United States | 2021

Research

Better than normal

Vision 2021

Welcome to better

At JLL Research, our mission is to generate insights that empower our people and our clients **to shape the future of real estate for a better world**. We are focused on answering the hardest questions about real estate, our markets, and our industry.

Following a year of unprecedented disruption, the one question we receive most frequently is "when will things get back to normal?"

After a year of research, surveys, interviews and analysis, we can state with confidence that we will never return to what most people considered "normal" at the beginning of 2020. The world has evolved and accelerated in ways that will alter the course of our future and there is no going back.

However, this dramatic and forced change can be interpreted as an opportunity for both commercial real estate investors and occupiers. Although many common situations were considered "'normal" in early 2020, they were far from ideal. Consider the following conditions of the office sector at the start of 2020:

- It was normal for many people to work 50 hours per week in offices that were loud, dense, impersonal and unproductive.
- It was normal for employees to commute over 90 minutes each way, every day, into big cities to work in-person, to be able to afford a home with sufficient space.
- It was normal for professionals to cram into 150 square feet of desk space, with no way to maintain privacy, health or wellness.
- It was normal for many people to show up to work when sick, under pressure to be present and to appear productive.
- And from the company perspective, it was normal for many to sign 10- or 15-year leases and spend significant sums of capital upfront, even when their headcount and business needs were uncertain beyond a few quarters.

Clearly, these office conditions were normal but not ideal in the pre-COVID-19 world. Furthermore, across other segments of commercial real estate, normal conditions left much to be desired.

- In retail, it was normal for malls to subsidize large and aging anchor department stores, while relying on smaller inline retailers to cover the majority of costs.
- In the industrial world, it was normal to locate massive logistics centers out of the range of many large population centers, despite rising demand for urban last-mile and last-minute delivery.
- In the residential space, it was normal for cities to encourage the surplus development of high-end condominiums and rental units, while providing nowhere near the necessary level of affordable housing.

These conditions, and many more, suggest that there is great potential to embrace necessary change and to improve the way we live, work, shop and play in the future. We also recognize that many of the changes we are recommending are the result of an evolving economy, one in which rapid urbanization and technological advancements of the past decade have made it possible to envision what could be next.

> So, let's not try to get back to normal. **Let's work together to achieve conditions that are better than normal in 2021**, in every aspect of how we live, work, and play.

The following report provides specific recommendations from JLL's leaders on how we can all do better—across industries, property types and regions—in the year ahead.

Christian Beaudoin
Senior Director,
Research

What's inside?

Please note that the following report is not intended to cover standard market statistics or specific asset or city performance. This report is also not intended to provide detailed forecasts on issues such as remote work, return-to-work timing, or future leasing or transaction volumes.

This report is intended to look past the obvious challenges in the commercial real estate markets due to COVID-19, and to identify longer-term opportunities for improvement, for both occupiers and investors. Please view this report as a collection of considerations for improvement, rather than a commercial real estate market outlook.

For our more granular market analysis and for JLL's standard reporting on various cities and property types, please refer to the latest sector reports which can be found here on JLL.com

Living
better in 2021

| Focus on function
| Keep it simple
| Be part of the solution

Danielle Perez
Manager,
Multi-housing Research

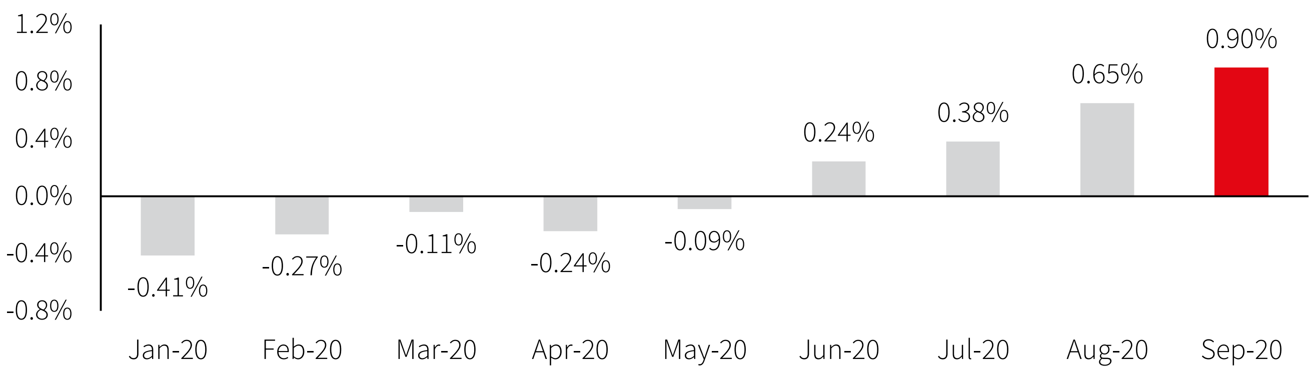
Focus on function:
As many renters adjust to working from home 2–3x a week, they will demand more space and flexibility of their apartments.

Of course, many multi-housing renters were forced to work from home during the pandemic. Those that chose smaller units in dense properties quickly realized that the space they had traded for abundant amenities was no longer such an attractive exchange.

As some multi-housing renters adjust to partially or completely working from home for over the longer term, their living needs will be dramatically altered. As kitchen tables have transformed into desks for many traditional office workers, renters are predictably demanding more space and flexibility from their units. Since June 2020, asking rents for units larger than 1,000 square feet have accelerated, achieving rent growth beyond that of smaller units. Larger units are increasingly in demand, reversing a trend of the last decade for smaller units in buildings with more community space and shared amenities.

In 2021, thoughtful residential landlords and developers should carefully evaluate the mix of units and sizes in their projects and those on the drawing board.

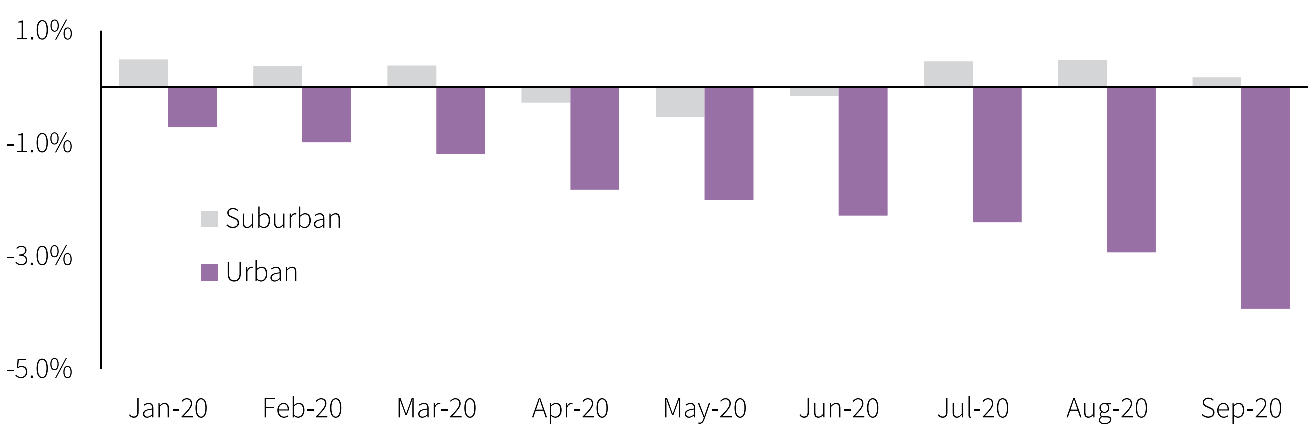
Spread in asking rent growth for units larger than 1,000 s.f. vs. units smaller than 1,000 s.f.



Sources: JLL Research, Axiometrics

Beyond unit size, affordability will remain a top concern in 2021. With continued pressure on average incomes, apartments must demonstrate their value. This will be particularly true for urban apartments, which have lagged suburban properties in demand and rent growth since the onset of the pandemic.

Asking rent growth, month-over-month (%): Suburban vs. urban



Sources: JLL Research, Axiometrics

Keep it simple:
Landlords who shift standard leasing and maintenance requests online will be ahead of the curve.

In 2021, apartment owners must readily adopt technology solutions to improve the operations and maintenance of multi-housing buildings. These enhancements include mobile apps to improve communication and to reduce response times between managers and residents.

This pre-existing trend was vastly accelerated in 2020, as standard leasing and maintenance requests shifted virtually overnight, urging owners and managers to focus on technology-based solutions.

Additionally, virtual tours are proving effective, providing a time-saving experience to prospective residents. Zillow has tracked an increase of 191% in virtual tour creation since the pandemic began, and an August survey by Zumper and Matterport indicated that 72% of potential apartment renters would lease a unit sight unseen, if a virtual tour were available.

This meaningful shift to virtual solutions has also been reported in the adoption of property management apps, such as Livly. According to Livly, resident engagement has increased 65% since April 2020, as the company quickly offered virtual community events and programming, digital document management, and amenity management such as bookings for fitness centers.

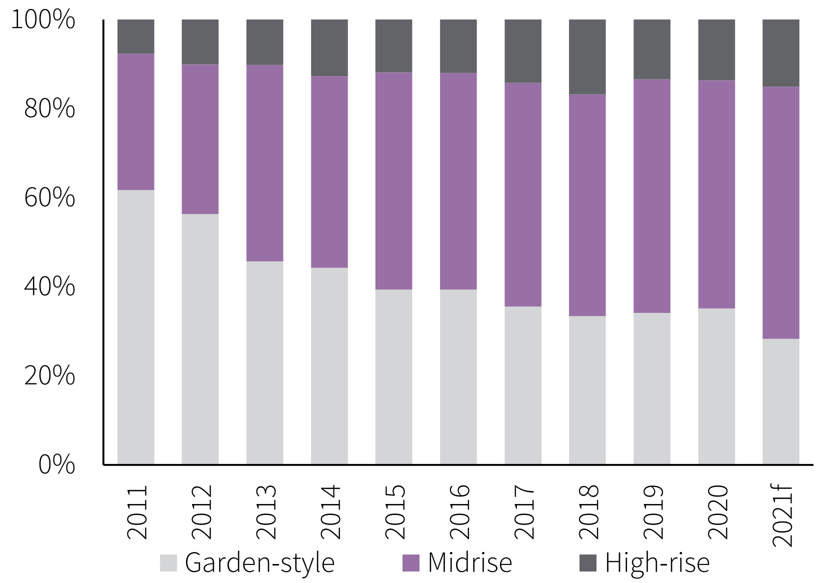
Even in a post-vaccine world, it is expected that contactless technology solutions, from leasing and management, to touchless entry and smart security will have considerable demand. Beyond their benefits for tenant retention and satisfaction, they can also improve operating efficiency and ultimately reduce expenses.

Be part of the solution:
Delivering 400,000 luxury units in 2021 will not solve the affordable housing crisis. Across the country, we need the thoughtful development of mixed-income communities.

The decade leading up to 2020 saw a wave of over 2.5 million highly amenitized new apartment units built in cities across the nation. In 2020, over 297,000 Class A apartments were delivered (more than in any year since the 1980s). However, for the 73 percent of American households earning less than $75,000 annually, these new units were not of much use.

Amid COVID-19, issues of affordability and renter hardships have been magnified due to job losses, particularly for service employees, the primary renter for workforce housing product. Furthermore, although the demand for workforce housing has risen dramatically, the supply has not increased in any meaningful way. In fact, as indicated in the chart at right, the growth in affordable, garden-style housing has been far overshadowed by high-end development over the last cycle.

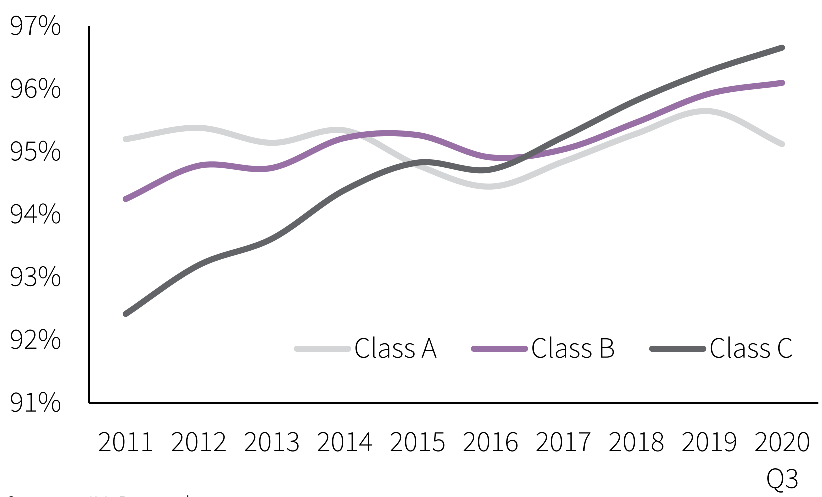
New multi-housing supply, share of construction by asset type



Sources: JLL Research

Demand for existing workforce housing has led to rising rents and increasing occupancy rates in more affordable apartments, further proving the case for investment in this space in 2021. As shown in the chart below, occupancy rates in premium units are declining, while they are steadily rising in workforce housing.

Multi-housing occupancy rates, by class, by year



Sources: JLL Research

The year ahead should be the turning point in solving the affordable housing crisis. It is no longer just a socially responsible place to focus capital. It is also an increasingly logical place to invest from a financial perspective as well. Thoughtful developers including CRG are already planning a "pandemic pivot" from luxury residential development to more affordable housing. Rather than being exceptional, such thinking should become recognized as a path toward better-than-normal results in 2021.

Working
better in 2021: Office

| Let's end the city vs. suburbs debate
| Connectivity is key
| Healthy buildings will drive healthy returns

Phil Ryan
Senior Manager,
Office Research

Let's end the city vs. suburbs debate: The real question is how much office space and where.

Demand for almost all office space came to a sudden halt due to COVID-19, forcing widespread adoption of work-from-home programs and precipitating an unprecedented rise in sublease availability. Although there's been no shortage of speculation about the future of the office, hard data has been limited as most tenants have elected to delay decision-making and office re-entry into midyear 2021.

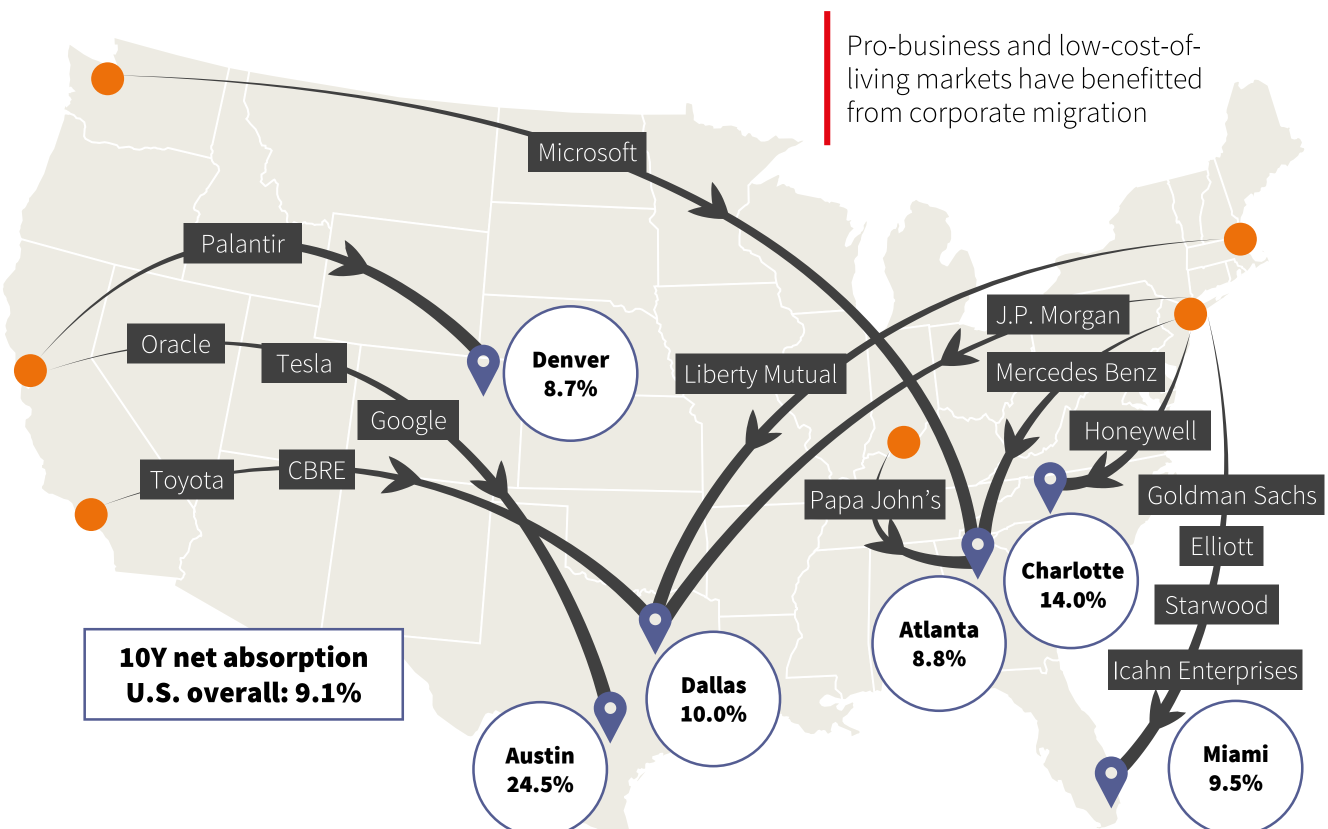
Although many companies continue to study the long-term viability of remote work, some have signaled their intent to make distributed work more permanent, through hub-and-spoke models or hybrid work programs.

Leading companies have also used this time to reassess their real estate strategies more comprehensively. Even before the pandemic, population growth had been shifting from high-cost gateway cities to emerging markets throughout the Sun Belt and Mountain West. Drivers of this migration are mixed, but roughly 90% of population shifts since the onset of the pandemic have involved savings on taxes and housing costs.

Beneficiaries of this trend have been cities with high growth and low tax environments. The most popular migration routes have been San Francisco to Austin (16.7 per 10,000 residents), New York to Austin (11.6), San Francisco to Seattle (10.9), New York to Denver (9.1), Chicago to Nashville (8.7) and New York to Miami (8.7).

Citing availability and cost of talent, favorable personal income tax rates, and pro-business governance, a variety of companies including Oracle, HP Enterprise and Palantir Technologies have decided to move their headquarters out of the Bay Area. A subset of private equity firms, hedge funds and larger financial institutions have also elected to relocate or grow operations in South Florida, creating momentum among financial institutions that have grown increasingly vocal (and mobile).

Recent corporate site selection and expansion activity favoring emerging markets



Sources: JLL Research

Indeed, the steepest drop in 2020 office occupancy was seen in San Francisco (-7.8% of inventory), New York (-4.5%), and Seattle (-3.1%). Meanwhile, Sun Belt markets such as Atlanta (-0.6%), Raleigh-Durham (-0.7%), and Phoenix (-0.7%) were more stable.

This MSA-to-MSA migration has proved to be more impactful on the overall U.S. office landscape than the urban versus suburban office debate that previously dominated discourse within the real estate industry. In 2021, as leading occupiers analyze their talent demands and space needs, most will find that they need not choose a purely urban or purely suburban strategy. Both have value and both environments can thrive in a post-pandemic world. **It is our expectation that corporate urban-to-suburban moves will be limited in 2021. However, Sun Belt and Mountain West submarkets will outperform gateway cities in terms of office absorption and rent growth over a 36-month horizon, driven by increased adoption of distributed work models and continued office relocations.**

Despite this momentum, many headwinds facing gateway cities are likely temporary. COVID-related business closures and reliance upon public transit disproportionately affected high-density urban markets such as New York, Chicago, San Francisco and Washington, DC. However, these factors will invariably be alleviated by vaccine distribution and a gradual rebuilding of the retail, dining, and entertainment scenes that made these cities magnets for young talent. In addition, political alignment within the federal government may result in policies that benefit gateway cities, such as federal aid packages to state and local governments, supplementary funding for public transit systems and tax reforms.

Gateway cities are hubs of innovation, leaders in global transportation connectivity, and historically safe havens for international capital. Conversely, many secondary cities face infrastructure constraints, limited liquidity, and a disproportionate share of back-office operations, which may be more vulnerable to automation, offshoring and extended work-from-home programs. For these reasons, we are optimistic about the resiliency of large cities over the long-term.

Connectivity is key: Public transit still matters, and infrastructure investments must unite rather than divide us.

It has become common in 2020 to note that public transit is suffering. Weekly ridership at the end of 2020 was 36 percent of pre-COVID-19 levels, per the American Public Transportation Association. APTA also notes that transit systems across the country will need at least $32 billion in supplemental funding to continue operations through the next fiscal year.

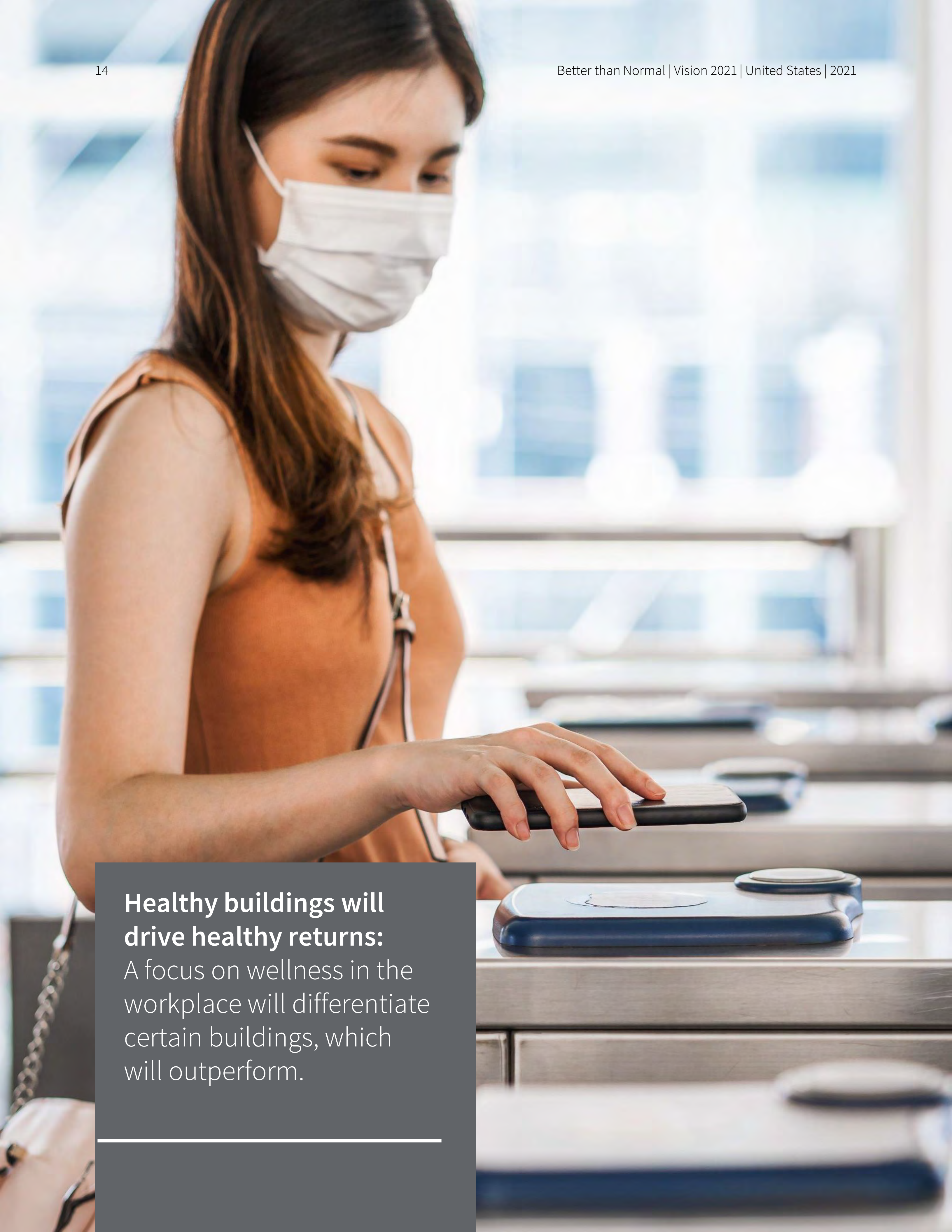
Although there is clear short-term hesitation to utilize public transit until a vaccine is widely available, mobility and connectivity will take on even more importance in 2021. Employers will need to consider locations carefully to ensure that employees are willing to return to the office for a majority of the week. This includes consideration for suburban employees as well as mostly car-free urban employees. Active transportation such as walking and cycling, as well as emerging last-mile solutions, should be considered, and in many cases, this will require a long-term investment mindset.

Although the largest markets of New York, Chicago and Washington, DC are most frequently considered in public transit discussions, in fact 34 million people used public transit every weekday, pre-COVID-19, according to the American Public Transit Association. It is worth noting that some recent corporate move announcements have been toward less transit-oriented locations. It is not certain that this strategy will be considered wise over the long term.

Even suburban locations can benefit from thoughtful transit investment. Among suburban centers, Reston, Virginia, provides a blueprint for how these destinations can grow. Planned on a human-scaled street grid, it offers active street frontages and concealed parking with a combination of mid- and high-rise office, residential and retail uses. This also allows for traffic to be distributed and for the implementation of complete streets—streets that include bike lanes as well as wider sidewalks. It will also be accessible by Metro starting in 2021, providing car-free access to other major employment and residential hubs such as Downtown Washington, DC, Arlington, Tysons Corner and Dulles Airport.

As investors and companies consider their location strategies in 2021, they must question if the commutes that they are imposing upon employees are sustainable. They may also consider potential partnerships with municipal governments, to ensure that multi-modal solutions are available and that access is enhanced in a post-pandemic world, not reduced.

The new Moynihan Train Hall at Penn Station, NYC



Healthy buildings will drive healthy returns:
A focus on wellness in the workplace will differentiate certain buildings, which will outperform.

In JLL's latest survey of over 2,000 office tenants, one theme is clear: tenants will expect their buildings to be focused on health and well-being. Even in the pre-pandemic environment, health and wellness were growing as topics of focus for office tenants, but this preference has been accelerated over the past year. As shown below, ahead of any other amenities, companies and landlords will have to consider the overall health of their employees if they expect office occupancy to increase.

With 73 percent of surveyed tenants placing an increased emphasis on employee well-being and safety, building health measures will be top of mind. Improved air filtration systems (with MERV-13 filters or otherwise) and natural light availability will become mandatory for selective tenants, rather than optional. Completely contactless security, elevator and access technologies will also become standard practice moving forward.

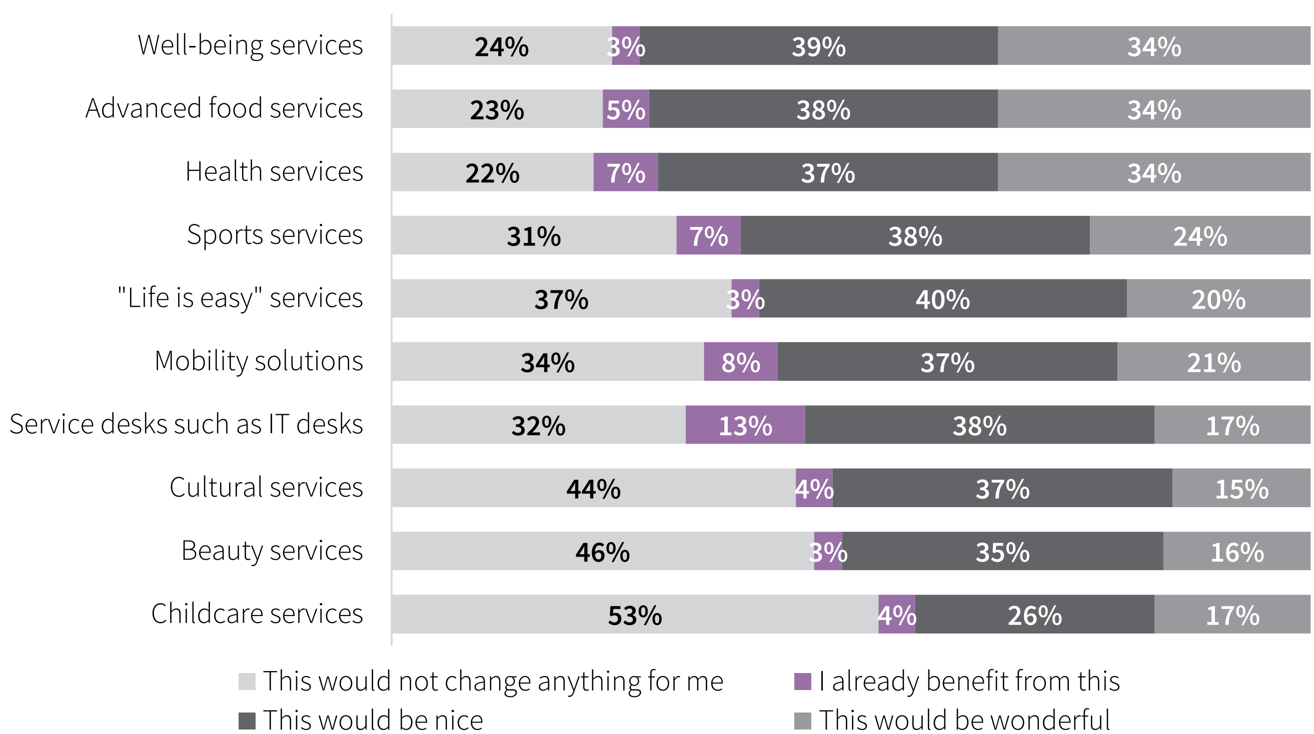
Not only are many of these preferred changes useful for slowing the spread of airborne illnesses, but they also appear to improve employee satisfaction. De-densification will alleviate many widely cited negative outcomes of open-office designs; 43 percent of workers want more privacy, while 34 percent say that they cannot concentrate due to noise or lack of space. A moderate uptick in employees working either permanently or mostly from home will also reduce overall desk needs, allowing space to be reimagined for new and innovative uses. Similarly, the addition of private terraces and amenity areas will become a tenant priority and enable better ventilated working, relaxation and physical activity as employers seek to differentiate the at-work experience from the at-home experience.

COVID-19 has forced a comprehensive reevaluation of strategies and priorities, with the implications stretching far beyond real estate. For individuals, the burden of a daily commute and struggles in achieving work-life balance have come into greater focus. The environmental impact of removing 14 million cars from U.S. roadways as a byproduct of remote work shouldn't be ignored.

Companies that embrace the potential benefits of a post-COVID-19 world could be rewarded with a more productive and engaged workforce and greater cost efficiencies across their portfolios.

With the right focus and investment in 2021, we can enhance our opportunities to work in better buildings, in more accessible locations, with better results. Shouldn't that be the goal?

Demand for services within office buildings



Sources: JLL Research

Working
better in 2021: Industrial

| Improve conditions for essential workers too
| If you build it, they will order
| Follow your 2030 goals

Mehtab Randhawa
Director,
Industrial Research

Improve conditions for essential workers too: Of course, location matters in logistics, but amenities and technology in distribution centers will increase in importance as well.

In the wake of the COVID-19 pandemic, JLL has reviewed (and written) dozens of reports on the future of work. However, all of these analyses tend to focus on the office workplace, with little attention paid to the changing conditions for the millions of essential workers within industrial buildings.
In 2021, leading developers and designers of logistics properties will increase their emphasis on ergonomics and employee wellness. As online sales continue to grow, demand for warehouse workers and fulfillment professionals will increase further. In an already competitive labor market, the amenities within warehouse spaces can help in attracting more workers while also providing a safer, healthier and more enjoyable environment for employees.

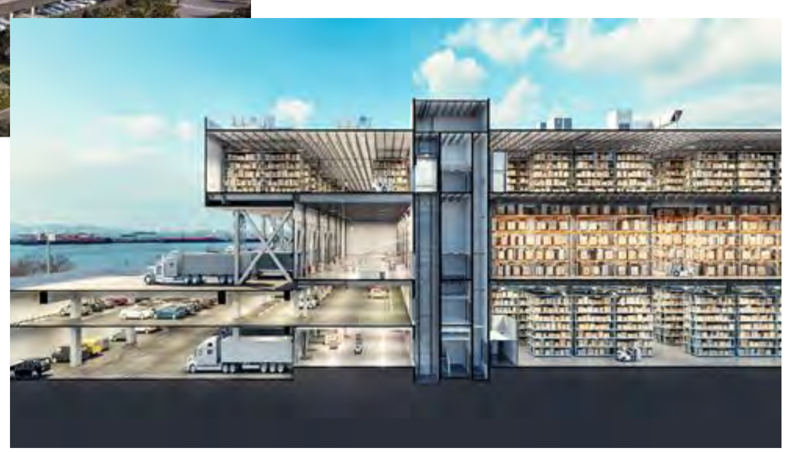
Over the last decade an "amenities race" has been building in the office sector. Meanwhile, employees within industrial properties only have an 8 percent chance of working in a building with air conditioning. **To attract and retain qualified labor, companies in 2021 will need to focus on modern amenities to create a better work experience.** In addition, a human-centric approach to warehouse operations will enhance productivity, allowing workers to focus more on order fulfillment and problem-solving while robots increasingly perform more repetitive or injurious tasks.

Basic building amenities which should be considered include enhanced air handling and filtration systems, natural lighting and purified hydration systems to promote employee wellness. The next level of amenity considerations should include fitness centers, community spaces, private relaxation rooms and outdoor access.

In a further category of access, competitive industrial buildings will offer shuttle services to and from public transit, so that employees from urban areas may have ways to reach such jobs. Others are planning more purposeful integration with their surrounding communities; from walking paths to local career training and development.

These recommendations are just a few of the opportunities available to make warehouse working better in 2021. As online order volumes continue to increase, employees in distribution and logistics properties will be more essential than ever. Their workplaces should reflect that.

Rendering of 640 Columbia Street, Brooklyn, NY



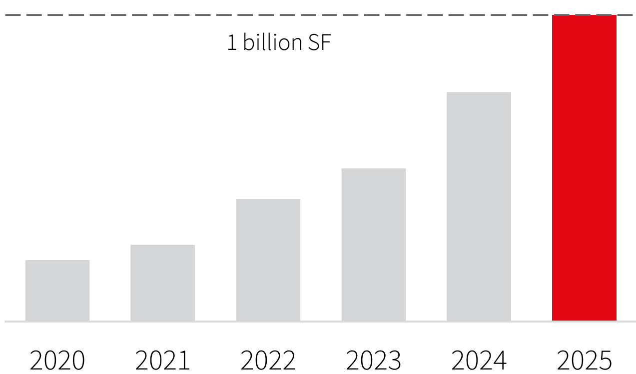
If you build it, they will order:

The U.S. will need 1 billion square feet of new industrial space by 2025 to keep up with demand.

The COVID-19 pandemic and associated shelter-in-place policies have accelerated e-commerce growth and the need for warehouse space across the nation. **JLL expects e-commerce sales to hit $1.5 trillion by 2025—increasing demand for industrial real estate by another 1 billion square feet.**

Prior to the pandemic, JLL attributed as much as 35 percent of industrial leasing to e-commerce, but now, with preliminary results indicating that e-commerce grew by 20 percent in 2020 alone, JLL reports as much as 50 percent of industrial leasing activity has already been attributed to related operations this year.

JLL future state projections in e-commerce sales
Industrial demand



Sources: JLL Research

Beyond the immediate demand that was generated from COVID-19, it is anticipated that online order demand will be sustained as more shoppers appreciate the convenience and shopping access it offers. The greatest opportunity for investors to capitalize on this trend will be in established markets, where populations are large and dense and where higher-income households drive purchasing power. More specifically, there is immediate opportunity for last-mile facilities in large cities, but also in secondary markets that are experiencing greater population growth.
In order to understand where this demand might be realized, the top urban logistics markets were segmented by key demographic indicators specific to online shopping habits, such as total population, density, age profiles and income indicators. From this analysis, we were able to define the characteristics of established and emerging markets to forecast current data and demand.

Established markets: The markets with higher population counts and density (red on the map) are where we see immediate existing need for last-mile facilities. These areas have some of the lowest vacancy rates in the country and need space immediately to meet local delivery needs.

Emerging markets: The emerging markets (gray on the map) are experiencing rapid population growth. They may have higher vacancy rates due to more readily available land to build. However, based on their current growth trajectories, these markets will need last-mile facilities in the very near future.

Urban Logistics*	Established	Emerging
Total population	▲	▼
Population density	▲	▼
Population growth	▼	▲
Vacancy	▼	▲

*Compared to the other urban logistics markets
Sources: JLL Research, U.S. Census Bureau. Tenant demand cover requirements 100,000 s.f. and greater. Census data for markets is represented by corresponding Metropolitan Statistical Area.

With no shortage of investment capital interested in the industrial sector, the question is not so much what to build but where to build first. With a focus on customer convenience and access, a sector which has already outperformed expectations can do even better in 2021.

Follow your 2030 goals:
In order to meet the carbon-neutral supply chain targets of many large companies, industrial spaces will need to focus on sustainability.

In the world of commercial real estate, which runs on long-term leases and large capital investments, nine years is not that much time. However, that's all the time that is left until the year 2030; and if your industrial properties are to meet the needs of companies such as Apple, Microsoft, Novartis, Timberland—or even JLL—just to name a few, then they must be carbon neutral by 2030.

Therefore, **in 2021, intelligent industrial owners and managers will be taking proactive steps to reduce the carbon footprint of their properties.** Sustainability will be a driving force for change as added pressure from investors, consumers and regulators encourages companies to more closely evaluate the environmental impacts of their businesses.

It is important to recognize that supply chain carbon neutrality requires that a product or company be able to remove the exact same amount of carbon dioxide from the atmosphere that it emits in the process of development, production and distribution. This is no small task.

Even when purchasing carbon offsets or credits, companies will have to focus heavily on emissions reductions across their entire logistics and distribution network. **Related to industrial properties, this will require significant investments** in areas such as high-efficiency roofing and insulation, LED lighting, rooftop solar panels, wind turbines and other renewable power sources.

Beyond the direct physical attributes, other aspects of supply chain carbon neutrality may include the following items.

Optimization of carbon-neutral supply chains.
With transportation as one of the primary contributors to greenhouse gas emissions in the logistics sector, many are focusing on ways to make transportation and supply chain operations more sustainable to the environment. Moving operations closer together and increasing the presence of urban logistics will be key in the logistics sector.

Environmentally friendly product design and packaging.
Paper and packaging companies will explore innovative methods aimed at reducing the company's environmental footprint. This includes finding ways to reduce the amount of packaging needed for products. E-commerce and food and beverage companies are leading the way to prioritize eco-friendly packaging made with sustainable materials.

Emphasis on renewable and operational resources.
Raw materials with favorable environmental footprints, green energy sources for powering company operations, and recycling and reusing water consumed in operations will be key factors of consideration for companies across all industry sectors in using renewable resources.

> In 2021 the theme of sustainability will not only change the design and specification of industrial properties, but it will also be a force of change for all industrial operations. If we are to help industrial tenants achieve dramatically better environmental results by 2030, the time to start investing is now.

Playing
better in 2021: Retail

| Convenience is everything
| Make malls matter again
| Take the long view

James Cook
Senior Director,
Retail Research

Convenience is everything:

The coronavirus has accelerated consumers' preferences for the convenience of online ordering and curbside pickup.

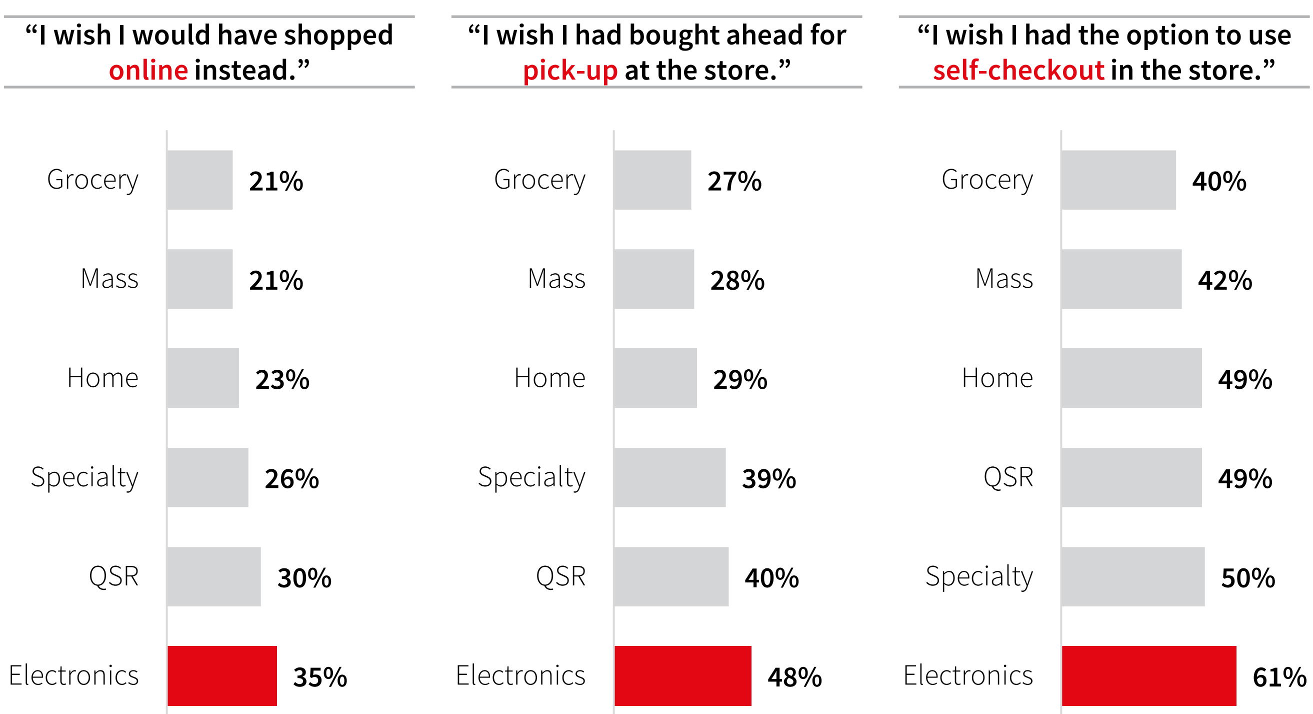
Long before COVID-19, the retail sector was transforming. Shifts in demographics, evolving consumer preferences, the erosion of the mid-market buyer and highly leveraged retailers created an environment with little margin for error and an increasing probability of closures or bankruptcies. In 2019, before the word "pandemic" was commonly used, retailers closed 9,300 stores. That represented a 60 percent increase from the 5,800 stores closed in 2018. As perhaps another 15,000 permanent store closures are recorded in 2020, consumers are speaking through their purchases. Their message is that convenience and safety are among their top priorities.

With most retailers pivoting toward improving omnichannel strategies to counteract limited in-store shopping, online ordering has become easier and shoppers now have more reliable options between speedy delivery, in-store pickup and curbside pickup. **This increased convenience will be critical in 2021**, as even shoppers who have purchased goods in person have expressed concern and consideration for alternate methods.

It's not just retailers that are focused on improving ease of access and convenience. Quick-service-restaurants (QSRs) are also seeking real estate with convenient drive-through capabilities. Shake Shack and Chipotle, two QSRs that previously did not operate with drive-through lanes, are implementing this strategy in future designs for added convenience for consumers.

In 2019, the retail and restaurant brands that provided the most interactive and engaging experience led the market. In 2020, it was those that provided safety and ease of purchase. In 2021, convenience will remain as the key to better performance.

Many wish they had chosen alternative fulfillment instead of going into the store on their last trip.



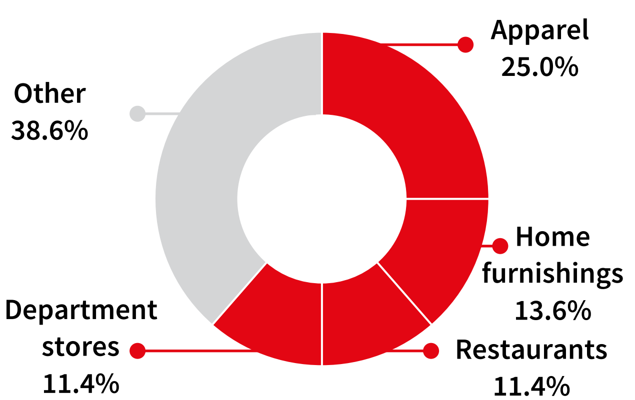
Sources: Big Red Rooster - a JLL company

Make malls matter again: As traditional retail vacancies increase, alternative uses including office, industrial, residential and medical will be needed to restore relevance.

With the continued focus on convenience across all elements of retail, malls also have an opportunity to improve the shopper experience. In a study conducted by Big Red Rooster, 70 percent of “pick-up” shoppers stated that they would prefer one single pick-up location for multiple online orders. Mall owners could benefit significantly from this offering while providing shoppers with a more convenient experience. Centralized pick-up areas for online orders from multiple retailers within a shopping center could be a compelling enhancement to attract and retain customers.

However, most malls will need to do much more than offer one-stop pick-up locations to thrive in 2021. The severity of the retail downturn will require creative thinking beyond the selling of physical goods. This is where the idea of “mixed-use” can truly come to life. Currently, apparel and accessory stores account for 57 percent of total mall space. Not only are these stores the most likely to go bankrupt (see chart below), but they also represent the greatest proportion of likely closures in the coming years.

Percent of major 2020 bankruptcies



Sources: JLL Research

While the situation may seem dire for many Class B and Class C malls, owners and operators have an incredible opportunity to rethink their tenant mix to align with neighborhood businesses and community needs. Malls still provide the necessary benefits of open space, convenient locations and ample parking. Such features could prove attractive for some of the following alternative uses.

Alternative-use opportunities for malls

Office	Corporate offices can benefit from well-located malls in densely populated areas with large parking lots.
Industrial	Fulfillment and distribution centers can utilize the connectivity to highways and main arteries that mall properties have, in addition to the proximity of consumers for last-mile delivery.
Residential	Residential conversions can serve nearby populations, especially in metros with growing housing shortages.
Education	Mall properties can serve as college satellite campuses, community colleges and trade schools to capitalize on nearby college-aged populations.
Medical	Medical users, particularly urgent care facilities, have continued to expand during the pandemic, often backfilling vacant mall space to capitalize on existing density and frequently trafficked destinations.

While complete conversions may be the optimal outcome for some mall locations, for others a more targeted approach of selective space conversions may be the answer. In any case, detailed consideration of the local resident population will be required.

As noted in the Working Better section of this report, employees are seeking shorter commutes and mixed-use benefits as well. Malls could serve the demand for 15-minute cities in the near future, with retail centers linked to business hubs and affordable apartments, all within a ready-made, mixed-use district.

Take the long view: Urban retail demand is expected to return at the end of 2021.

The COVID-19 pandemic has demonstrated just how connected our world is. In the commercial real estate space, few elements are as connected as urban retail demand, office occupancy rates and global tourism volumes.

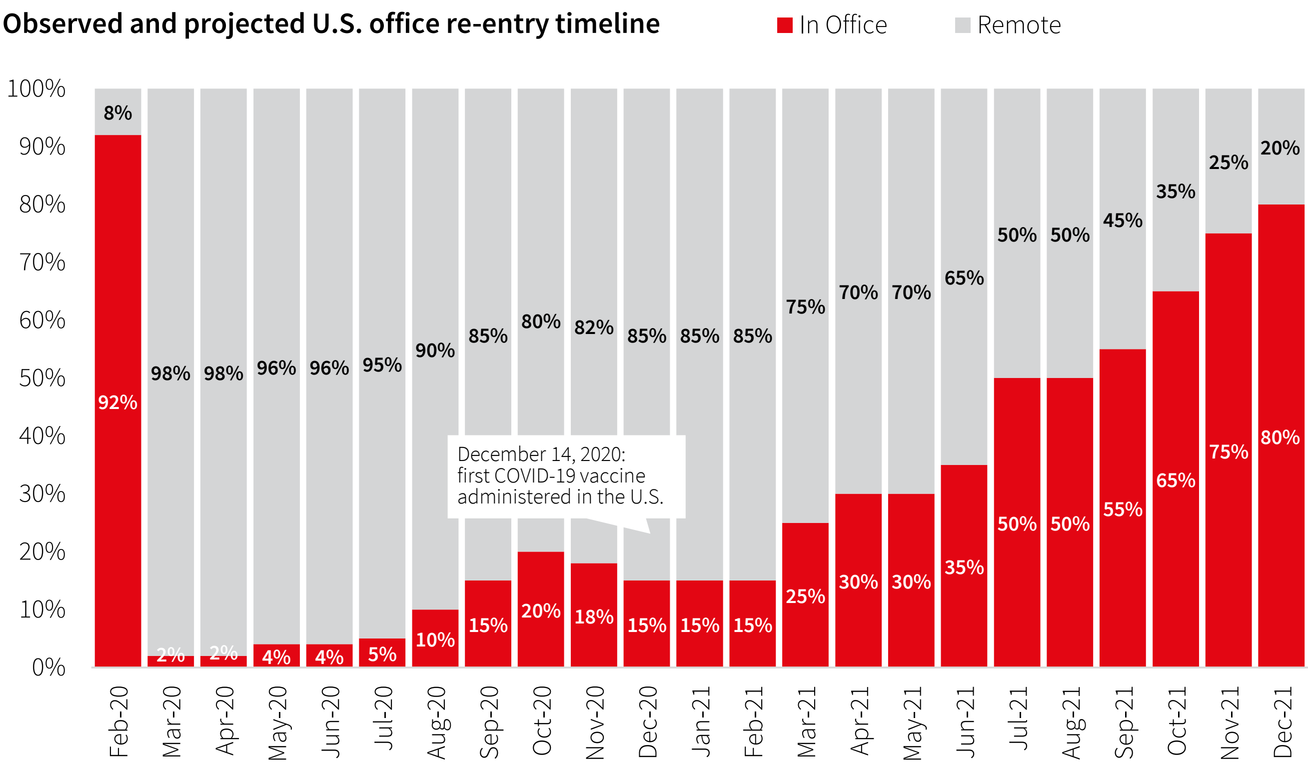
Without office users and without large-scale tourism, urban retail has experienced an unprecedented challenge in 2020. However, there is cause for optimism in 2021. **As people begin to increasingly conduct more "normal" activities starting in mid-2021 (in both work and play), urban retailers must be prepared for the return of the in-person consumer.**

In terms of office workers, JLL predicts that by the end of 2021, 80 percent of office workers will have returned to the office following the release of a vaccine. The chart below illustrates the most likely scenario for office occupancy rates, based on over 2,000 tenant responses.

Beyond the office-using consumer, when tourism returns, demand for prime urban retail corridors that appeal particularly to out-of-towners (e.g., Times Square, Lincoln Road and Michigan Avenue) will also return. Notably, these districts are primarily outdoor experiences. With tourists potentially maintaining caution for certain indoor activities, outdoor experiences will remain in-demand. Sunlight, fresh air and walkability contribute to health and well-being.

When social distancing is less necessary and retailers can operate at full capacity, demand will return for retailers currently struggling to operate, including dine-in restaurants, entertainment concepts and movie theaters, and fitness centers. We expect that such uses will see a full recovery and an incredible level of pent-up demand. However, this rebound is not possible until a vaccine is widely available and effectively distributed.

Observed and projected U.S. office re-entry timeline



Sources: JLL Strategic Consulting Group survey of Fortune 500 office users, *WSJ*

***Wall Street Journal*:**
"Do you have a date in mind for when your workforce returns to the office?"

Netflix CEO Reed Hastings:
"Probably six months after a vaccine is available, and we can get a majority of people vaccinated, it's back in the office."

Government restrictions, vaccine development and school reopenings will be important considerations in office re-entry.

Urban and suburban timeline for retail re-entry

	Present	**Near future** Late Winter/Spring	**Longer term** (widespread vaccine) Fall/Early Winter
Suburban timeline	• Office workers at home in the suburbs • Shoppers feel more comfortable in open spaces • Open-air centers see strong foot traffic and spending	• Retailer demand for suburban retail space grows	• Suburban areas remain an ideal location for retailers even as the demand for urban living returns
Urban CBD timeline	• Office workers not in their urban offices • CBD retail struggles without daytime population • Without tourists, prime urban retail corridors suffer too	• Retailer demand for new space returns slowly as people return to the office • Prime urban retail corridors near residential neighborhoods will see demand return sooner than those near CBDs	• Workers return to offices running at full capacity and CBD retail recovers • Prime urban retail corridors bounce back as domestic and international tourists return

As illustrated in the graphic above, we are not yet in a position to declare victory for urban retail. However, positive signs for the market, which have been so difficult to find in 2020, are now beginning to emerge for 2021.

Staying
better in 2021: Hotels

| Room size will matter
| Make it seamless
| LEED well, don’t follow

Geraldine Guichardo
Director,
Hotels Research

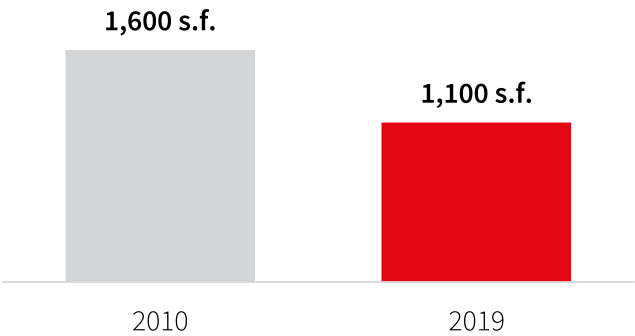
Room size will matter:

In a reversal of recent trends, hotels will feature larger rooms to allow guests to work, exercise and rest in the comfort of their own private space.

In 2021, new hotel room designs will expand in size to accommodate changing guest preferences to work, stay and play in private spaces.

Over the last cycle, hotels evolved to feature smaller-sized rooms, with the area per room for full-service hotels falling nearly 31 percent over the 10-year period. These changes were in part driven by developers adapting to the increasing densification of major markets coupled with operators seeking operational efficiencies. Further, smaller rooms emerged as brands reconfigured hotel spaces to allow for more expansive hotel lobbies and common areas to meet the demand for more social travel. Hoteliers eagerly sought to create inviting spaces for the traveler who craved an engaging experience where they could easily socialize and work with others. In recent years, hoteliers supported this trend by introducing innovative brands featuring small room designs like Tru by Hilton, Best Western's GLo and Marriott's Moxy Brand.

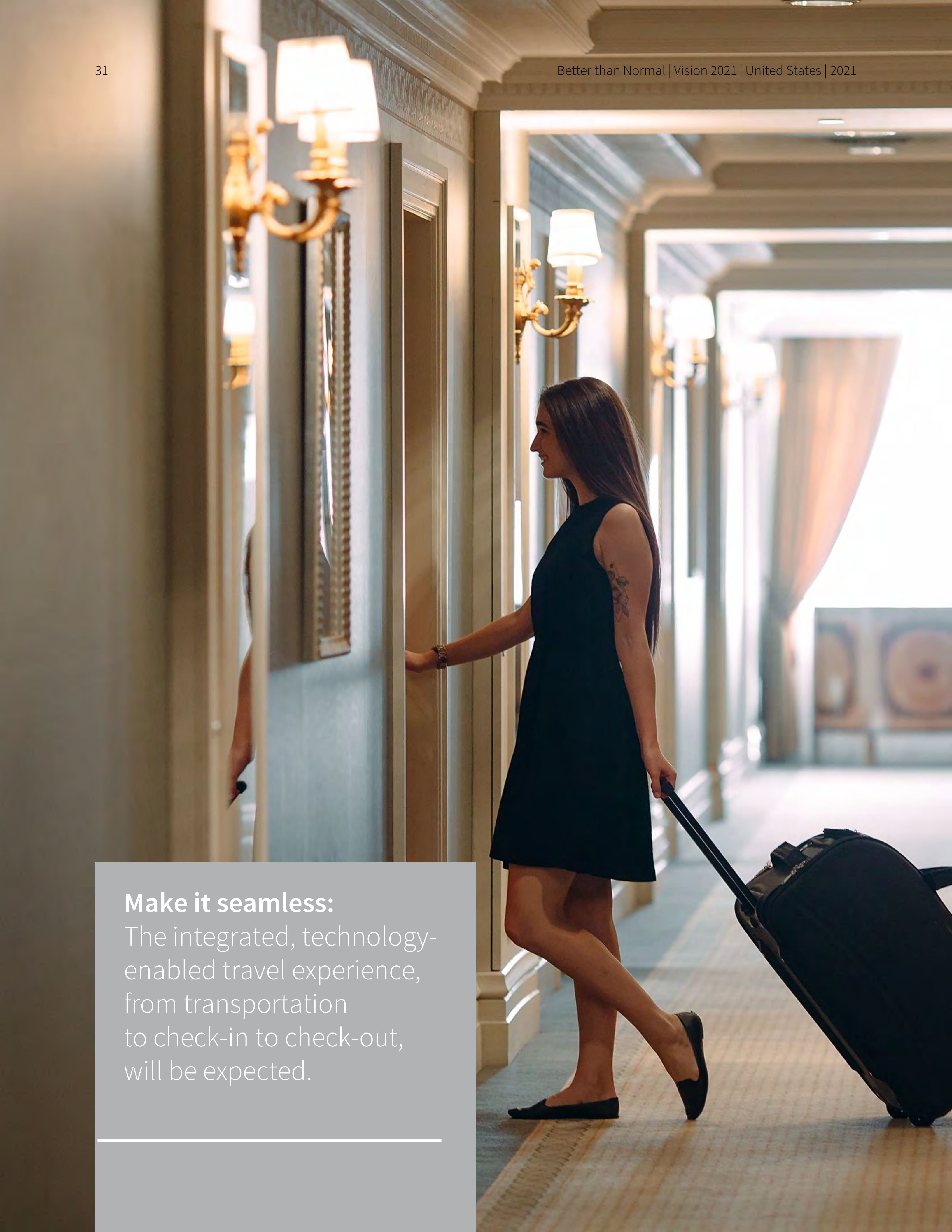
Full-service hotel room size trend: 2010 vs. 2019



Sources: STR, Costar, Gartner, JLL Research

Post-COVID-19, guest preferences will evolve, with less social connectivity taking place in hotel common areas to prevent the spread of contagious diseases. Additionally, with remote work increasing for a significant number of global companies and in some cases becoming a permanent trend post-COVID-19, individuals will seek private spaces outside their home to work, which creates an opportunity for hoteliers to provide long-term stays for guests who want to travel but still work remotely. Recent extended-stay (typically featuring larger rooms) hotel lodging performance points to the shift in guest preferences. In Q3 2020, extended-stay hotels recorded an occupancy of 65.8 percent, down only 0.8 percent when compared to the same period in 2019, while the overall hotel industry logged an occupancy of 48 percent.

Hotels can better accommodate these guests by decreasing the space dedicated to common areas and lobbies to allow for larger-sized hotel rooms, which can provide a flexible environment for telecommuting, room for exercise and space for long-term stays. This will form a new guest-experience paradigm of "work, stay and play." Hoteliers that can quickly rethink their current hotel brand design to increase room size and floor-to-floor heights while appealing to new guest preferences will find success in capturing hotel demand post-pandemic. Efficiency will be measured by a company's "wellness ratio," or how well they are maximizing their space with factors like social distancing and air filtration, which will be an important metric for developers who are seeking to build in the post-COVID-19 environment. Changes will not happen overnight, but with the urgency for wellness and safety following the pandemic, it will be vital that hoteliers are able to adapt quickly to rebuild guest confidence.



Make it seamless:
The integrated, technology-enabled travel experience, from transportation to check-in to check-out, will be expected.

Seamless connectivity through all travel touchpoints will become expected in 2021.
The COVID-19 pandemic shed light on the lack of technological advancements and poor connectivity that exist in the travel and tourism industry. These challenges could make it more difficult for hoteliers to find opportunities to generate revenue and meet increasing guest needs and expectations in a post-COVID-19 world. In 2019, the U.S. travel industry benefited from $1.1 trillion in traveler spending. This level of consumption was bolstered by millions of travelers dining, flying, lodging and hailing taxis or shared rides while on vacation or business trips. Although companies in the travel and tourism industry recognize they share many of the same consumers, rarely are these companies sharing data with each other beyond the typical loyalty member airline mileage or hotel points system. As a result, these companies are leaving an incredible opportunity on the table, where multiple data points could be leveraged on a single traveler to offer a more personalized (and safer) travel experience.

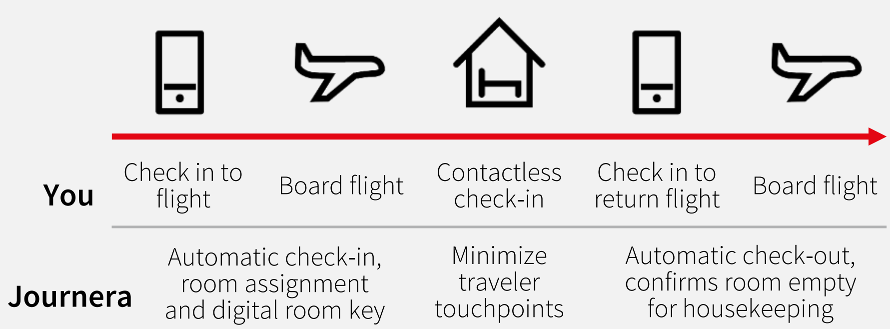
Journera, a secure, real-time data exchange, is jumping on this opportunity. Its mission is to engage and elevate every customer journey, and it is strategically advising several travel and tourism companies to work better together. Participating travel companies decide the type and granularity of the data they wish to provide to the platform. With data gathered from more than 190 million travelers, an ecosystem is created where consumer data across various travel companies is amalgamated to create a full picture of a traveler's trip. This full picture empowers participating travel companies by helping them identify revenue-generating opportunities and ways to personalize the traveler's experience.

As an example, Journera partnered with a top global hotel chain looking for innovative ways to enhance guest experiences and generate revenue. The global hotel chain was challenged in achieving this goal because it only had access to its internal data, which provided a singular view of its guests' trips. Upon partnering with Journera, the brand's participating hotels gained new insights on flight data for incoming guests and identified who would be arriving before regular check-in. The hotels were then able to offer personalized early check-in offers via email or on their brand apps and were able to prepare the room ahead of schedule.

Hotels that are partnering with Journera are quickly reaping the benefits of using the platform, with over 75 percent of hotels stating that the data they are receiving can be used to generate revenue. Further, 60 percent of participating hotels cited improved guest satisfaction and loyalty to brand. Leveraging this type of platform may also lead to operational cost savings as travel companies can avoid investing in costly bespoke IT systems for every new marketing promotion planned.

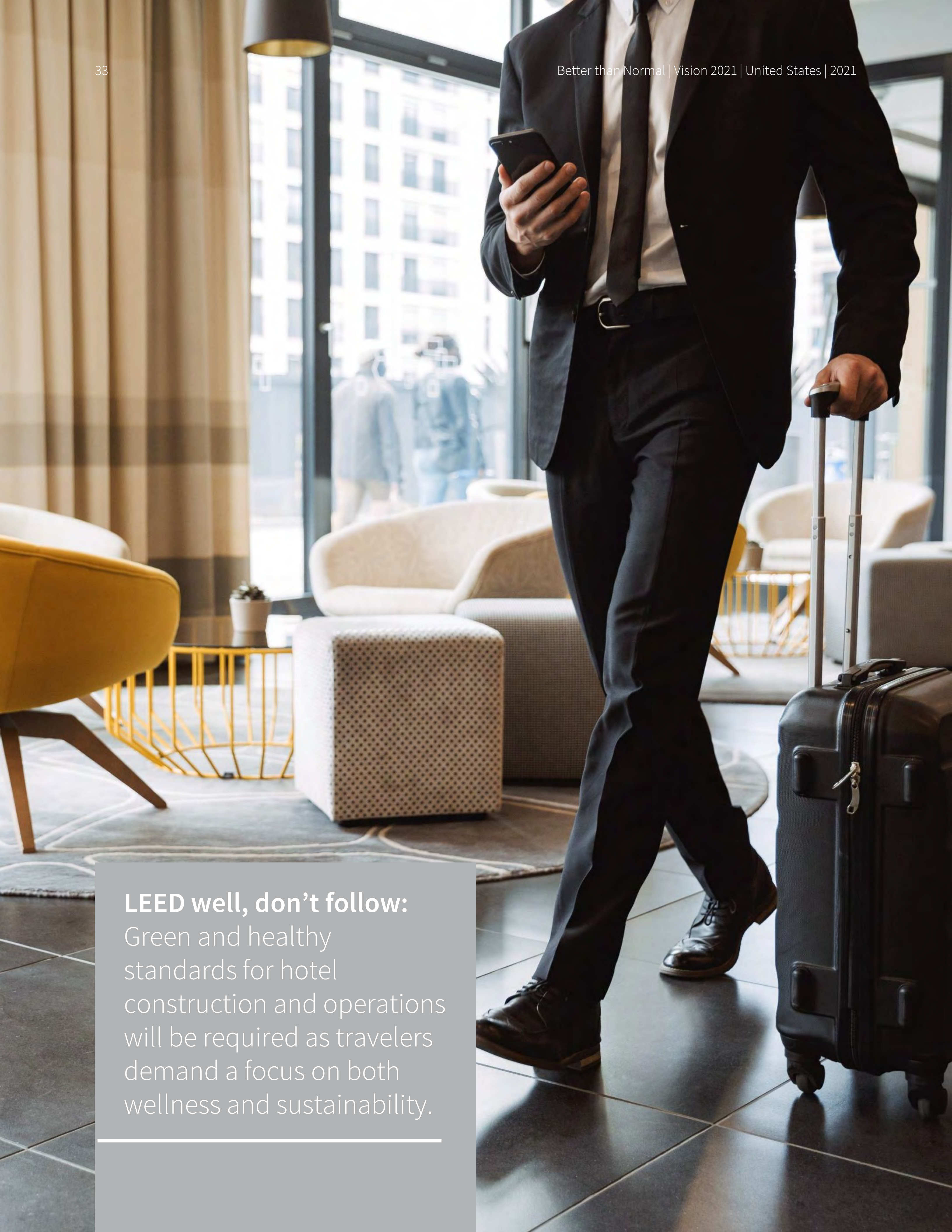
To successfully make this exchange of information work—whether an internal or third-party platform is being used to share data—travel and tourism companies will have to assure travelers that their data and privacy are secure. Moreover, hotel operators will have to be open-minded and buy in to the one-to-many connectivity that such a platform requires for the knowledge share to be effective. It is in the industry's best interest to make advancements in this area, as connectivity will be essential to offer a more seamless, safe and tech-enabled experience to help stimulate travel in a post-COVID-19 world.

Journera has enabled a seamless, contactless experience increasing efficiency for guest and hotel



Source: Journera

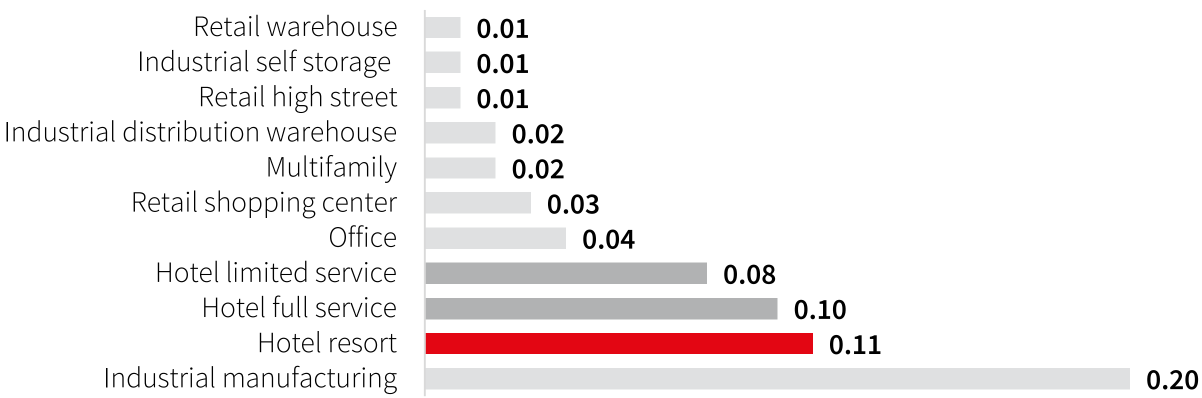
> "If you were to check in on your AA app, you could also be checking in for your Hyatt hotel room as well. You're going to see a lot more from us on that. We are trialing quite a few things and Journera will be a way to enable that."
>
> **Alison Taylor, Chief Customer Officer at American Airlines, one of Journera's airline partners**



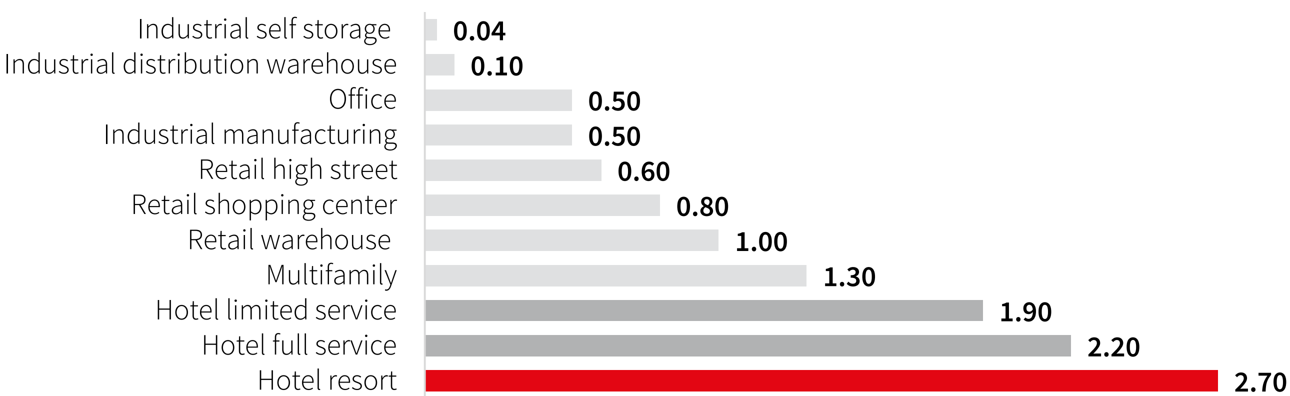
LEED well, don't follow: Green and healthy standards for hotel construction and operations will be required as travelers demand a focus on both wellness and sustainability.

According to the most recent ULI Hotel Sustainability Report, among all commercial buildings in 2019, hotels recorded the highest per square meter energy and water usage, making them the highest-energy- and water-intensive properties. Similarly, hotels show one of the highest carbon emission intensities when compared to other property types. This is influenced by the fact that hotels are a 24/7 operational business and that there is no direct pass-through mechanism for energy usage costs to their guests. Within the hotel sector, hotels that feature more elaborate guest amenities and programming (i.e., spas, pools, restaurants, landscaping) have higher energy, water usage and carbon emissions, such as full-service hotels and resorts.

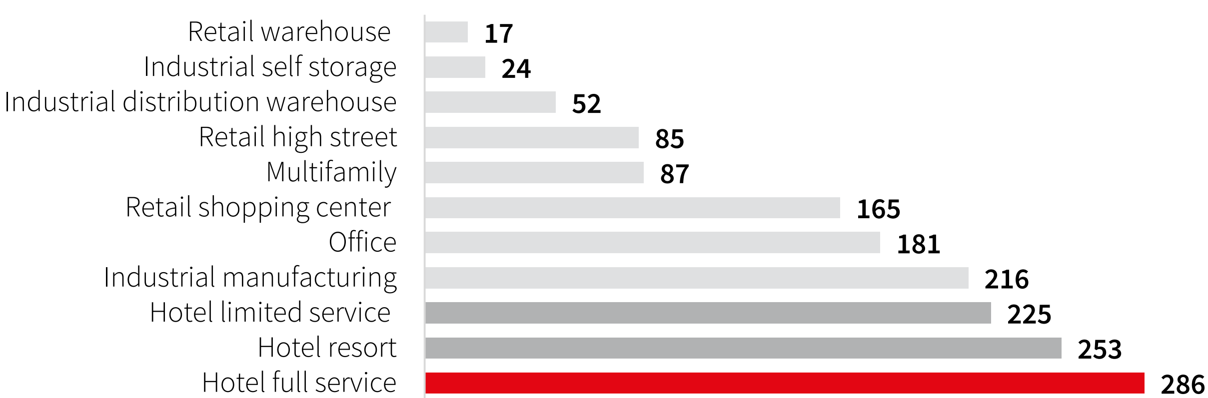
2019 carbon emissions by property type (CO_2E/M^2)



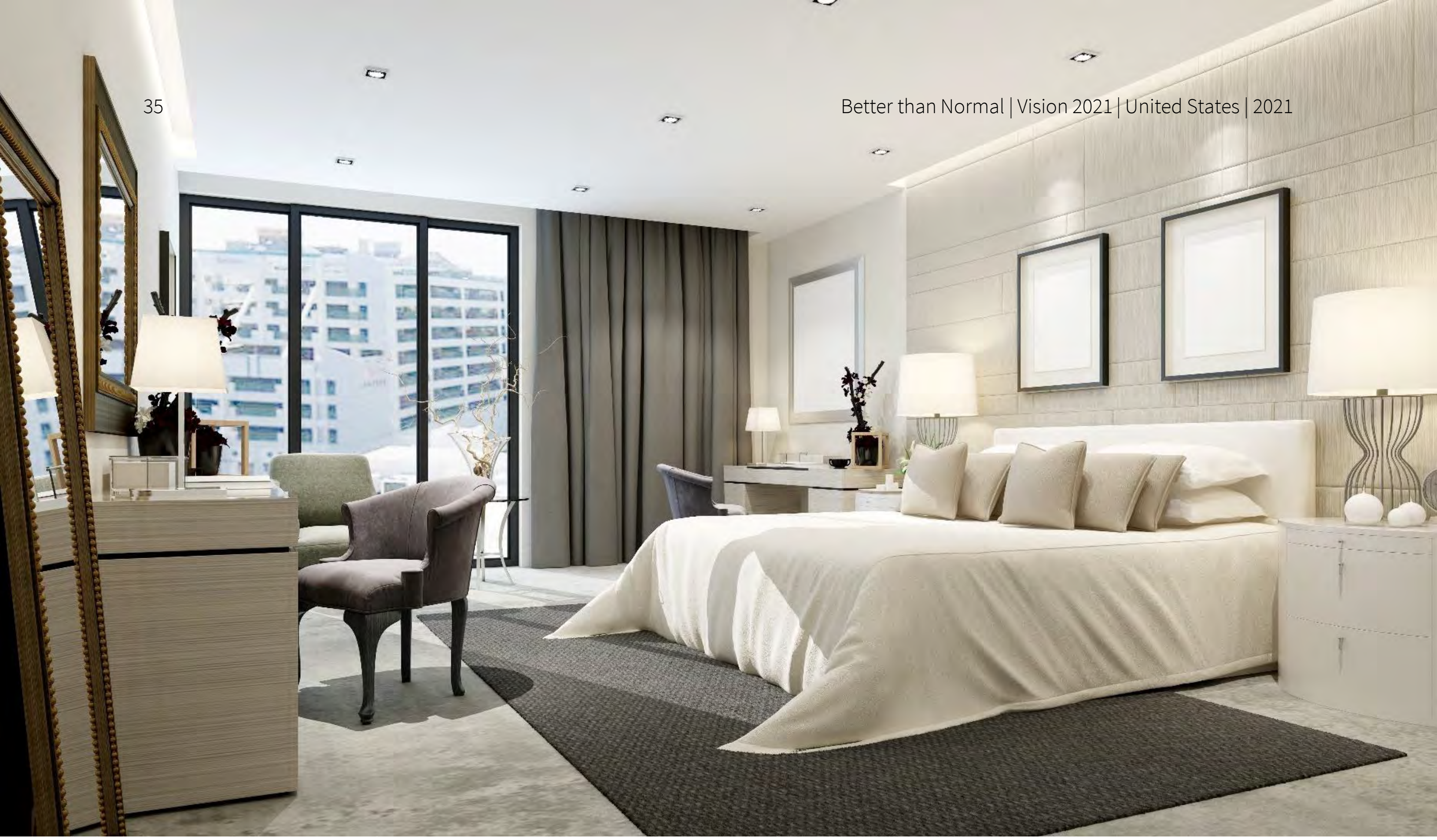
2019 water use intensity by property type (KL/M^2)



2019 energy use intensity by property type (kWh/M^2)



Sources: ULI Green Print Report 2019, Cornell Hotel Sustainability Benchmarking index 2018



While hotels have started taking steps in the right direction to become more sustainable by implementing programs that allow guests to forgo daily towel and linen changes, thereby reducing energy and water consumption, much more can be done from a development perspective. In 2019, hotels reported only one green certification in comparison to office buildings, which reported the highest number of newly certified spaces at 209. For material progress to be made, developers must challenge themselves to build hotels with a sustainable blueprint in mind that includes protecting the surrounding natural environment.

Moreover, the guest experience must complement the “green-hotel” by creating programming that is mindful of energy/water consumption and carbon emissions not only directly but also indirectly.

Direct changes hotels can implement to be more sustainable include

- Use of solar panels
- Direct digital control energy management systems
- High-efficiency boilers
- LED lighting installations
- In-room motion-sensor lighting and air conditioning/heating

Indirectly, hotels can opt to source more of the foods used in restaurants from locally sourced markets and growers, which helps alleviate dependence on fossil fuels, reduce air pollution and cut back on greenhouse gas emissions. Hotels are in a unique position to benefit from sustainable and efficient operational improvements in a way that other property types cannot. Hotel operators pay utility bills directly and, as such, directly recoup all savings from efficiency improvements, without having to share those savings with tenants. Owners can incentivize operators to adopt these sustainable choices by sharing a proportion of the total savings with the operator.

To continue moving the industry forward on its path to a more sustainable future, all players along the value chain, from developer to guest, need to do their part.

Leading
better in 2021: ESG

2021 presents an opportunity and an obligation to lead positive, transformative change

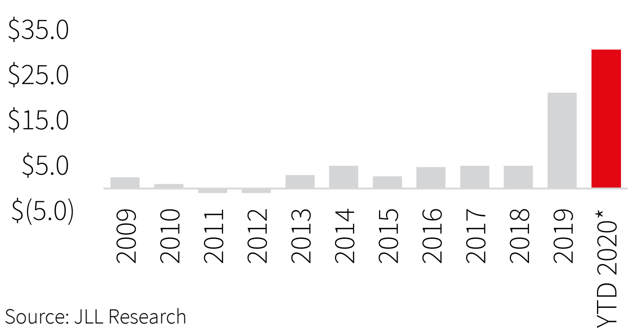
Lori Mabardi
Senior Director,
ESG Research

Build on the momentum gained in 2020 to make commitments to the future

The COVID-19 pandemic has exposed the social and economic inequities and vulnerabilities in our healthcare, education and social systems. As a result, the importance of environmental, social and governance (ESG) goals has increased, and it is with this momentum that we can increase these commitments for a better future.

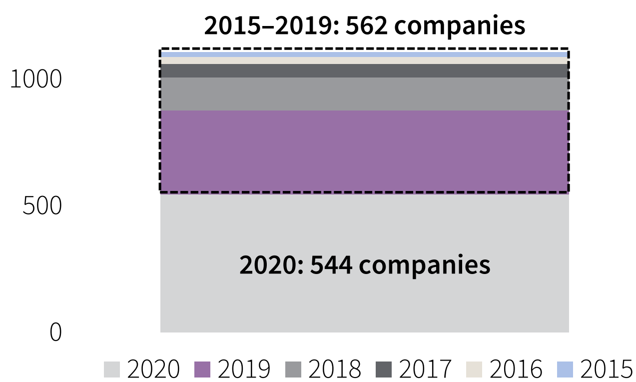
According to Morningstar, U.S. investors invested in ESG funds at a pace double 2019 levels, reaching a historic peak of $30.7 billion as of Q3 2020. This represents 14.2 percent of global ESG investments, which also reached a new high of $1.3 trillion. Additionally, to-date 1,107 corporations have committed to Science-Based Targets, with 49 percent of those new commitments made in 2020 and nearly equal to the commitments made in the previous five years.

Estimated annual flows in sustainable funds U.S. investors ($billions)



Source: JLL Research

Number of firms committing to Science-based targets (as of Dec. 13, 2020)



Sources: JLL Research

Moving forward, the global community must maintain this momentum and remain focused on positive change; the workforce will demand it. By 2025, 30 percent of the workforce will be composed of Gen Z, a generation of which 72 percent believe that racial equality is the most critical issue of the day, followed by the environment. Without clearly outlined ESG commitments, employers will be hard pressed to compete for talent in the global economy.

Gen Z

(Born between 1997 and 2012)

30%

of the workforce by 2025

Most diverse:

48%

non-white

Purpose seeking:

75%

believe that work should have a greater purpose than just pay

Care about equality & environment:

72%

believe racial equality is the most critical issue of the day, followed by the environment

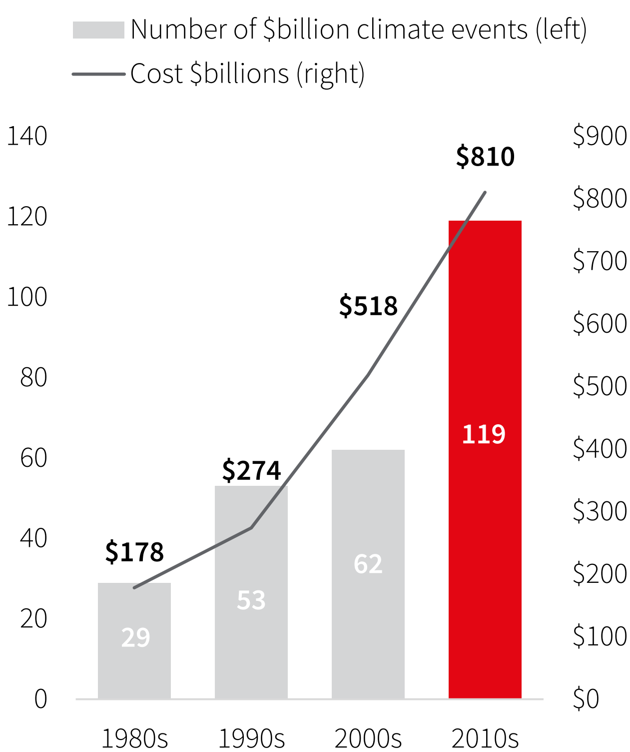
Source: wespire

This is the most critical decade in the fight against climate change

In November 2019, the Alliance of World Scientists, issued a new warning that the earth is facing a climate emergency and bold actions must be taken to cut emissions and avoid the worst impacts of climate change. According to climate scientists and Paris Agreement guidance, global greenhouse gas emissions must be cut in half by 2030, and we should have a net-zero carbon economy by 2050 to prevent global temperatures from rising more than 1.5 degrees Fahrenheit over pre-industrial levels.

These ambitions will likely result in federal regulations regarding climate risk disclosure. France, New Zealand and the U.K. have established legislation making climate-related risk disclosure mandatory for large institutions. Additionally, lenders are indicating that they will increasingly evaluate the carbon footprint of their investments. In July 2020, Morgan Stanley announced it had joined the Global Carbon Accounting Partnership, committing to measuring the carbon footprint of its investments and lending business, and in October 2020 the firm committed to net-zero financed emissions by 2050.

Storms causing at least $1 billion in damage: Last 4 decades (NOAA)



Sources: JLL Research

It is imperative that real estate owners and developers also make these commitments. According to data through October 7, the United States experienced 16 billion-dollar extreme weather events that caused $47 billion in property damage. In the last decade, the U.S. has experienced more than $1 trillion in damages from extreme storms. In comparison, only 2.5 such events occurred on average each year in the 1980s.

Adopt transformative technology solutions to drive value and lower carbon emissions

According to Ceres's Roadmap to 2030 report, we consume resources equivalent to an astounding 1.6 planets per year. Smart building technology, machine learning and predictive analytics can be powerful tools to enable greater building efficiency, predict maintenance needs and optimize performance for a reduced environmental impact, a healthier human experience and reduced operating expenses.

Solutions vary across the spectrum, but building owners are seeing an average 25 percent reduction in energy costs paired with increased tenant comfort and equity value resulting from sustainability strategies.

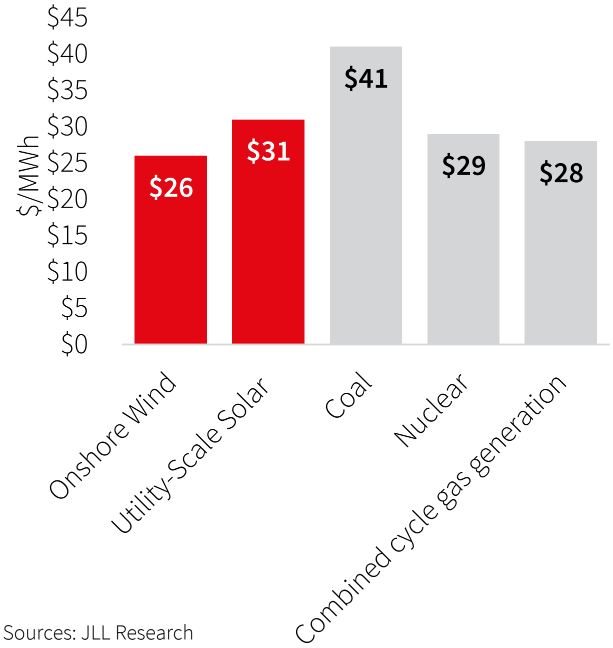
MetLife Investment Management invested in efficiency upgrades at its 910,000-square-foot Class A asset, District Center, in Washington, DC. The smart building technology collects building data that runs through more than 2,000 analytics rules established to find efficiencies, maximize occupant comfort and predict equipment failures. These investments have lowered energy use by 33 percent over District Center's 2014 baseline.

Renewable energy also offers the opportunity to generate revenue. In July 2020, with the help of JLL, DC Metro entered into an agreement with SunPower and Goldman Sachs Renewable Power to create 17 acres of solar power across its portfolio. This will generate power for over 1,500 nearby homes and offer commuters shaded parking. This structure will generate $50 million for DC Metro over 25 years.

These technology solutions arrive at the right time to meet the challenges of today.

In June 2020, the International Renewable Energy Agency (IRENA) reported that, for the first time, new solar photovoltaic (PV) and onshore wind power cost less than maintaining operations at many existing coal plants. According to IRENA, this is a tipping point in the energy transition, indicating that the case for new coal and much of existing coal power generation is environmentally and economically unjustifiable. In addition, according to Lazard 2020 Levelized Cost of Energy Report, the cost of unsubsidized wind and solar PV has declined over the last decade by 71 and 90 percent, respectively, bringing them much closer to traditional energy costs. There remain areas for improvement, like storage and intermittency, but many states currently offer attractive incentives that should not be overlooked, and renewables will only increase in prominence and importance.

Lazard levelized cost of energy comparison (Unsubsidized)



Sources: JLL Research

Conclusion

In 2021, the real estate industry has the opportunity for transformative change in the areas of emissions, climate change, social justice and equality. Whether you are an employer, investor, developer or lender, real estate can play a critical role on this journey toward sustainability and equality. For our industry, it is imperative that we all play a part in these solutions.

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About JLL

JLL (NYSE: JLL) is a leading professional services firm that specializes in real estate and investment management. JLL shapes the future of real estate for a better world by using the most advanced technology to create rewarding opportunities, amazing spaces and sustainable real estate solutions for our clients, our people and our communities. JLL is a Fortune 500 company with annual revenue of $18.0 billion, operations in over 80 countries and a global workforce of over 92,000 as of September 30, 2020. JLL is the brand name, and a registered trademark, of Jones Lang LaSalle Incorporated. For further information, visit jll.com.

About JLL Research

JLL's research team delivers intelligence, analysis and insight through market-leading reports and services that illuminate today's commercial real estate dynamics and identify tomorrow's challenges and opportunities. Our more than 400 global research professionals track and analyze economic and property trends and forecast future conditions in over 60 countries, producing unrivalled local and global perspectives. Our research and expertise, fueled by real-time information and innovative thinking around the world, creates a competitive advantage for our clients and drives successful strategies and optimal real estate decisions.