitable homebuilding, which focuses more and more of their attention on how and when they engage a buyer and close the sale."

Customer First

Amazon, Ebay, Apple, Google, and Wall Street have changed currencies—money, time, and talent—and how they work, and how customers on Main Street expect them to work. "Add to cart" has changed buying—not only in the external "click here" world, but also in people's minds. It has changed the process. It has rearranged how people relate to exchanging money for value in kind.

What this means for homebuilders, residential developers, investors in the space, and the panoply of related stakeholders is that they are on an equal and level playing field with all other businesses, manufacturers, materials suppliers, capital investment players, policy makers, and regulators, facing an identical challenge.

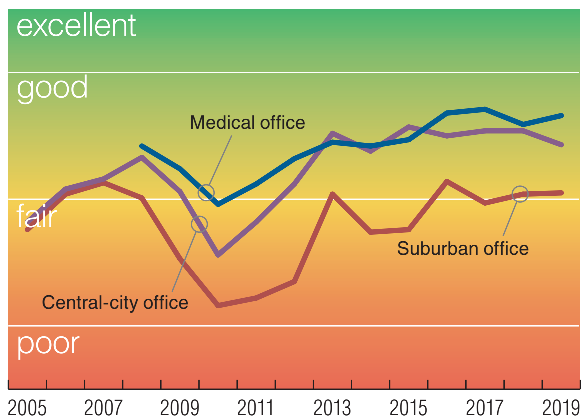
The basis of the challenge is people's interaction with technology and technology's equally important interaction with people.

Builders, now armed with data that improve how they can match their homes and communities to future customers, are beginning to imagine and shape a business, real estate, operations, financial, and marketing model that delivers shelter and resilience—a place for well-being and prosperity—whose transactions have, at their core, the following six principles:

- Self-service
- Simplicity
- Efficacy
- Speed
- Transparency
- Elegance.

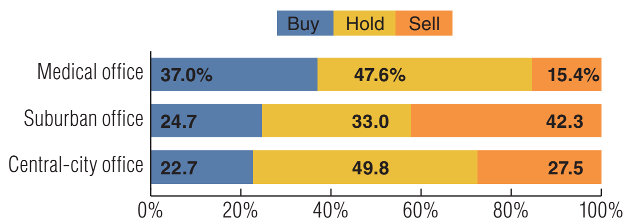
Headcounts, processes, systems, expense flows, resource allocation and timing, etc.—all hardwired to outdated operations models today—can and must change if those six principles rule.

Exhibit 5-9 **Office Investment Prospect Trends**



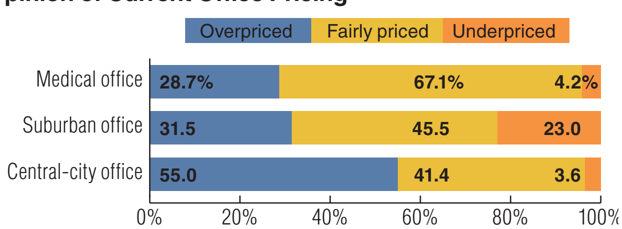
Source: *Emerging Trends in Real Estate* surveys.

Office Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

Opinion of Current Office Pricing



Source: *Emerging Trends in Real Estate 2019* survey.
Note: Based on U.S. respondents only.

"We should focus on what the promise of raising customers' expectations of whom and what they can become in our homes and communities continues to mean as they live, earn livings, eat, sleep, and play," says the CEO of a top five–ranked homebuilding company. "We're trying to remove friction and every cost that is not ultimately of value to our homebuying customer."

Office

U.S. office investors continue to transact in a fairly balanced market. Office vacancy has remained near 13 percent for the past two years as new supply meets demand. With rents up by only 1.3 percent in the past year, the office sector is ranked fourth of six property types in the *Emerging Trends* survey for investment prospects in 2019, and fifth for development prospects—similar to its rankings in last year's *Emerging Trends*.

However, significant variances exist by market as the tech industry continues to lead leasing trends. While the majority of markets continue to experience positive absorption, San Jose, San Francisco, Seattle, and Washington, D.C., accounted for 45 percent of total market absorption in 58 markets in the first half of 2018. Office supply is also concentrated in a few markets, with 41 percent of new office product under construction in just four markets—New York, San Francisco, D.C., and Seattle. With the exception of D.C., these markets have generally maintained high central business district (CBD) occupancy rates.

Wide Pricing Gaps Beginning to Narrow

Demand concentration has led to a historically wide pricing gap between markets. For example, the difference between the highest (New York) and lowest (Columbus, Minneapolis, and St. Louis) average office rent was 4.5 times in the first quarter of 2018, up from a 3.6-times spread four years ago (New York to Kansas City, Minneapolis, and St. Louis).

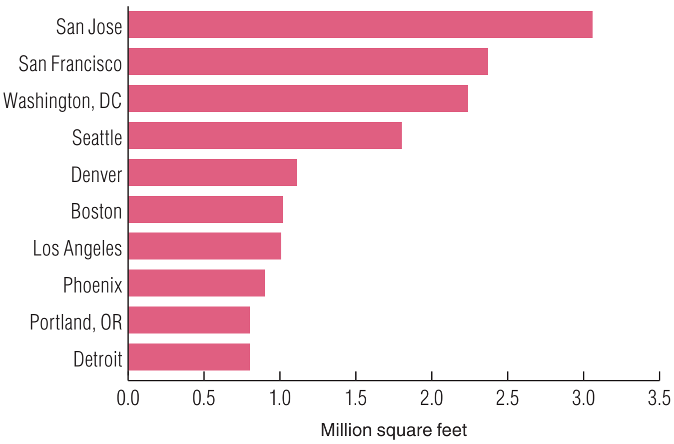
CBD property prices relative to suburban prices also rose to an unprecedented spread by the third quarter of 2017, according to the Real Capital Analytics (RCA) Commercial Property Price Index (CPPI). Larger central business districts such as New York and San Francisco were some of the first markets to lead both absorption and construction trends coming out of the 2008 global financial crisis.

Investors further note incurable obsolescence issues for some suburban buildings, e.g., those with low ceiling heights and drive-to locations, thus justifying the pricing differential. In fact, obsolescence concerns remain high regarding nonwalkable suburban properties as illustrated by the 42 percent of survey respondents who indicate a "sell" for suburban office as compared with only 27 percent for central city office.

However, the pricing gap is beginning to reverse:

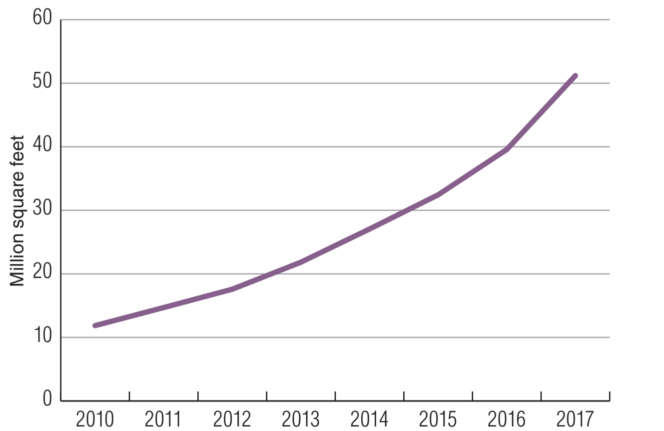
- Strong absorption is being noted in lower-cost markets, particularly in fiscally healthy states as employers compete for labor in a low-unemployment environment. According to JLL's first quarter 2018 *Office Outlook* report, markets such as Charlotte, Cleveland, Dallas, Indianapolis, and Tampa experienced strong absorption as a percentage of stock early in the year.

Exhibit 5-10 **Highest Office Absorption, by Market, 1H 2018**



Source: CBRE Research Q2 2018.

Exhibit 5-11 **Flexible Office Space**



Source: JLL, "Coworking's Unstoppable Market Growth."

- Average prices of CBD office, which is well into the supply cycle, are down by 2 percent since the November 2017 peak and down 0.3 percent year-over-year, while suburban office prices are up 6.2 percent since November and 8.5 percent year-over-year (exhibit 5-2). Suburban office price increases now lead CBD on a one- and three-year basis, according to RCA's CPPI as of May 2018.

In terms of pricing expectations, a similar disparity occurs in the *Emerging Trends* survey, where 55 percent of respondents said that central city office is overpriced as compared with 31 percent for suburban office.

Some investors see CBD bid/ask spreads starting to tighten as sellers become more accepting of a moderation in pricing. Suburban investors point to attractive leverage spreads, particularly as compared with CBD properties.

Coworking Disruption?

The strength of the coworking market is not to be underestimated. Growing at a double-digit rate, it is estimated to account for more than 51 million square feet of office space now, according to fourth quarter 2017 data from JLL. While WeWork's profitability is still in question, it occupies more than 13 million square feet globally, including 2.9 million square feet in New York, making it New York's second-largest tenant behind JPMorgan Chase, according to technology news website Recode.

Investor attitudes toward the coworking industry changed significantly in the past year. Regarded skeptically a year ago, particularly in regard to the short-term member leases that underlay coworking tenants' longer-term building leases, investors are now considering how to use coworking strategically, particularly in urban areas. Building owners may run the coworking space themselves or lease it to another coworking operator, using the industry strategically to occupy space. The coworking market is also being capitalized, sometimes by real estate firms. For example, Brookfield partnered with Convene and bid on IWG, the owner of Regus; Blackstone bought a majority share in the Office Group; and the Carlyle Group acquired coworking company Uncommon in the past year.

WeWork is now clearly moving into the broader occupier services industry. Historically, the occupier services industry has been dominated by the larger real estate service companies. WeWork states that large corporate tenants ranging from Mastercard Incorporated to Samsung now represent 25 percent of its client base. Fresh from a $4.4 billion funding from Softbank in mid-2017, WeWork acquired a number of companies, many of which are technology firms that are complementary to its coworking business. Its services are increasingly tech-driven, adding to an ever-growing list that expands beyond providing built-out space. (Examples of these services include space design with integrated designers, architects, and construction teams; technology to increase space productivity and track space utilization; "community managers" tasked with increasing employee happiness, productivity, and engagement; and other services.)

Thus, more than just a tenant, WeWork now looks for partners for whom it may manage the entire building.

In contrast to creating a place to work, WeWork's goal is to create a community. This has manifested in higher-quality building

Self-Storage: Uncharted Territory

Since the 2008 trough, self-storage has been one of the fastest-growing sectors in commercial real estate. With 55,000 facilities in the United States, representing eight square feet per capita on average, the sector has benefited from massive utilization gains. In 1987, one in every 45 people used self-storage. Today, one in every 13 people use these facilities. Industry ownership remains highly fragmented, with the top 20 owners controlling less than 20 percent of properties. This fragmented ownership creates an attractive growth opportunity for acquirers.

Real estate investment trusts (REITs) such as CubeSmart (CUBE), Extra Space Storage Inc. (EXR), Life Storage Inc. (LSI), and Public Storage (PSI) have benefited from a systemic underpricing of self-storage properties over time. Cap rates have been too high and values too low relative to other property types. This has allowed savvy investors—especially those early to the game—to achieve very sizable risk-adjusted returns.

After outperforming the broad REIT sector for five years, the self-storage industry entered a two-year slump following a slowdown in 2016 fundamentals, during which time the sector underperformed other REITs by nearly 2,000 basis points. The sector's stocks have since partially recovered, and long-term property returns of the underlying self-storage business remain attractive for investors despite a slowing operating environment.

Generally, self-storage has benefited from a mix of favorable property-level attributes.

- **Low capital expenditures.** Self-storage has one of the lowest capital expenditure (cap-ex) profiles of any real estate sector. Simply put, a self-storage center requires less ongoing investment in the property to keep it competitive. It is a huge advantage, and one that is not fully appreciated in underwriting by the market.

- **Steady growth in NOI.** Self-storage is a business that does well during economic upturns and is more resilient during recessions compared with other property types. The sector thrives on the movement of people and their possessions. Job growth, renter household formations, and mobility are all factors that support demand.

- **Benefits of scale.** REITs and large private real estate players have significant competitive advantages over their smaller peers. The biggest self-storage companies have adopted a wide range of new technologies such as search engine optimization, digital advertising, and revenue management to attract and maximize the value of the customer during the length of stay.

According to Green Street's Self-Storage RentTracker, which aggregates rents for nearly 14,000 properties, self-storage rents per square foot have hit all-time highs. That outperformance brings new challenges as the sector adjusts to a new operating environment.

- **Moderating near-term demand.** Important upcycle drivers of self-storage demand—renter household formations and mobility—have slowed. Generally, owner households have less need to store their goods. Mobility is at a cyclical low in the United States as people feel more settled. Despite these trends, demand growth appears steady with continued job growth and peak rents.

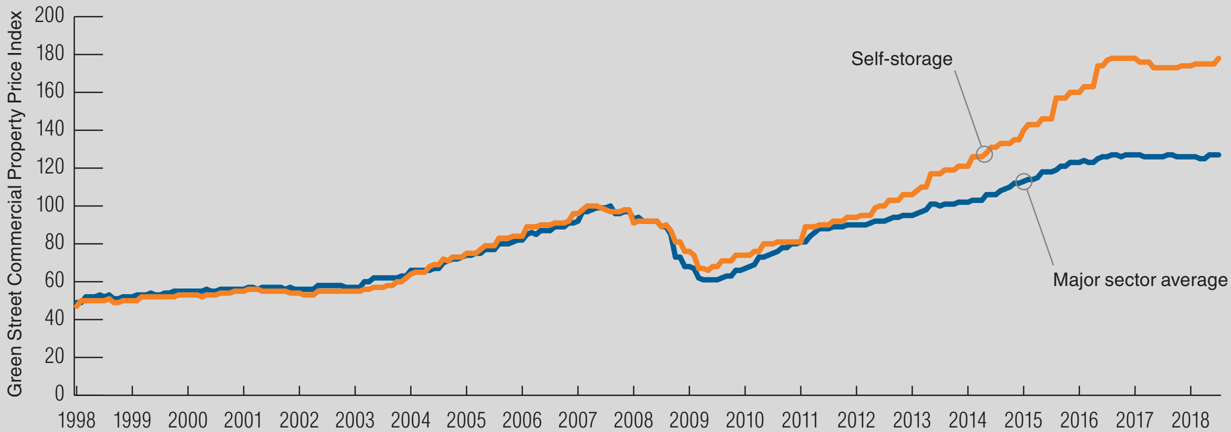
- **New supply growth.** New construction has surged nationally. While supply data are spotty, Green Street estimates that self-storage supply (in square feet) will expand, shifting from an annual growth rate of 1.5 percent of total stock in 2010 to 2017 to an estimated 3.6 percent growth rate in 2018 to 2022, putting pressure on near-term NOI growth expectations.

- **Shifting consumption and other long-term trends.** Over the long run, shifting consumption trends, slower gains in utilization (i.e., the percentage of the population using self-storage), and the general maturation of the business point to more moderate NOI growth relative to the sector's impressive past. The degree of moderation hinges on where utilization—the primary driver of the past 30 years—moves from here.

The self-storage industry may have already seen its best days from an operating perspective, but some good days are still ahead. Green Street expects the overall self-storage utilization rate to increase from 8 percent to 9 percent of the population over time. The sector's current relative valuation looks attractive for a longer-term investor.

Green Street Advisors.

Property Prices: Self-Storage vs. Major Sectors, 1998–2018



Source: Green Street Advisors, as of August 2018.

Note: Data are for start of year.

finishes and tenant improvement costs. This standard is spreading into the broader office market. In a tight labor market, office space has become a key factor in attracting and retaining workers. Thus, one survey respondent noted, “TIs remain stubbornly high and eat into landlord economics.”

Expected returns for office are, in turn, less favorable than those for other property types due to below-average cap rates, only modest expected cash flow growth, and high concessions. In the public market, investors continue to apply large discounts to office REIT net asset values (NAVs), meaning they are skeptical of office valuations in the private market.

Moving beyond amenity-rich space, office landlords are becoming concierges that create the best tenant experience. Large occupier service firms are rolling out their own tech platforms that compete with WeWork. “Everyone is trying to figure out how to become the entity that can lease space, lease coworking space, and manage your conference room and your amenities and make sure your tenants get access to all things—be the most convenient provider of options for your tenant.” In some buildings, tenants reduce their own conference room space in a building where two to three floors may be allocated to community conference space, including rentable conference rooms, open meeting areas, and cafeteria-style space that is managed by an outside catering company.

Opportunities

Investors remain vigilant about risk management, and while not moving significantly to tertiary markets or higher-risk properties, both suburban and CBD investors are targeting markets that are characterized by job growth but with better pricing than prime CBD assets. This may be creative office or value-add office in key markets, submarkets in the path of growth of expanding CBDs, or walkable, urban-suburban submarkets (i.e., suburban nodes with urban amenities such as transit, retail, and residential density).

Long-term suburban office investors point to positive suburban trends such as limited new supply, positive absorption, movement of younger workers to suburbs as they reach childbearing age, and movement of workers to lower-cost, more suburban/secondary markets. In fact, Columbus, Tampa, and Raleigh topped the office “buy” list in the 2019 *Emerging Trends* survey.

Job growth is key. Science, technology, engineering, and math (STEM) jobs are projected to grow at a rate 73 percent faster than the broader job market through 2026, with median 2017 annual wages that are more than double the average, according to June 2018 data from the U.S. Bureau of Labor Statistics (BLS). Thus, tech-heavy markets such as Boston, San Diego, and Austin remain high on the “buy” list, with secondary markets such as Nashville also ranking high. Certain submarkets were mentioned by some interviewees (e.g., the booming West Los Angeles area, which is benefiting from tech growth as well as a new transit line).

With more emphasis on amenities, sustainability, and wellness in urban markets, value-add repositioning or expansionary submarkets also are favored. These buildings need to have good Walk Scores, access to transit, and urban-like amenities (even in the suburbs) as well as larger floor plates with more light, a food and beverage option, and customization in design. According to a global investor active in the United States,"That emphasis is more pronounced than it has been in previous cycles, [with] much greater emphasis on the layouts and the amenities—which greatly favors new construction [and] amenities that contribute to a more work/live/play environment."

Parking: Future-Proofing Buildings

Parking usage has not changed considerably, although investors are considering potential excess parking at some point in the future as a result of driverless cars. Developers are beginning to construct offices with internal parking structures that could be converted to office space in an effort to future-proof their properties. As described in a January 30, 2018, article in the *Wall Street Journal*, cities like Toronto, Los Angeles, San Francisco, and Boston are designing curb-side drop-off areas for passengers and e-commerce delivery that replace traditional parking lanes.

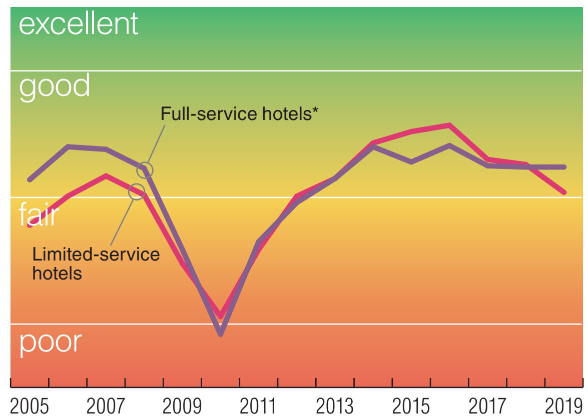
Is the United States Falling Behind on Sustainability?

Sustainability requirements vary by market. Office investors consistently indicate that suburban office tenants are more interested in amenities than green or sustainability factors. As one suburban office investor observed, "While issues such as water reduction or efficient HVAC and windows are routine, these are often more cost-oriented decisions than sustainability decisions." Conversely, sustainability and health factors are likely to be standard for tech and more urban tenants and investors. One interviewee noted that the United States is lagging other countries in sustainability efforts, highlighting Canada's Zero Carbon Building Standard.

Hotels

As an asset class, hotels appear to be holding their own with investors, both from a return-on-investment perspective as well as a development perspective. While development cost and acquisition pricing concerns remain top-of-mind for a majority of the investors surveyed, strong operating fundamentals continue to balance the overall view on the sector. Comparisons to prior cycles remain a focal point of many conversations, albeit with investors tending to coalesce around the sustained strength of the current cycle. Other trends, including the changing lodging

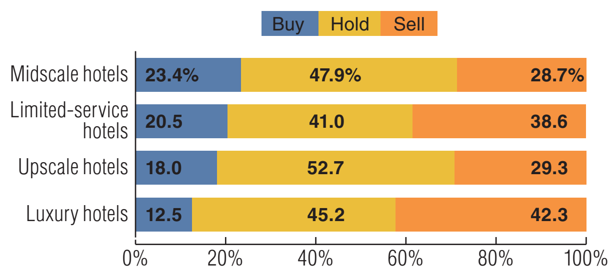
Exhibit 5-12 **Hotel Investment Prospect Trends**



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.

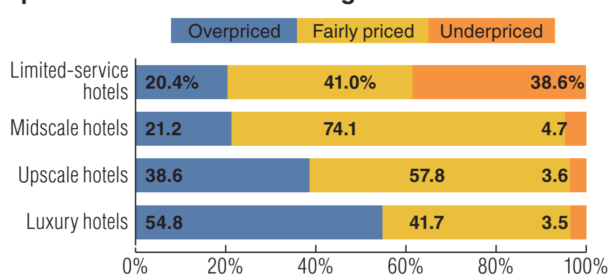
Hotel Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

Opinion of Current Hotel Pricing



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

sector landscape and changing physical programming, have also become subjects of investor interest.

Operating Strength Continues to Balance Typical Cyclical Questions

The lodging sector continues to yield strong results for owners, and there is an expectation of continued confidence looking ahead to 2019. Hotel performance through the first eight months of 2018 yielded strong demand for hotels, outpacing increases in supply, with average daily rate (ADR) growth driving continued increases in revenue per available room (RevPAR).

Discussions with hotel investors on recent performance indicated that group demand had finally gained strength and was exceeding prior expectations. Commercial transient demand continued to increase as well, albeit at a slower pace than in the prior year.

Looking ahead to 2019, there is an expectation of continued operating performance strength by hotel owners as increases in room rates continue to become a bigger driver of RevPAR growth, providing a better flow-through to the bottom line. Consumer spending is forecast to increase as lower personal tax rates and low unemployment continue. The lodging sector is expected to continue to benefit from an improving economy stemming initially from the Tax Cuts and Jobs Act of 2017, with potentially higher spending on group meetings and increased commercial transient demand.

Economic factors that may dampen the sector's confidence and the perceived positive impacts of the Tax Cuts and Jobs Act include trade tensions with China and the rising cost of labor for entry-level jobs, stemming from the continued low unemployment rate.

Changing Lodging Sector Landscape

At present, the U.S. lodging sector is going through an accelerated pace of transition, characterized by ongoing consolidation, an evolving role of lodging brands, and the nascent use of a platform approach to customer acquisition and retention. Key trends to watch out for include the following:

- The role of lodging brands is expected to continue to evolve, as lodging companies seek to increasingly focus on franchising as the primary driver of their growth. Recent footprint growth points in that direction, with franchised rooms at three large U.S.-based hotel chains increasing by over 40 percent between the fourth quarter of 2014 and the first quarter of 2018, albeit with hotel management still expected to remain an integral part of the growth strategy for some lodging companies. Driven by the franchising focus, lodging brands may seek to further dissect lodging demand through brand introductions in select niche segments, with a particular focus on capitalizing on the experiential travel trend. Furthermore, the concept of loyalty and what that entails for guests and owners may evolve in the near term, with points-based loyalty programs evolving into more pervasive, experiential programs.
- Focused, independent hotels and their operators are expected to focus on expanding their customer base by following a platform approach to managing the customer journey through the use of a unified technology platform. Leveraging a unified technology platform that extracts data from various systems (CRM, PMS, CRS, revenue management) and creates a single view on guests is expected to be a powerful differentiator for many smaller-scale players. Select companies are already experimenting with the platform approach, albeit in initial stages and with isolated components.

Changing Physical Programming

The modification of a hotel's physical layout and programming to use space more efficiently is another emerging trend noted by hotel investors surveyed. Recently, more emphasis has been placed on ensuring that more space inside the "box" generates revenue, with an understanding that while an obvious need exists for non-revenue-generating support space, it should be value engineered. Two areas noted in particular include food and beverage (F&B) outlets and meeting space.

In regard to F&B, hotels are shifting from a separate restaurant and bar model to an integrated restaurant/bar model; standalone restaurants are being replaced with sophisticated lobby bars that offer an amplified bar menu and an open seating layout. This type of setup makes more efficient use of space and also entices people in the lobby to purchase a drink or food. It also helps save on labor costs since the bar staff also serves the food.

Over the past few years, the meeting industry has experienced a shift from larger general sessions to smaller, more informal networking and breakout sessions—a trend that is expected to continue. Large convention/headquarters hotels are responding to this changing event profile by modifying the building program in an effort to develop more flexible meeting space that can easily adapt to meeting organizer needs.

Hotel investors could look to their meeting venue counterparts for guidance on how they are planning to modify their building program and enhance the venues' features and capabilities.

- Large convention centers are planning to increase ballroom and meeting room space. They are also focusing on enriching the center's image (e.g., with grand entrances and natural lighting).
- Small- and medium-sized centers are planning to increase meeting room and pre-function space. They are also focusing on adding features that will enhance the attendee experience (e.g., charging stations, interactive videoboards, and social areas).

At the opposite end of the spectrum, some hotels have decided to remove ballroom space altogether, deciding instead to replace it with additional hotel room inventory or other uses that generate higher revenue. This is more prevalent in markets like New York City and others that have consistently high occupancy rates.

Retail

The so-called retail Armageddon might be grabbing headlines, but the retail industry is more robust and diversified, with consumers having more options readily at their fingertips than at any other time in memory. Consumer spending is growing, and consumers' choices are expanding, often by pivoting to more efficient platforms that maximize price and convenience. A clearer picture of the complexities of the retail landscape is emerging. As a veteran retail executive said, "Retail is doing fine; bad retail and bad retail development are not!"

The CEO of a major West Coast shopping center developer and owner said, "The media always confuses malls with outdoor shopping centers . . . they lump these together and interchange them when they talk about the death of retail projects. They are perpetuating the myth of the death of all brick-and-mortar retail."

Changing the Headlines

The quip, "We're not overbuilt, we're under-demolished" has merit. This reckoning was in the cards long ago; compared with other countries, the United States has long had a surfeit of retail space. Compared with Germany, the United Kingdom, and France, the United States has six times, eight times, and ten times more square feet of retail space per capita, respectively. Much of this is due to shifts in residential growth patterns and changing needs of retailers. A leasing executive for a large retail REIT observes, "There are lots of poor-quality centers and retail districts that have no reason to exist other than tenant demand at the time they were built."

While there is no definitive count of store openings and closings (and closings get substantially more attention in the press), the overall diminution of U.S. store space is a trend that can be expected to remain in place well into the next decade. Some big-box and department stores are reducing their footprints as they balance the value of their brick-and-mortar presence and its relationship to their online presence and development of omnichannel strategies. While some chains are considering more of the much smaller formats to reduce operating costs and for the convenience of their customers, the overall implications for real estate are far reaching. A new equilibrium with fewer square feet of retail space per capita is likely being established as the amount of space devoted to malls, shopping centers, and retail districts declines, with unneeded retail space being repurposed or replaced with new uses.

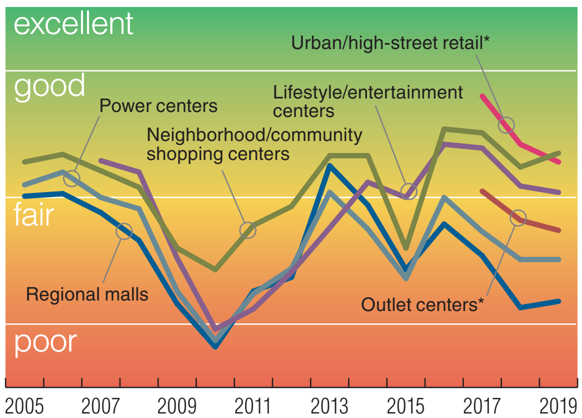
Over time, cities and suburbs may have the new opportunity to support—through zoning or master-plan amendments—needed development on sites previously dedicated only to retail. In any given community, new uses may include housing, schools, or any activity for which land availability had been limited. These new uses will, in turn, create new demand for retail goods and services.

In order to survive, even the strongest retail projects may need broad reasons for customers to visit, and will include uses ranging from medical and educational services to distribution activity, with dense or mixed-use settings adding further support. The headlines should be, "What Kinds of Brick-and-Mortar Retail Will Survive?" and "How Will We Repurpose Unneeded Retail Space?"

Commodity and Specialty, Online and Offline

Last year, *Emerging Trends* explained how retail goods organize themselves into two primary categories: commodity goods and specialty goods. Commodity goods refer to items where the purchasing function is driven by factors of price and convenience. In contrast, specialty goods represent purchases made using discretionary income during discretionary time, and for which a sense of place or an emotional attachment are intangible parts of the consumption decision (think of buying a handbag or having a nice dinner). Consumers shop differently for these goods; commodity brick-and-mortar retailers are often places that consumers "have to go to," whereas specialty centers are places that consumers "get to go to." Until recently, commodity goods, as a group, were more likely to be purchased online, and

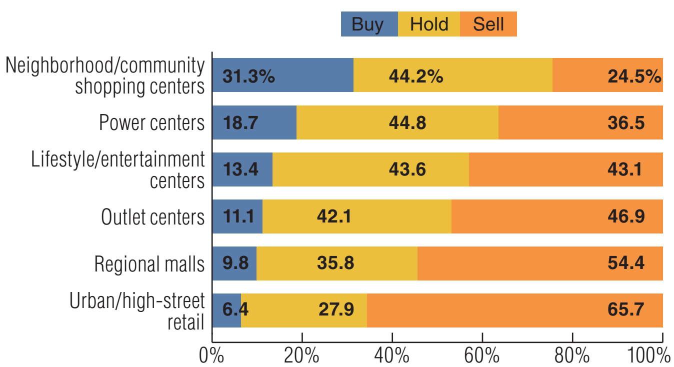
Exhibit 5-13 **Retail Investment Prospect Trends**



Source: *Emerging Trends in Real Estate* surveys.

*Third year in survey.

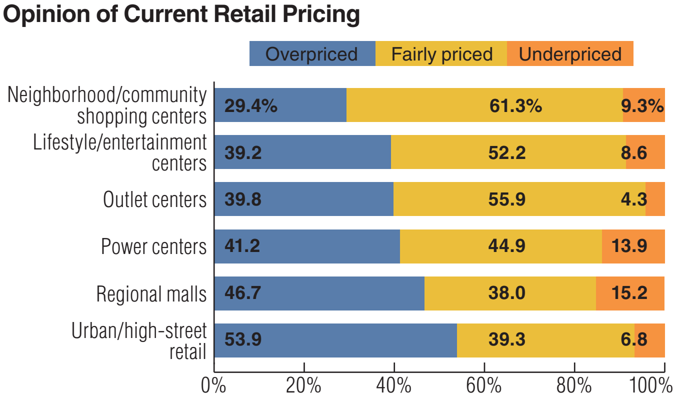
Retail Buy/Hold/Sell Recommendations



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

Opinion of Current Retail Pricing



Source: *Emerging Trends in Real Estate 2019* survey.

Note: Based on U.S. respondents only.

the expectation was that specialty goods were more likely to be associated with "experience" and "place."

But online shopping is infiltrating specialty merchandise categories previously thought to be resistant to online competition. Many of these categories, like apparel, eyeglasses, jewelry, shoes, beauty, and food and beverage, have been the mainstay of malls and lifestyle centers. Lower barriers to online shopping for these categories include improved logistics (particularly research, comparison, and product delivery), business models (such as subscription services for clothes or cosmetics, or multi-restaurant food-delivery platforms), and ease of returns.

Many newer business models have been created with an "omnichannel" operation in mind, and many of these new merchants that started online are now projecting a selective physical presence. They often have an easier time blurring the line between online and in-store platforms than legacy retailers that are having a harder time adapting to today's new retail landscape. Perishables are an interesting realm to watch: a prepared-foods manufacturing executive exploring storefronts noted recent research from Coresight that "23 percent of U.S. consumers said that they had bought at least some groceries online last year." Produce boxes and meal kits are now widely available both online and in grocery stores, and of course the world's largest online retailer recently bought the nation's largest natural foods retailer.

A different type of online activity is also affecting sales, both online and in-store. In the specialty realm, and particularly in fashion and beauty, social media "influencers" play an increasingly critical role in shaping online buzz around locations and brands. When an influencer buys, endorses, or rejects a product, that message could have a wide-ranging impact across the influencer's wide social network that is often far more effective than advertising or traditional store promotions. Social media such as online review and map sites add a new dimension to the location, location, location maxim. As a shopping center management executive commented, "Traditional retailers need to find new and better beacons than traditional signage for consumers to find and patronize them, and to continue to compete."

Evolution of the Landlord/Tenant Relationship

The evolution of malls, shopping centers, and retail districts combined with newer retail channels has had a significant impact on the landlord/tenant relationship. Owners may be looking for fewer but most relevant tenants, anticipating that constrained supply will generate higher rents and lower unreimbursed operating costs.

The customization and localization of the shopping experience are more important now than ever. Successful landlords carefully curate tenant selection, asking why a tenant should be in a project, and how that tenant will complement co-tenants to create a mix that is pertinent today. The CEO of a shopping center development firm confirms, "You have to be able to answer, 'Why does the consumer care? What is the retailer's plan?'"

New business patterns give rise to new metrics for real estate, and landlords will need to delve into the particulars of how their tenant does business. Customer service has always been and continues to be key, so monitoring a store's social following is a way to monitor customer service and operations, and an additional performance-based way to differentiate between tenants. Similarly, a retailer with a larger social following will be sought after just as a retailer with high sales per square foot was in the past. These measures can also guide landlords when deciding whether to create an opportunity for an online brand to open in a brick-and-mortar format, or to be interested in a new outlet of an established chain.

Several veteran retail landlords interviewed noted a trend toward shorter lease terms. Conventional wisdom saw long lease terms as a plus, by reducing re-leasing risk. Today's world is characterized by newer, unproven brands, and by tenants who reinvent themselves every five years. These interviewees note their evolving thinking that landlords cannot risk a long lease term on a new tenant when there is no way of knowing whether it will still be relevant to the consumer in five to ten years. The ultimate in short lease terms—the pop-up marketplace—is gaining traction in diverse markets including high-end properties.

More sophisticated benchmarks of tenant performance that form—among other things—the basis of rent calculations need to be developed. Center sales per square foot or rents pegged to an assumed sales level no longer tell the story. Differentiation will define the most successful projects, and increased customer visits will be their prize. Online platforms with the greatest hits are the most robust marketplaces. Similarly, we can now measure footfalls in projects, and a center with a higher rate of increase in footfalls (think comparative store sales) should generate a higher rent.

. . . and the Last-Mile Challenge: It Isn't Just for Retail

As changes continue in how retail activity is conducted and in consumers' expectations regarding the speed of delivery, the volume of private deliveries continues to grow. This is layered onto existing, even larger volumes of business-to-business deliveries, altogether challenging the capacity of streets, sidewalks, and other infrastructure. A transportation expert points out, "The issue is how will cities, planners, property owners of every type of real estate, retailers, delivery companies, and consumers cope with the expected continued increase in overall delivery rates?"

Managing the truck is not the answer; trucks represent economic activity. The answer to last-mile distribution inefficiencies lies in managing expectations and externalities. The public and private sectors must join forces to address and manage these competing land use and economic activity priorities, such as:

- Environmental externalities including congestion, emissions, and noise.
- Demands on public space created by consumers' expectations for not paying the full cost of deliveries and returns, and investors' expectations that the rate of revenue and profit increases be sustained.
- Adaptive use of land to create and implement distribution efficiencies, and adapting workplaces and dense residential zones for today's frequency and quantity of deliveries.
- Allocation of public space for activities ranging from parks to delivery vehicles through distribution planning.

Interviewees

3chord Marketing
Holly Bolton

Adventure Development
Kevin Dougherty

AEW Capital Management
Michael J. Acton
Marc L. Davidson
Pamela J. Herbst
Jonathan E. Martin

Affordable Central Texas
David Steinwedell

AFIRE
Gunnar Branson
Jim Fetgatter

Agellan Capital Partners Inc.
Frank Camenzuli

Alinda Capital Partners
Jim Metcalfe

Allgier Consulting
Kathy Allgier

Allied Properties REIT
Michael Emory

Almanac Realty Investors
Matthew W. Kaplan

Alston & Bird LLP
Rosemarie Thurston

Alturas
Blake Hansen

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

American Assets Corp.
Brian Briody

American Realty Advisors
Stanley Iezman

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

Anthem Properties Group Ltd.
Eric Carlson
Randene Neill

Aon
Paul Hagy
Andy Tilmont

APG Asset Management
Steven Hason

Acadia Realty Trust
Kenneth F. Bernstein
John Gottfried

Armco Group of Companies
George Armoyan
Adam McLean

The Armour Group Ltd.
Scott McCrea

Asana Partners
Brian Purcell

Ashton Woods
Cory Boydston

Aspen Properties
Rob Blackwell

Associated Bank
Shawn Bullock

Assurant Investment Management
Phillip Chun
Patrick Egeonu
Previn Raheja

Athenian Razak LLC
Alan Razak

Atlantic & Pacific Property Management
Randy Weisburd

Auriga Homes
Farooq Uzzaman Khan

Avison Young
Amy Erixon
James Nelson

BAE Urban Economics
Mary Burkholder

Bailard Real Estate
Tess Gruenstein
Margie Nelson
James Pinkerton
Preston Sargent

Baldwin Risk Partners
Kris Wiebeck

Baltimore County Department of Planning
Andrea Van Arsdale

Baltimore Development Corporation
Kim Clark

Bank of America Merrill Lynch
Kim Abreu
Leland Bunch
Jeff Titherington

Barclays Capital
Ross Smotrich
Daniel Vinson

Bard Consulting LLC
Chris Miers
Roy Schneiderman

Basis Investment Group LLC
Mark K. Bhasin

Bayer
Matthias Muckle

Bazil Developments Inc.
Paul Bailey

Beacon Capital Partners
Jeff Brown
Kevin Whelan

Beacon Partners
Pete Lash

Beatty Development
Jonathan Flesher

Bell Canada
Robert Struthers

Bentall Kennedy Group
Paul Zemla

Berkshire Group
Chuck Leitner
Gleb Nechayev

Big-D Construction
Braden Moore

Blackstone
Kathleen McCarthy

Blake Magee Company
Dustin Einhaus

Bleakly Advisory Group
Geoff Koski

Boris Holdings Inc.
Dean Hartman

Boston Capital
Mark Dunne
Ted Trivers
Matt Wallace

Boston Properties
Michael LaBelle
Mirjam Link
Owen Thomas

The Boyer Company
Dave Ward

Boyle
Russell Bloodworth

Brandywine Realty Trust
Bo Beacham
Gerard H. Sweeney

The Brick Companies
Julie Natoli

Briggs & Morgan
Pat Mascia

Brightview Development
Kristian Spannhake

The Bristol Group
James Curtis

Brixmor Property Group
Steve Gallagher

Brookfield Residential
Luke Gosda
Thomas Lui

BTIG
Carl Reichardt Jr.

Building and Construction Trades Council of Greater New York
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Bull Realty
Michael Bull

Bunker Lee
Andrea Hamilton

Burr & Forman LLP
Vivien Monaco

Buvermo Investments
Laurey Millspaugh

Cabot Properties Trust
Patrick Ryan
Stephen Vallarelli

Cadence Bank
Tim Williamson

Cadillac Fairview
Cathal O'Connor

Cairn Pacific
Noel Johnson

Caliber Projects
Justin Bontkes
Zack Staples

Canderel
Daniel Peritz

Cantor Commercial Real Estate
Paul Vanderslice

Canyon Partners Real Estate LLC
Maria Stamolis

Capital Commercial Investments Inc.
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Gary Hebert

Capital One Bank
Mike Antonelli

Capital Property Management
Joe Tracy

Capitol Market Research
Charles Heimsath

Capstone Partners
Chris Nelson

Cardel Group of Companies Inc.
Greg Graham
Kerry Obrigewitsch

Cardno
David Carter

Carmel Partners
Dennis Markus
Ron Zeff

Castlelake
T.J. McElroy

Catalyst Urban Development
Paris Rutherford

Catellus
Ken Blaker

CBRE
Val Achtemeier
Amy Broadhurst
David Browning
David Cervantes
Shawn Hamilton
Arden Karson
Jeanette Rice
Mary Ann Tighe
David Walters
David B. Young

CC&T
Stuart Coleman

Centennial Group
David Nunn

CentreCourt Developments
Shamez Virani

Centro Development
Kent Collins

Century Group
Phil Posehn

Century Urban
Bryant Sparkman

Chance Partners
Jeff Rosen

Chatham Lodging Trust
Dennis Craven
Jeremy Wegner

Childress Klein Properties
Paul DeVine

Cielo Property Group
Rob Gandy

Cirrus Asset Management Inc.
Steve Heimler

City of Carrollton, Texas
Krystle Nelinson

City of Memphis, Housing and Community Development
Paul Young

City of Ottawa, Ontario
Royce Fu
Alain Miguelez
Lee Ann Snedden
Steve Willis

City of San Francisco
John Rahaim

City of St. Charles, Missouri
David Leezer

Civitas Capital Group
Daniel J. Healy

Clarion Partners
Steve Furnary
Dave Gilbert
Hugh MacDonnell
Tim Wang

Clark Development
Bill Clark

Clayco
Ann Althoff

Cleveland State University
Linda Kane

Cline Design Associates
Cari Jones

Coastal Resources Ltd.
Rahim Lakhoo

COGIR Real Estate
Mathieu Duguay

Colliers International
David Bernard
Gregg Broujos
Joe Hill

Collins Enterprises LLC
Art Collins
Morgan Collins
Jeff Sirkin

Colonnade BridgePort
Hugh Gorman

Columbia National Real Estate
Justin Brindger

Combined Properties
Kathy Bonnafé
Steven Gothelf
Sri Velamati

Com Cap Partners
Archie Willis

CompassRock Real Estate
David Woodward

Compspring
Lisa Dilts

Concert Properties Ltd.
Brian McCauley

The Concord Group LLC
Richard Gollis

The Conservatory Group
Mark Libfeld

Continental Properties
James H. Schloemer

CORE Planning Strategies
Deb Kunce

Corporate Office Properties Trust
Paul Adkins
Steve Budorick

Corum Real Estate Group
Mike Komppa

CPP Investment Board
Hilary Spann

CreateTO
Bill Bryck
Michael Kraljevic

Cresa
Jim Vos

Crescent Communities
Todd Mansfield

Crescent Real Estate LLC
John Zogg

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Allie Rosenbarger

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Josh Edwards

Crombie REIT
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Crow Holdings Capital
J. Dodge Carter
Harlan Crow
Coe Juracek
Michael Levy
Stan Mullikin
Cole Rothwell
Ken Valach

CSM
Matt Van Slooten

CT REIT
Kevin Salsberg

Cubesmart
Christopher P. Marr

Cushman & Wakefield
Troy Ballard
John Breitinger
Rob Cochran
Bruce Erhardt
Bill Knightly
Bill MacAvoy
Nathaniel Robinson
John Santora
Jason Tolliver
Morgan Trotter

CW Urban
Darlene Carter

CyrusOne Inc.
Gary Wojtaszek

Datum Engineers
Erika Passailaigue

Daymark Living
John Poston

DDR
Jane DeFlorio

DeChase Development
Dean Pape

Denver Urban Renewal Authority
Tracy Huggins

Desjardins | Gestion de patrimoine
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Diamond Schmitt Architects
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Jessica Taylor

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Blake Bickmore

DivcoWest
Ken Wong

Doran Companies
Tony Kuechle

Dorsay Development Corporation
Geoffrey Grayhurst

Doucet Engineers
Keith Young

Douglas Elliman
Faith Hope Consolo

Downtown Cleveland Alliance
Michael Deemer

Downtown Durham Inc.
Matt Gladdek

D.P. Murphy Group of Companies
Danny Murphy

Dream Unlimited
Jane Gavan
Jason Lester

DSGNworks
Kevin Wallace

Dunaway Associates
Ross Eubanks

EA Reality Companies
Josh Halbedel

Easterly Government Properties Inc.
Meghan Baivier
Bill Trimble

East West Partners
Amy Cara

Economic Development Corporation of Utah
Theresa Foxley

Economic & Planning Systems
David Zehnder

EDGE
Reid Dulberger

EdgeConneX

Eigen10 Advisors LLC
Paige Mueller

The Elmhurst Group
William Hunt

Elmington Capital Group
Ryan Seibels

Empire Communities
Paul Golini
Andrew Guizzetti
Daniel Guizzetti

Encore Partners
Tony Avila

Energy Capital Partners
Murray Karp
Lori Nyhuis

Equus Capital Partners
Joe Nahas

Essex Property Trust
Michael Schall

Everest Real Estate Advisors
Gina Dingman

Exantas Capital Corp.
Eldron Blackwell
David Bryant

Faison
Dave Chandler

Federal Realty
Jeff Kreshek

Federal Reserve Bank of Cleveland
Mekael Teshhome

Feldman Equities
Larry Feldman

Fidelity National Title
Mark Plassman

First Southern Mortgage Corp.
Stephen Brink

Flagship Properties
Paul Goldberg

Fonds de placement immobilier Cominar
Sylvain Cossette
Caroline Lacroix

Fonds immobilier de solidarité FTQ
Normand Bélanger

Forest City Realty Trust
Emerick Corsi
Stephanie Dorsey
Emily Holiday
David LaRue
Bob O'Brien
James Ratner

Fovere
Paul Marsiglio

Freddie Mac
Steve Guggenmos

Fulenwider Inc.
Ferd Belz

Fung Global
Deborah Weinswig

Fusion Homes
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Gables Residential
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GBT Realty Corporation
Jeff Pape

Gemdale USA Corporation
Michael Krupa

Generations Federal Credit Union
Mark Johnston

Gensler
Scott Lagstrom

Gerding Edlen
Molly Bordonaro

Gershman Mortgage
Tom Gershman

Gershman Partners
Ryan Gershman

Giarratana LLC
Tony Giarratana

GID
Gregory Bates
Robert DeWitt

Global X
Sharon Knuth

Goff Capital
John Goff

Great Gulf Homes
Jerry Patava

GreenOak Real Estate
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Greensfelder Commercial Real Estate LLC
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Michael Knott

Greenstreet Ltd.
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Grossman Company
Tom Bobo

Grosvenor
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Groupe Mach
Vincent Chiara

GSBS Consulting
Christine Richman

Guggenheim
Shannon Erdmann

Halo Top Creamery
Doug Bouton

Hamlet Companies
Michael Brodsky

Hanley Wood
John McManus

Hannon Armstrong Sustainable Real Estate
Adam Lipkin

Harbr
Jeff Kielbratowski
Dave Kim

Harris Ranch
Doug Fowler

Hawkins Companies
Bryan Vaughn

HCP
Peter Scott

Heitman
Mary Ludgin

Hemingway Development
Jim Doyle

Henry Investments
Peter Henry

Herity
Brad Foster
Hugh Heron

Hersha Hospitality Trust
Ashish Parikh
Jay Shah

HFF
Danny Finkle
Jimmy Hinton
Matt Kafka
John Taylor

H.G. Hill Realty Company
Jimmy Granbery

Highgate Capital Investors
Alexander Halpern

High Street Realty Company
Robert Chagares

Highwoods Properties
Dan Woodward

Hillsborough County, Florida
Lucia Garsys

Hillwood, a Perot Company
Mike Berry

Hines
Josh Scoville
David Steinbach

Hisham Kader
Thad Palmer

Hoboken Brownstones
George Vallone

The Hodgson Company
John Hodgson

Hoefer Wysocki
Travis Leissner

Holland & Knight LLP
Mark Aronson

Holloway Lodging Corporation
Michael Rapps

Homestead Captial USA LLC
Gabe Santos

Hopewell Group of Companies
David Loo
Blair Rafoss
Paul Taylor

Hormaechea Construction
Michael Hormaechea

Hospitality Properties Trust
John Murray

Howard Hughes
Jim Carman

HQ Real Estate Capital Partners
Paul Doocy
Sylvia Gross
Jeremy Katz
Kristi Nootens
Donal Warde

Hybrid Development
Josh Neiman

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Idaho Power
Ivan Sim

IDI Logistics
Bryan Blasingame Jr.

Immostar
Luc Blier

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Sean Northup

Industrielle Alliance
Mario Bédard
David Chandonnet
Rico Demers

Infrastructure Ontario
Toni Rossi

Integra Realty Resources
Ron DeVries
Anthony Graziano

Invesco Real Estate
Mike Sobolik

Investment Realty Group
Steve Raub

Ivanhoé Cambridge
Nathalie Palladitcheff

Jaffer Group of Companies
Alim Nizar Somji

James Campbell Company LLC
Steve Kelly

JBG Smith
Matt Ginivan

Jesta Group
Steven Myszka
Anthony O'Brien

JLL
Tarik Bateh
Lauren Gilchrist
Traci Kapsalis
Chuck King
Leslie Lanne
Craig Meyer
Ryan Severino

J.P. Morgan Asset Management
Alice Cao
Dave Esrig
Mike Kelly
Preston Meyer
Brian Nottage
Ruchi Pathela
Douglas Schwartz
Craig Theirl

Kayne Anderson
John Wain

The Keith Corporation
Ken Beuley

Kevric Real Estate Corporation
Louie Cecere

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Mike Depatie

Killam Apartment REIT
Philip Fraser
Dale Noseworthy
Robert Richardson

Kimco Realty Corporation
Ross Cooper
Conor Flynn

KingSett Capital
Jon Love

Klingbeil Capital Management
Kevin Kaz

Koman Group
Garrick Hamilton

Kon-strux Developments Inc.
Shannon Lenstra

Kookaburra Development + Strategy
Mick Nelson

Lachman Associates
Leanne Lachman

Land Advisors Organization
Steve Flanagan
Hal Guggolz

Lantian Development
Bob Elliott

Lark Group
Kirk Fisher

LaSalle Investment Management
Jacques Gordon

The Lawrence Group
Steve Smith

Legendary Capital
Corey Maple
Samuel Montgomery

Lennar Corp.
Stuart Miller

Lennar Homes
Barry Karpay

Lennar Multifamily Communities
Greg Belew

Lerner Real Estate Advisors
Scott Campbell

Les Immeubles Roussin
François Roussin

Liberty Development Corporation
Marco Filice

Linden Associaties
Chris Kurz

Linneman Associates
Peter Linneman

Lionstone Investment
Amina Belouizdad

L&L MAG
MaryAnne Gilmartin

LoanCore Capital
Jordan Bock
Mark Finerman

Loews Hotels
Matthew Brenner

Longpoint Realty Partners
Nilesh Bubna

LRK Architects
Frank Ricks

Lubert-Adler
Rob Morgan
Michael Phillips

MAAR
Melanie Blakeney

Maclab Properties Group
Jonathan Chia

Madison Group
Miguel Singer

Malasri Engineering
J.T. Malasri

Manulife
Maria Aiello
Joseph Shaw
Ted Willcocks

Marcus & Millichap
Ryan Nee
John Sebree

MarketStreet Equities
Dirk Melton

Mast Capital
Matthew Adler

MasterBUILT Hotels
Eric Watson

The Mathews Company
Bert Mathews
Jody Moody

Mattamy Homes
Brad Carr
Jason Sessions

Mayfield Management Group Ltd.
A.J. Slivinski

McCarthy Tétrault LLP
James Papadimitriou

McWhinney
Dave Johnstone

Mechanics Bank
Marc Thompson

Melvin Mark Brokerage Company
Peter Andrews

Mercy Housing Management Group
Kanika White

Meridian Capital
Seth Grossman
Jason Kahn

Meritage Homes
Steve Hilton

MetLife Real Estate Investors
Mark Wilsmann

Metro Denver Economic Development Corp.
Sam Bailey

The Metrontario Group
Lawrie Lubin

Metropolitan Council
Libby Starling

Metrostudy
Paige Shipp

Midway Companies
Jonathan Brinsden

M/I Homes
Chloe Firebaugh

Milam Capital Group
Plack Carr
Ty Thaggard

Milestone Community Builders
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Front cover: Wynkoop Plaza and fountains, with the South Wing building in the background, Denver, Colorado.

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