Commercial Real Estate Development

SPRING 2020

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IDEAS | ISSUES | TRENDS

Real Estate as a Service

Forging a Flexible Future *54*

WELL expands into warehouses *66*

Boston's ongoing building boom *80*

The NAIOP Research Foundation Annual Report *89*

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A common area inside Hana, a flexible workspace concept developed by CBRE.

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A Note From the Editor

NAIOP Membership Reaches 20,000

NAIOP has always felt like a community — and it just got bigger. Our membership has grown to the size of a small city; in fact, as many people now belong to NAIOP as live in Lomita, California, or Birmingham, Michigan. NAIOP's growth is a testament to the strength of our services and the enthusiasm of our volunteers. I'm pleased to welcome NAIOP's 20,000th member, **Paula Marucci**, and include her story in this issue.

Jennifer LeFurgy

NAIOP is leading the way on the real-estate-as-a-service trend and now offers an online education course dedicated to the subject. Flexible space arrangements are growing beyond coworking in office buildings — we now see them in industrial and retail properties. As industry analyst **Antony Slumbers** observes in **Ron Derven**'s cover story, "Today, it's Uber instead of cars, Spotify instead of CDs and Netflix instead of DVDs. For the real estate industry, it's space as a service."

I'm looking forward to seeing you at one of our many industry meetings this year.

Stay informed,
Jennifer LeFurgy, Ph.D.
Editor-in-Chief

Real estate as a service conjures up images of sleek coworking offices in urban settings, but the concept is evolving to include warehouse space and many other uses. (Page 54)

Boston has boomed during the recent cycle thanks to a strong economy and healthy population growth. Here's a look at development projects across the city. (Page 80)

The NAIOP Research Foundation's annual report for 2019 highlights a year of insights into trends and topics shaping the commercial real estate industry. (Page 89)

Future NAIOP Events

- **I.CON Spring 2020: The Industrial Conference**, April 2-3, Huntington Beach, California
- **2020 National Forums Symposium**, April 29-May 1, Boston
- **I.CON Summer 2020: The Industrial Conference**, June 4-5, Jersey City, New Jersey
- **CRE.Converge 2020**, October 6-8, Las Vegas

Construction of cold-storage facilities could be poised to heat up as consumer demand for e-commerce grocery deliveries catches fire. (Page 10)

Approximately 44% of active-shooter incidents in the U.S. take place at commercial properties. Owners must be proactive about developing safety plans to protect life and property. (Page 24)

At Prologis Labs, experimentation is front and center as the company explores cutting-edge technologies for the logistics facilities of the future. (Page 16)

WeWork and Airbnb represent two different ways to disrupt real estate, and they offer important lessons to landlords regardless if they succeed or fail. (Page 44)

Mobile parking apps are a great convenience for customers, but they can also provide garage owners with a simple, easy-to-manage tool for controlling costs. (Page 52)

Cummings Properties CEO Dennis Clarke reveals some of the lessons he's learned during 15 years as the leader of a Boston-area commercial real estate firm. (Page 36)

Most Popular From Winter 2019/2020

1. **"Change Accelerates in Supply Chains and Industrial Real Estate"** (www.naiop.org/19supplychains, page 52)
2. **"A Unique Water Feature for Any Climate, Any City"** (www.naiop.org/19waterfeature, page 26)
3. **"What's on the Horizon for Commercial Real Estate?"** (www.naiop.org/19seamless, page 74)
4. **"Are 'Seamless' Floors a Smooth Choice for Industrial Properties?"** (www.naiop.org/19horizon, page 16)
5. **"When Wellness Meets Commercial Real Estate"** (www.naiop.org/19wellness, page 42)

An office move is always disruptive, but innovations in tracking technology, along with advanced planning, can make the process go much more smoothly. (Page 40)

Biophilic design elements in offices such as "living walls" filled with plants can produce cleaner air and quieter spaces. That, in turn, can boost employee productivity. (Page 48)

Construction projects are complex undertakings, but these 10 suggestions can help ensure that they're on time, on budget and built well. (Page 20)

A recent report from the NAIOP Research Foundation examines how localities are planning for fully autonomous vehicles and how that could affect the commercial real estate industry. (Page 102)

What does a successful development and leadership program look like? The NAIOP Southern California chapter's Young Professionals Group is a strong example. (Page 108)

The rollout of 5G technology promises to exponentially increase the digital connectivity of buildings. However, developers must future-proof their properties to ensure a smooth transition. (Page 27) ■

The Cold-Storage Market is Heating Up

Surging demand for e-commerce grocery deliveries could spark more construction of refrigerated facilities.

By Trey Barrineau

In October 2019, Amazon announced that it will begin offering free two-hour grocery delivery to Amazon Prime members. The move could have a dramatic impact on demand for cold storage facilities, which were already poised for strong growth amid changing consumer preferences.

CBRE's "2019 U.S. Food on Demand Series," which focuses on research about cold storage, notes that owners and operators of U.S. cold-storage warehouses should see annual growth of 4% from now to 2022. Evolving consumer behavior is driving this change. The Food Marketing Institute and Nielsen predict that groceries ordered online will account for 13% of total grocery sales by 2022, up from 3% in 2018. Additionally, the Food Marketing Institute predicts that within the next 10 years, 70% of American households will regularly do some grocery shopping online.

"The real interesting question is what's going on with consumers and how are they changing," said **David Egan**, senior director and global head of research for CBRE, during a session at NAIOP's CRE.Converge 2019 in Los Angeles in October. "E-Commerce is obviously a huge component of everything we talk about in this business, and it's beginning to find its way through to food."

Huge Growth Potential

Egan noted that food in the U.S. is a category worth approximately $2.5 trillion, with grocery sales representing almost $1 trillion of that number. He said that right now, with just 3% of grocery shopping in the U.S. occurring online, grocery e-commerce has little impact on logistics real estate.

Getty Images

Cold-storage facilities can house a wide range of perishable products, from fresh fruits and vegetables to meat, seafood and milk.

"It's basically an Instacart type of model where customers place orders online that are filled in a grocery store by a personal shopper," he said.

However, as online grocery shopping grows, a greater percentage of fulfillment would have to come from warehouses to keep up with demand. CBRE predicts that more grocers will shift cold-storage operations from their stores to free-standing refrigerated facilities to save money.

"If you look at the economics of a grocery store, it's a low-margin business," Egan said. "To accommodate e-commerce, grocers would have to add more inventory, more overhead and more people working in the stores. Those margins would start to get squeezed. So there's going to be a desire to move out of that store into a more efficient, cost-controlled warehouse. They're very capital-intensive for sure, but in the end the costs would be more manageable."

CBRE estimates that demand for cold storage space will rise by 100 million square feet during the next five years. That's an increase of roughly 47% from the current level of 214 million square feet.

"If e-commerce grocery sales grow to 15% penetration, that's about $150 billion in sales that would shift from an in-store model to an online model," Egan said. "To put that in perspective, all e-commerce in the U.S. is about $500 billion. This has the potential to dramatically change the way food moves through the supply chain."

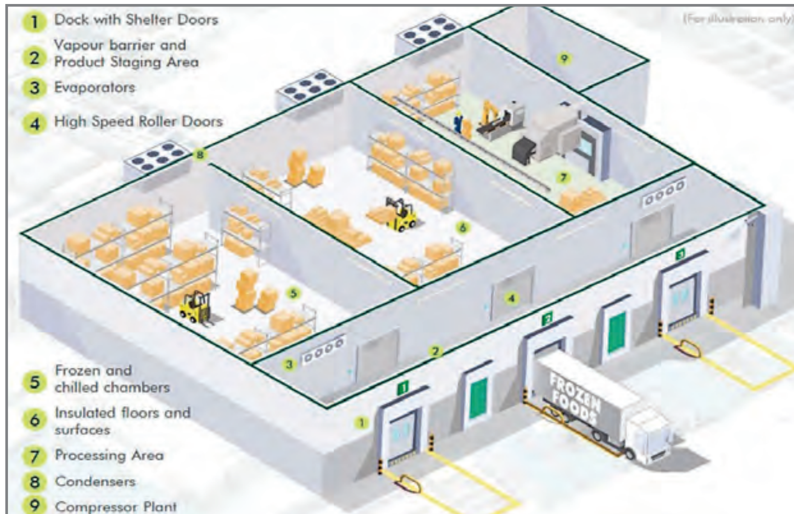
It could also revolutionize logistics-based real estate. According to Egan, at least 1.25 million feet of new distribution space is needed to support every $1 billion of sales that shifts from a brick-and-mortar model to an online model.

"So if we get $150 billion in sales shifting from an in-store model to a fulfillment-out-of-a-warehouse model, you can see the impact that's going to have on the amount of space that's needed for cold storage and food logistics," he said. "And that's not even taking into consideration restaurants. In our view, there is the potential for an enormous amount of new climate-controlled space."

A lot of that new space will take the form of last-mile cold storage in infill areas. Egan believes that redevelopment will probably be the most likely path forward there. Fewer grocery stores will be needed if e-commerce food delivery takes off, and those buildings will already have refrigeration equipment.

"A repurposing of existing grocery stores is really going to be the sweet spot," he said. "They're already designed to handle food, they've got good site coverage, they've got good circulation, and they're usually pretty close to where people are. I think these facilities are probably going to skew toward the smaller side."

CBRE says much of the cold-storage sector's growth is likely to occur in gateway markets like Los Angeles and the New York area, as well as in top food-producing states such as California, Texas, Wisconsin, Florida and Washington state. However, Egan said there's not a lot of evidence that it's happening yet. He estimates that there is less than 5 million square feet of



CBRE

Cold-storage warehouses require a lot of specialized equipment that is not found in "dry" warehouses. That's why refrigerated facilities can cost two to three times more to build and operate.

cold storage currently under construction across the country.

"We think it's coming and we think the opportunity is enormous, but it's just over the horizon right now," he said.

Costly Facilities to Build, Operate

While there should be strong future growth in the cold-storage market, several factors have limited construction of new facilities in recent years.

Research from JLL shows that cold-storage facilities can cost between $250 to $350 per square foot to build. That's about two to three times more ex-

Warehouse Types

JLL's 2018 report "Cold Storage: A Real Estate Perspective" describes the different types of refrigerated warehouses on the market:

- **Public Warehouses.** Warehouses operated as independent businesses that offer various services such as handling, storage and transportation for a fixed or variable fee that is charged by the pallet. According to U.S. Department of Agriculture (USDA) research, these represent about 79% of total U.S. cold-storage capacity.
- **Private and Semi-Private Warehouses.** Warehouses that are constructed and/or owned by the same enterprise that owns the merchandise stored at the facility. According to the USDA, these represent about 21% of total U.S. cold-storage capacity.

Temperature Segments

- **Chilled Warehouses.** These facilities maintain temperatures in the range of 32° to 33°F and are used to store fresh fruits and vegetables, eggs, dry fruits, milk, dehydrated foods and other products.
- **Frozen Warehouses.** These facilities maintain temperatures in the range of -10° to -20°F and are used to store frozen vegetables, fruit, fish, meat, seafood and other products. ■

pensive per square foot than traditional warehouses. Because of that, "investors look for opportunities with approximately 15 or more years of lease term to mitigate risk and provide a steady cash flow stream to buy down their basis," according to JLL's 2018 report "Cold Storage: A Real Estate Perspective."

In addition to the extensive refrigeration equipment, these structures require specialized building envelopes, including insulated metal panels and concrete slabs with under-floor insulation and heating. Because of these factors, they can take four to five months longer to build than standard warehouses.

They're also much more expensive to operate than traditional warehouses because of the electricity required to run the refrigeration equipment. According to statistics from E-Source, a research company that works with major utilities across North America, refrigerated warehouses consume an average of 24.9 kilowatt-hours (kWh) of electricity per square foot each year. By comparison, traditional warehouses use an average of 6.1 kWh of electricity per square foot each year.

CBRE's research shows that the challenges related to constructing and modernizing cold-storage facilities have led to consolidation in the industry. Just four companies currently control 73.4% of all refrigerated warehouse space in North America.

"Few sectors of commercial real estate will undergo as much transformation in the coming years as the cold-storage industry due to e-commerce's impact on this previously underpenetrated market," said **Matthew Walaszek**, CBRE Associate Director of Industrial & Logistics Research, Americas, in a release. "We will see robust demand, further innovation in delivery and automation, and possibly more consolidation among major players." ■

Trey Barrineau is the managing editor of Development magazine.

Learn More About Cold Storage

The NAIOP Center for Education is currently offering an online course, "Understanding the Temperature-Controlled Environment." It examines trends and the current market landscape for cold storage facilities. It also details how these environments differ from traditional industrial projects, the specialized building features required and the challenges associated with these facilities.

To sign up for the course or to learn more, visit: learn.naiop.org/products/understanding-the-temperature-controlled-environment-individual-course-module-mid3 ■

Meet NAIOP's 20,000th Member

The face behind the association's latest milestone is an American-born Canadian citizen who is involved in Vancouver's retail market.

By Trey Barrineau

If there is strength in numbers, then NAIOP today is stronger than it's ever been.

After 52 years of consistent growth, the association reached a notable landmark in December 2019 when it welcomed its 20,000th member, **Paula Marucci**, a shopping center manager with Bosa Development in Vancouver, Canada. It was the capstone on a year that saw NAIOP add 4,115 members, a record for the association.

"NAIOP is pleased to welcome Paula as our 20,000th member," said **Thomas Bisacquino**, NAIOP president and CEO. "This is a significant membership milestone for our organization, and it reflects both the power of our industry and the value of our association. Throughout North America, our members come together for education and advocacy, but above all, they are making the deals that drive our industry. 2019 was a record year for new members, and achieving this level of growth during such a prosperous time for our industry is thrilling."

Marucci will receive many valuable perks as NAIOP's 20,000th member. These include a free lifetime membership in the association and complimentary registration to two NAIOP conferences in 2020.

> **"I was surprised and enthusiastic to hear that I was the 20,000th member. I am honored and grateful to have this opportunity to be a part of NAIOP."**
>
> *— Paula Marucci, Bosa Development*

"I was surprised and enthusiastic to hear that I was the 20,000th member," she said. "I am honored and grateful to have this opportunity to be a part of NAIOP."

Paula Marucci

Always Aiming High

Marucci followed a unique career path into the industry.

After graduating from high school in Pennsylvania, she joined the U.S. Air Force, where she worked as a medical technician in an OB/GYN ward. Following her four-year tour of duty, she decided that she didn't want to pursue a career in medicine, so she took a job as a bankruptcy administrator for a U.S.-based savings and loan company. Eventually she migrated to Canada after marrying a Canadian she had met while living in California. She became a citizen and started her career in property administration in the Vancouver area.

While Marucci is fairly new to Bosa — she joined the firm in October 2019 — she's not new to the industry. Her commercial real estate experience stretches back to 1998 and includes stints with Bentall Kennedy, Colliers, Serracan Properties and Warrington PCI Management.

"I've always had a fascination for building designs and how buildings are commissioned," Marucci said. "For the past 20 years, I've worked for some of the most prestigious property management companies in Vancouver as a property management assistant and a property manager, all while continuing with my education. I've obtained numerous management certifications that ultimately led me to my current position."

At Bosa, Marucci manages the Lynn Valley Shopping Center in North Vancouver. The property features more than 50 stores covering 170,000 square feet, plus a second-floor professional level.

"We're excited having her on board with us," said **Maria Wood**, director of property management with Bosa. "She's at a property that we're in the process of redeveloping, so she's going to go through exciting times."

Founded in 1980, Bosa is a major commercial and residential developer in Western Canada, the Northwestern U.S. and California. The company owns and manages a diverse portfolio of 3.5 million square feet made up of shopping centers, office buildings, industrial properties and film studios.

A NAIOP Fan

Marucci said she first encountered NAIOP through publications such as Development magazine and its research reports.

"They always have the most current information and research analysis," she said, adding that she especially liked the January 2019 report, "Economic Impact of Commercial Real Estate in Canada."

"I find the NAIOP online education to be of value, especially to anyone in the industry wanting to further their career or build leadership skills."

— Paula Marucci, Bosa Development

Marucci also said she enjoys NAIOP's educational programs and events, and she plans to take advantage of the opportunities presented to her as the association's 20,000th member.

"I find the NAIOP online education to be of value, especially to anyone in the industry wanting to further their career or build leadership skills," she said. "They present informative events with first-class guest speakers. I expect to obtain information that will support sound decisions on leasing and property management. I am looking to possibly furthering my knowledge through conferences and chapter events."

As for her personal philosophy of success in life, Marucci said when times get tough, dare to be tougher.

"Anyone can run away, but facing problems and working through them makes you stronger," she said. "Instead of thinking of all the things that can go wrong, I became someone who looks on how they go right. Your mind is powerful, and when you fill it with positivity your life naturally becomes positive. When you think positive thoughts, positive things will happen. The quality of who I am is reflected in the standards I set for myself. I positioned myself to live up to the rise of my own expectations. It is not only about making a living, it is about making a difference." ■

Trey Barrineau is the managing editor of Development magazine.

Strong, Steady Growth

NAIOP's membership numbers through the years:

1967: Nine owners and developers of industrial parks establish NAIOP on September 12, 1967, during a meeting near Philadelphia.

1968: Membership grows to 70.

1976: NAIOP hits 654 members.

1988: Membership reaches 7,500.

2017: For NAIOP's 50th anniversary, roughly 18,000 members are on the rolls.

2019: NAIOP hits 20,000 members. ■

Prologis Labs: An Experiment in Innovation

The company's new research facility takes a deep dive into cutting-edge logistics technologies.

By Dustin Read and Alex Rollins

Opportunities to innovate are abundant. They exist in all segments of the real estate industry and across all activities in which real estate investors engage. Yet far too few companies approach innovation in a systematic way to ensure it is a source of competitive advantage.

One notable exception is Prologis, the world's largest owner of logistics real estate.

In November 2018, the publicly traded REIT opened Prologis Labs, an innovation center in San Leandro, California. The facility evaluates new products and services that could improve supply chains through an experimental approach that relies on testing in a controlled environment. Seven Prologis employees with backgrounds spanning engineering, computer science and real estate information technology conduct the research and analyze the results.

The Prologis Labs staff consists of (from left) Dmitry Ingerman, technology architect; Greg Everson, vice president, IT architecture and emerging technologies; Gary Bruns, vice president, IT architecture and emerging technologies; Robbert Heekelaar, vice president, IT architecture and emerging technologies; Alan Findley, senior vice president, IT architecture and emerging technologies; Tim Manocherhi, senior engineer; and Alex Ulik, lead developer.

The facility evaluates new products and services that could improve supply chains through an experimental approach that relies on testing in a controlled environment.

A key feature of Prologis Labs is its flexible design. There are a variety of ways to configure the facility's open layout and 24-foot clear height ceiling. Two-deep racking systems up to three positions high can be assembled in the space, and sections can be arranged to resemble fulfillment areas, shipping and receiving areas, and reverse logistics areas for processing returns. Each of these settings accommodates the testing of different logistics-related technologies.

Sources of Inspiration

Where do the ideas for experiments come from? One source is Prologis Labs itself. Staff members continually vet new technologies to determine if they can increase operational efficiency or improve the customer experience.

Another source is Prologis Ventures, a wholly owned subsidiary of Prologis that invests in logistics-related start-ups. The venture capital team frequently calls on Prologis Labs to vet the products and services of these start-ups before deploying financial resources. Yet another source is Prologis' customers and supply chain partners. Several have already sought out Prologis Labs as a co-innovator, and that number continues to grow.

New & Noteworthy

780,000 sq. ft.

Skanska's Bank of America Tower in downtown **Houston** was recently recognized as the first LEED v4 Platinum Core & Shell certified project in the U.S. The 780,000-square-foot tower, which opened in the summer of 2019, is also the largest LEED v4 Platinum Core & Shell project in the world. Designed by Gensler, Bank of America Tower offers 754,000 square feet of sustainable **office space** and more than 35,000 square feet of public space at Understory, an open-air community hub. Tenants also have access to The Assembly, a 10,000-square-foot conference and private events center that features three meeting venues.

353,030 sq. ft.

The Pizzuti Companies have announced plans for two new **speculative industrial buildings** in **West Chester, Ohio**. Totaling more than 350,000 square feet, **Mill Creek Logistics Center I and II** are being constructed on a 17.5-acre site approximately 20 miles northeast of Cincinnati. Designed for single- and multitenant users, the buildings are 169,522 and 183,508 square feet, respectively, and feature 32-foot clear heights, 24 loading docks, 256 car parking spaces and LED lighting throughout the warehouses. The project was designed by RED Architecture & Planning; the design-build team is Schumacher Construction Management.

271,500 sq. ft.

Heritage Properties is developing **Tower Two at Bloc[83]** in **Raleigh, North Carolina**. It is a $108 million urban **mixed-use development** consisting of a 10-story Class A office building spanning 271,500 square feet. It will include retail totaling 30,000 square feet and a 665-space parking garage. The building's innovative features include a tenant lounge and terrace overlooking Hillsborough Street and the Bloc[83] courtyard; retail designed for fitness operators, restaurants and bars; a two-story office lobby; column-free floorplates; and large windows.

The front entrance of Prologis Labs, an innovation center in San Leandro, California.

In its first year alone, Prologis Labs conducted dozens of experiments aimed at driving innovation deeper into the company's core business strategy.

One of the most promising lines of research focuses on autonomous work trucks. Experiments conducted in this area offer insights into whether they are a viable alternative for customers with different pick rates, load configurations and safety concerns.

Extensive progress has also been made in the study of IoT (internet of things) technologies. By using sensors to track things such as temperature, water leaks, forklift movement and dock door activity, Prologis Labs is generating information that can improve the design of logistics real estate and enhance preventative maintenance.

Responding to Industry Needs

In many ways, Prologis' size makes the work of Prologis Labs possible. Nearly every large retailer and third-party logistics company occupies space in its portfolio. That puts the company in a unique position to observe common supply chain problems related to labor, transportation and warehouse operations. Furthermore, the company has the means to explore technologies with paths to commercialization that are not always immediately clear. Prologis Labs allows customers to test solutions for their facilities without taking their buildings offline or disrupting their business.

"The research that takes place in Prologis Labs provides us with new ways to connect with our customers," says **Alan Findley**, senior vice president of systems engineering and emerging technologies at Prologis. "They are excited about what we are doing and want to participate. It helps them see us as more than just a provider of real estate. Customers buy in because we aren't trying to sell them anything. We are trying to help them solve their problems in creative ways."

The solutions Prologis Labs puts forth are perhaps more valuable to customers today than ever before due to the rapid pace of evolution in global supply chains.

"Our industry is going through a period of enormous change," says **Jeremy Giles**, managing director of global customer solutions at Prologis. "We have to lead that change in collaboration with our customers. We can be an important partner in their success as opposed to just a counterparty in a real estate transaction if we do it well."

An Educational Facility, Too

Customers leasing space from Prologis are not the only ones with an interest in the innovation center. Company shareholders who tour the facility often walk away with a better understanding of the increasingly sophisticated nature of logistics real estate and the need to stay ahead of the technology curve. As a result, many see the work of Prologis Labs as an important step in maintaining customer relations, capturing internal costs savings and monetizing the immense amount of data available to a REIT with global scale.

Prologis Labs could also be expanding soon. Capacity constraints and the need to keep some experiments confidential are leading to discussions about the possibility of establishing "pop-up labs" across the country in space that temporarily becomes vacant in Prologis' portfolio.

Gary Bruns, vice president of IT architecture and emerging technologies at Prologis, emphasizes that research done in these facilities can serve as a point of differentiation.

"This approach allows us to have more informed conversations about whether technologies are good options for our customers or our company," he says.

Some of the products and services successfully tested in Prologis Labs are already available for purchase through Prologis Essentials, an online portal created to benefit the company's customers. One such product is a thick vinyl tape to mark warehouse floors. It is easy to apply and can be removed in much less time, at a much lower cost and with much less damage than paint. Another product is a flexible bumper system designed to

Company shareholders who tour the facility often walk away with a better understanding of the increasingly sophisticated nature of logistics real estate and the need to stay ahead of the technology curve.

protect racking systems from the impact of fork trucks and other warehouse equipment. Bolts anchoring the system shear off in the event of a significant impact, causing less damage to the floor than concrete-filled bollard installations.

Moving forward, Prologis Labs should help its parent organization continue to innovate by keeping it close to its customers and the start-up community. However, senior leadership recognizes that the innovation center is just one piece of a larger puzzle if Prologis is to continue to be a supply chain disruptor.

"The labs are not the only places where innovation happens," says **Sineesh Keshav**, chief technology officer at Prologis. "Innovation takes place in every line of business in every region where you do business, and you have to make it every employee's responsibility to embrace that mindset. We believe that the best ideas can come from anywhere." ■

Dustin Read, Ph.D./J.D., is an associate professor of property management and real estate at Virginia Tech, where he holds the William and Mary Alice Park Junior Faculty Fellowship in the Program in Real Estate. **Alex Rollins** is an undergraduate student at Virginia Tech double majoring in real estate and finance and minoring in entrepreneurship. After completing his degree, he hopes to pursue a career in real estate development and investments.

New & Noteworthy

251,000 sq. ft.

Bright Realty recently opened **Offices at The Realm**, a nine-story **Class AA office building** consisting of 235,000 square feet of office space and 16,000 square feet of first-floor restaurant space in **Lewisville, Texas**. Amenities include a fitness center, a conference center, a rooftop deck and Crescent Park, which includes shaded seating, event space, public artwork, a water feature with custom water shows sequenced to music, and a splash fountain for children and pets. Coworking space provider VentureX will have a location in The Realm that covers the entire third floor.

207,635 sq. ft.

Ridgeline Property Group, Archway Properties and **USAA Real Estate Company** are jointly developing the **Telge 290 Logistics Center**, a 207,635-square-foot **Class A industrial building** in **Cypress, Texas**. The building features 32-foot clear heights, ESFR sprinkler system, 47 dock-high doors with two drive-in ramps, 56 trailer parks, 132 car parks, a 180-foot truck court and on-site stormwater detention.

192,000 sq. ft.

Jordon Perlmutter & Company recently announced the development of **Paradigm River North** in **Denver's River North Art District** (RiNo). The project will provide 192,000 square feet of **creative office space**, including 12,000 square feet of ground-floor retail. Current plans include an environmentally sustainable eight-story LEED Gold office building featuring large, efficient floorplates measuring 25,000 square feet. Jordon Tryba Architects was selected to design the project, which will include extensive private exterior terraces and balconies throughout the building, dramatic downtown and mountain views, and access to a nearby light rail station.

How to Plan a Successful Construction Project

These 10 steps can help developers avoid headaches, delays, higher costs and legal complications.

By Jacqueline Greenberg Vogt and Robert C. Epstein

Developers beginning construction projects of any size or value should be aware of the potential for delays, overruns, conflicts, defects and failures. According to an June 2016 article from McKinsey & Co. Inc., large projects across asset classes typically take 20% longer to finish than scheduled and often end up well over budget.

There are many ways to successfully complete a construction project, but they all require effective preplanning, oversight and cooperation. Here are 10 suggestions for planning and managing construction projects to ensure that they're on time, on budget and built well.

Getty Images

Construction projects require careful planning and management to ensure that they are delivered on time and under budget.

1. Careful Contracting

Aside from the construction work itself, the contract is the most important part of the project. A well-written contract carefully and clearly defines the parties' agreement, their expectations, and their respective risks and obligations.

Owner-drafted contracts often seek to protect the owner from all possible claims. These contracts contain exculpatory language, waivers and limitations that are intended to bar nearly all claims by the contractor. The idea is to protect the owner from all foreseeable and unforeseeable risks by shifting responsibility to someone else. However, one-sided contracts could generate as many claims as they prevent. When a one-sided contract forces a contractor to lose money on a project, claims are inevitable no matter what the contract provides. In a worst-case scenario, severe losses may force a contractor out of business, resulting in a failure to complete the work and the attendant delays, disruptions and increased costs.

To avoid construction disputes, allocate project risks fairly. When no party has direct control, risk should go to the party that is best able to protect against an unexpected loss or to the owners. They initiated the construction project and ultimately benefit from the finished product. Risks can include things such as right-of-way acquisition, security, environmental concerns or procurement methods.

2. Independent Cost Estimates

To reduce budget overruns, spend a little extra money and obtain independent cost estimates as the design process progresses. This involves checking and double-checking the cost estimates with contractors who actually perform the work and suppliers who deliver the specified products. Don't delegate this task to the design team.

3. Establish a Firm Budget

While every project has a budget, some budgets are firmer than others. Owners should establish the budget from the start and hold the designer to it. Also, contracts with designers should require them to revise the plans at no cost if bids exceed the budget by a stated percentage. These provisions can be difficult to negotiate with de-

Aside from the construction work itself, the contract is the most important part of the project. A well-written contract carefully and clearly defines the parties' agreement, their expectations, and their respective risks and obligations.

signers, but they provide an important safeguard for the owners.

4. Use 'Add and Delete' Alternatives

Under this approach, the design team preplans certain components of the work. The owner can delete them if the bids come in too high, or add them if the bids are lower than expected.

Cost estimates are prepared for each alternative to ensure selection of the best systems and components. Preplanned "add and delete" alternatives protect the owner from the delays, disruptions and extra expense caused by redesigning the project after bids are received. It also shifts consideration of alternatives to the design phase, where the ability to control costs is the greatest.

5. Peer-Review the Design

An incomplete, inaccurate or poorly coordinated design leads to a project

New & Noteworthy

108,000 sq. ft.

ElevateBio, a biotech company focused on cell and gene therapy, recently selected **DPS Group** and its design affiliate **TRIA** to guide the fit-out of 108,000 square feet of former warehouse space in **POST at 200 Smith Street** in **Waltham, Massachusetts**. ElevateBio's new facility will feature a collaborative open plan **office** and amenities that promote interaction. It will also provide flexible **production suites** for manufacturing, laboratories, and a range of supporting **utility and warehouse areas**. TRIA's design for ElevateBio will embrace the ceiling heights of 16 to 24 feet, abundant natural light, exposed steel beams and other original features of the former postal service distribution center.

100,000 sq. ft.

Groupe Touchette, a major Canadian-owned tire distributor, is building a new 100,000-square-foot **distribution facility** in **CentrePort Canada, Manitoba**'s 20,000-acre inland port and Foreign Trade Zone. It is the only inland port in Canada with direct access to tri-modal transportation — truck, rail and air cargo. Groupe Touchette will occupy 70,000 square feet in the new building, with the remaining 30,000 square feet available for lease. The new facility will have 32-foot-high ceilings, allowing the company to maximize its cubic square footage.

90,000 sq. ft.

C.W. Driver Companies is building **Granada Hills Charter School**'s new $34 million **educational facility** in **Northridge, California**. The new space will allow the school to expand its curriculum to offer transitional kindergarten (TK) through eighth grade programs and will enable it to increase capacity to more than 6,000 students. Construction of the new facility is expected to wrap up in August 2021. The more than 90,000-square-foot TK-8 campus will include a three-story, 48-classroom building; full-service kitchen and eating area; multipurpose room; lighted sports field; locker rooms; basketball courts; and an administrative office, as well as additional parking and pick-up/drop-off areas. Granada Hills Charter School is the largest charter school in the country.

with conflicts, unanticipated costs, delays and claims. Conversely, an accurate and complete design diminishes the risk of conflict and protects the owner. Peer review involves an independent architect or engineer reviewing the plans to uncover errors, omissions and inconsistencies. The modest costs help avoid the delays, disruptions and extra expenses involved when design errors turn up in the field after construction is underway.

6. Review the Plans for Constructability

Constructability describes the ease and efficiency with which structures can be built. The constructability of a building largely depends on the quality of the designs.

In a constructability review, a contractor identifies errors, omissions, ambiguities and conflicts in the plans and specifications before work begins. One type of conflict could involve plans that call for two work disciplines to occupy the same space at the same time. Another might involve lack of coordination between related systems. A simple example would be when the length of a concrete anchor bolt in the specifications exceeds the thickness depicted in the plans for the concrete element that the bolt will penetrate.

Again, although this service involves an extra expense, it is well worth the cost.

7. Set a Reasonable Schedule for Construction

The timeline for a construction project should be driven by its scope and needs. Never start a project under undue time pressure — the work almost always suffers. Too much time pressure could motivate a contractor to cut corners. That leads to poor workmanship, which in turn leads to construction defects. For example, if the weather is worse than anticipated, or market conditions affect lead times on materials, give the contractor adequate time to do the job correctly, even if that requires a reasonable extension.

While every project has a budget, some budgets are firmer than others. Owners should establish the budget from the start and hold the designer to it.

Also, when construction begins, contractors expect all permits to be in place. They also expect to have access to the job site and the finished work of other contractors who came before them. They also expect to receive timely engineering and owner-supplied information. Shop drawings should be promptly reviewed, and unexpected conditions or changes fairly compensated. If these expectations are not met, delays inevitably occur.

8. Submittals as Communication Between Contractor, Designer and Owner

Shop drawings are completed before construction and contain all the details needed to build the project. They take the designer's plans and show exactly where everything will be located. In addition, they are a step-by-step manual of the construction process and a bridge between the contract documents and the contractor.

The contractor reviews the shop drawings to coordinate the tradespeople and verify that the project can be built. The designer reviews the shop drawings to ensure that the proposed construction scheme meets the design intent for the completed structure and the owner's expectations.

The shop-drawing submittal-and-review process should be a dialogue between the designer and contractor. It is the best opportunity for the owner, contractor and designer to avoid claims from nonconforming or defective work.

9. Review Construction Activities

The prudent owner will keep a close eye on construction progress. Owners often leave project oversight to the construction manager. That means they frequently have no knowledge of conflicts brewing in the field, whether involving unpaid invoices, progress delays or defective work. Some conflicts eventually become claims. By the time owners learn about a claim, the dispute is often more disruptive and costly than it would have been had the issue been detected and properly managed earlier in the process.

By regularly reviewing construction activities, an owner improves the chances of uncovering conflicts. That reduces unexpected change orders, detects potential design errors, reveals poor construction practices and avoids claims.

Periodically looking over the project meeting minutes is one way the owner can review construction activities. Although the construction manager is responsible for overseeing construction activities, occasional independent review by the owner improves the chances of recognizing conflicts early, particularly when the construction manager's own errors may have caused or contributed to a problem.

The timeline for a construction project should be driven by its scope and needs. Never start a project under undue time pressure — the work almost always suffers.

10. Periodic Audits of Contractor Billing

Construction audits are a useful and important monitoring tool. They can assess whether the project is on time, behind schedule or ahead of schedule. Periodic project audits can detect fraud, including contractor overbilling, inappropriate cost-shifting, abusive change-order practices and other abnormalities. They also can ensure controls are in place, verify contractor compliance with government requirements (e.g., prevailing wage, disadvantaged business enterprise) and help avoid litigation.

It's Worth It

Failing to incorporate these suggestions not only has a financial impact. It can also lead to severe setbacks. Incorporating preconstruction and construction phase planning and review concepts is a first step toward avoiding negative outcomes. ■

Jacqueline Greenberg Vogt and **Robert C. Epstein** are shareholders at Greenberg Traurig LLP. A version of this article was first published in Law360 in October 2019.

Do you have a new and noteworthy project in the planning, design or construction stage that you'd like to share with fellow real estate professionals? Send a brief description and high-resolution rendering to developmentmagazine@naiop.org.

New & Noteworthy

55,000 sq. ft.

Miller Construction recently completed a new 55,000-square-foot **headquarters and manufacturing facility** in **Hollywood, Florida**, for **Sintavia, LLC**, a metal additive manufacturer for the aerospace and defense industry. High-end finishes in the Class A building's corporate space include imported tile, decorative ceilings, glass office fronts, stone countertops, and stone and wood veneer paneling. Miller's crews installed epoxy flooring for strength, durability and added safety throughout the manufacturing space, which houses more than $25 million of advanced equipment such as 3-D metal printers, multiple furnaces and a 6,000-gallon argon gas tank.

41,900 sq. ft.

R.D. Olson Construction has renovated the **Kimpton Hotel Wilshire**, a 41,900-square-foot **boutique hotel** in **Los Angeles** that the firm originally built in 2011 as an adaptive reuse of a 1951 office building. The renovation encompassed a full modernization of the hotel's 74 guest rooms, as well as a revitalization of the rooftop deck and other common spaces. The remodel includes new wall coverings, carpet, furniture, flooring and lighting for all guest rooms, as well as improvements to the corridors. The firm upgraded the rooftop deck, including major enhancements to the existing pool, bar, restaurant, restrooms, landscaping, tiling and lighting. Additional improvements were made to the lobby, boardroom, penthouse and second-floor lounge.

4,300 sq. ft.

Ware Malcomb recently completed the new **gsf Innovation Center** in the West Loop neighborhood of **Chicago**. Ware Malcomb provided interior architecture and design services for the project, which received the People's Choice Award in the 7th Annual IIDA Illinois RED Awards program. Golden State Foods' new Innovation Center is a 4,300-square-foot space that features a test kitchen, a culinary research and development lab, and **creative office space** including a work lounge, conference rooms and touch-down hoteling areas — all in an open loft environment. Summit Design + Build served as general contractor for the project. ■

When Violence Erupts at a Property, Owners Can be Held Liable

Use proactive planning to protect life and property.

By Chris Dunlap and Issac Monson

According to statistics from the FBI, 884 people were killed and 1,546 were wounded in 277 active-shooter events in the U.S. from 2000 to 2018. Approximately 44% of these incidents took place at what the FBI calls "areas of commerce" such as offices, distribution facilities or retail centers.

Getty Images

The FBI says that "areas of commerce" such as offices, distribution facilities or retail centers were the location for 44% of active-shooter incidents in the U.S. between 2000 and 2018.

In the aftermath of these tragedies, a growing number of victims and their families are demanding that property owners/operators assume liability under the legal premise of negligent or inadequate security. Negligent security is a type of premises liability that deals with injuries to individuals caused by third parties on an owner or tenant's property. They often claim that an event wouldn't have happened if the owner/operator had taken more steps to prevent it.

In many cases, victims and their families seek monetary damages from the property owner/operator. For example, the 2017 Mandalay Bay hotel mass shooting in Las Vegas that killed 58 led to legal action against the landlords or business owners. MGM Resorts reached a $735 million settlement with the victims.

At a minimum, property owners/operators could incur legal defense costs, but a host of other expenses could follow, including medical bills, funerals and settlements for victims, building refurbishments and loss of rental income. These costs are typically not covered by most general liability or property policies.

What is 'Foreseeability'?

While it's true that property owners/operators have a "duty to protect" occupants in their facilities, the question of negligence revolves around whether the owner/operator could have foreseen a violent event.

Foreseeability is defined by the Cornell Law School Legal Information Institute's Wex legal dictionary as "the ability to reasonably anticipate the potential results of an action, such as the damage or injury that may happen if one is negligent or breaches a contract." The foreseeability of an event is associated with a building's risk factors and prevention efforts.

For example, has the building or business received threats of violence in the past? These could come from many sources, including disgruntled employees, family members with domestic disputes and angry customers. It is important to take all threats seriously and have the proper authorities investigate them thoroughly. Investigation of all threats helps deter violent actors. It may also aid in defense of a negligence claim if an incident does occur.

Other Questions to Ask

Does the building house high-risk tenants? Some examples include health care offices, organizations with political or ideological agendas, news/media companies, or businesses that deal with large quantities of cash or serve alcohol.

If the building has received threats of violence or has high-risk tenants, has security been increased in response?

Were authorities alerted to possible ongoing threats?

Does the property owner/operator have a violence-prevention plan in place?

Managing Foreseeable Risk Means Covering the Basics

Holistic violence-prevention and intervention programs, coupled with strategic physical security planning, are effective approaches to protecting people and property.

Consider the following when aiming to reduce a property's foreseeable risk:

Identify key leaders, stakeholders and decision-makers and train them. Developing, deploying and managing a security-management program that can prevent violent events or help stop them when they've started requires significant commitment, strategy and planning. Leadership teams, relevant stakeholders and key partners must have a common understanding of the issues and an agreed-upon strategy to manage the risks. Security plans should clearly define roles and responsibilities before, during and after an incident.

Assess the risk at each property in a portfolio. Violent events are generally caused by someone who knows the establishment or is seeking it out, like a disgruntled employee or customer. Regardless of how many properties are in a real estate portfolio, acknowledge, assess and plan for each one's individual risks by partnering with security professionals.

Assemble a security and workplace violence-prevention committee. Identify business or property stakeholders, or a cross-section of their employees, and put together a team to lead the security effort. Ensure that this group gets basic training in workplace-violence awareness so that it works from a shared understanding of the topic and uses recognized best practices.

Develop a violence-prevention program. Make sure it fits the types of businesses that occupy each facility, and consider the crime that exists in the local area. Review and follow exist-

In the aftermath of these tragedies, a growing number of victims and their families are demanding that property owners/operators assume liability under the legal premise of negligent or inadequate security.

ing violence-prevention plan standards and guidelines from organizations like the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), the Society for Human Resource Management (SHRM) and ASIS International (formerly the American Society for Industrial Security). These include elements like physical security, dedicated human-resource policies, incident-reporting channels and processes for assessing known threats as they arise.

Train the property-management team, and consider coordinating training events for tenants. This is critical. After a program is developed with policies and procedures, the next step is to ensure that the staff knows and understands the resources available to them. Create local incident-management teams (IMT) who are designated to respond in the event of an incident and coordinate with local law enforcement. Provide specific training for these key individuals in regards to violence prevention and situation management. Roles and responsibilities must be clear. Tabletop or functional exercises can give personnel the closest thing to hands-on experience short of an actual violent event.

Establish formal relationships with local police. Reach out to local law enforcement agencies and meet with a business-liaison officer to identify programs or support services for the business community. Law enforcement has valuable insights into local crime trends, as well as lists of known members of organized crime groups. Many jurisdictions offer free crime-prevention assessments to businesses. Some police departments will also help develop and run effective exercises to test emergency-response plans at a property.

Assess current property and general-liability policies with an insurance broker. Find out what policies each facility has and what they cover in case of a violent event, and make sure they are adequate enough to deal with one.

While there's no way to know for certain when and where the next active shooter event will take place, it's important for all facility owners/operators to institute safety best practices, physical security and risk transfer via an insurance policy to protect both themselves and building occupants from harm. ■

Chris Dunlap is vice president and senior risk consultant with insurance broker Hub International's Real Estate Division. **Isaac Monson** is a senior risk consultant with Hub International's Risk Services Division.

Practical Advice

Here are some basic examples of facility safety from the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA):

- Install video surveillance, extra lighting and alarm systems. Minimize access by outsiders through identification badges, electronic keys and guards.
- Provide drop safes to limit the amount of cash on hand. Keep a minimal amount of cash in the premises.
- Instruct employees not to enter any location where they feel unsafe. Introduce a "buddy system" or provide an escort service or police assistance in potentially dangerous situations or at night.
- Learn how to recognize, avoid or diffuse potentially violent situations by attending personal safety training programs.
- Alert supervisors to any concerns about safety or security and report all incidents immediately in writing. ■

Preparing Properties for Greater Connectivity in the Future

Developers who focus now on 5G, smart buildings and cybersecurity will gain an advantage over their competitors.

By Arie Barendrecht

Commercial real estate developers prefer predictability and stability. They insure their assets against risk. They back tenant-landlord commitments with legally binding contracts. These guarantees keep their worlds in orbit and minds at ease.

But one of the variables nobody in commercial real estate can control is the progression of technology.

Landlords who devote resources now to prepare for demand shifts, otherwise known as future-readiness or future-preparedness, will be able to easily adapt their assets to support 5G, smart building components and cybersecurity, putting them at a distinct advantage in the years ahead.

Future-preparing an asset involves three main steps: understanding the technology trends shaping the world of commercial real estate; evaluating properties against these advancements; and making the necessary improvements.

5G Will Bring New Opportunities And Challenges

Expectations around technology are constantly changing. Currently, high-speed WiFi is the must-have item for tenants. In five to 10 years, 5G will be the new standard.

Think of all the devices that rely on 4G. In a connected world with each person claiming multiple devices, networks are taxed. 5G will enable providers to keep up with demand. It outpaces its predecessor in speed, capacity and latency, which is the delay in time it takes to send information from one location to the next.

While the capacity and power of 4G has hit a plateau, the global appetite for information consumption continues to skyrocket. Between 2016 and 2017, the volume of data transported worldwide via mobile networks rose by 70%, according to a report from Cisco. 5G will keep up with those high consumption demands with speeds that are 20 times faster, enabling users to download a feature-length HD film in less than 10 seconds.

With such a powerful tool literally at their fingertips, office tenants will expect the same lightning-fast speeds they will become accustomed to at home. If a property is not 5G-compatible, employee engagement and productivity could suffer. It will also hurt building owners in the marketplace as competitors upgrade to the latest technology.

Equally challenging is the fact that 5G's high frequency will not reliably work in buildings as they currently stand. Materials like concrete and the low-E glass commonly used in sustainable designs will make reception spotty, at best. Building owners will have to work proactively to future-prepare their spaces for a 5G world. This means assessing key considerations and taking action.

What mobile coverage challenges does the building already face with regard to infrastructure, location or other factors? Owners can conduct radio frequency surveys, which test cellular signals for each provider to determine where the dead spots and deficiencies are across the building. These surveys cost $5,000-$10,000 and will ensure that the building avoids having mobile performance blind spots.

Between 2016 and 2017, the volume of data transported worldwide via mobile networks rose by 70%, according to a report from Cisco.

Is the infrastructure designed in such a way to easily support future digital equipment installations?

Can additional investments be made to the building with respect to 5G-ready infrastructure?

For example, a 5G upgradable distributed atenna system (DAS) will provide reliable, multioperator mobile coverage indoors. Alternately, a fiber backbone system can be installed, which can run the length of a building to ensure that a 5G in-building mobile solution like DAS can be installed in the near future.

Boston Properties is proactively preparing its newest asset, Hub on Causeway. The complex has a SpiderCloud small cell system, which is similar to a DAS. It will carry wireless signals to all areas of the building and can easily be upgraded to 5G. In addition, Boston Properties is working with anchor tenant Verizon to install an ODAS (outdoor distributed antenna system) in the public spaces around the property to increase 5G connectivity for anyone in or around the building. The alternative would be outdoor public WiFi, which is typically much less secure and won't offer the same seamless connectivity.

Because of 5G's challenges with in-building service, wireless carriers are rolling it out in open, high-density spaces like NFL stadiums first. It will take time-intensive network upgrades over the next several years to make 5G ubiquitous in the U.S.

In the meantime, building owners and developers need to prepare for the switch by conducting an assessment of the current state of mobile coverage in their portfolios via a radio frequency survey, evaluating the existing in-building mobile systems to ensure they are upgradable to 5G, and laying out a clear mobile strategy and the investments or strategic partners needed to implement it.

Digital Driver of the Economy

A November 2019 study by IHS Markit entitled "The 5G Economy" shows the potential global economic impact of this technology:

- By 2035, 5G will enable $13.2 trillion in global economic output.
- The 5G mobile value chain could generate up to $3.6 trillion in revenue in 2035 and support up to 22.3 million jobs.
- Over time, the total contribution of 5G to global GDP growth is expected to be $2.1 trillion. ■

'Smart' Buildings Require Smart Building Owners

Smart building technology is already prevalent throughout commercial real estate. In fact, 80% of new construction involves at least one facet of the internet of things (IoT) or related smart building technologies, according to a recent report from Research & Markets.

But what exactly is a smart building? It's any building that uses automated processes to control its operations. Components are made "smarter" and more efficient through the property's digital systems, which use sensors placed throughout the building to gather data. Some examples include smart soap and paper towel dispensers that alert building staff when they're running low, automated maintenance requests that review and approve work orders, or a building automation system (BAS) that increases energy efficiency by regulating the building's HVAC, water pressure and lighting.

The thirst for this smart technology will continue to grow, but adoption will not keep up without a strong, redundant and fortified digital infrastructure.

Building owners will have to work proactively to future-prepare their spaces for a 5G world. This means assessing key considerations and taking action.

Better (Cyber) Secure Than Sorry

In the summer of 2017, pharmaceutical company Merck lost hundreds of millions of dollars in a cyberattack that affected 30,000 computers and paralyzed operations, according to a Bloomberg report.

In a business world that is reliant on technology and connectivity, the importance of cybersecurity will only continue to grow. In 2019 alone, there was a 300% increase in the number of IoT cyber-attacks among small businesses, according to Forbes. Combine this with nearly 1.5 billion devices projected to be connected by 2020, according to a Deloitte report, and it's easy to see why more organizations are hiring chief cybersecurity officers than ever before.

An important first step for landlords is to understand their buildings' infrastructures through a base system audit. It will identify how all of the base building systems, like HVAC and access control, are connected to the internet and interconnected to each other. This will help identify any potential vulnerabilities that would be easily exposed to hackers. These audits cost between $5,000-$20,000, a small price to pay compared to the cost of a ransomware attack.

The professionals who install equipment in buildings are not always trained in cybersecurity or consider it a specialty. That's why building owners should get a second opinion about IT infrastructure from hired cybersecurity experts, or consult with companies that have experience in both the tech and commercial real estate industries.

Keep a Competitive Edge

When it comes to future-readiness, there is no pause button that will let developers catch up with the competition. For building owners and developers, the stakes are simple and high: evaluate and evolve a portfolio's digital infrastructure before new technology emerges — or risk falling behind.

The time to prepare for the future of digital innovation is now. If landlords and developers plan today for what's coming tomorrow, they will be more than ready for what will be a new normal in tenant requirements. ■

Arie Barendrecht is the CEO and founder of WiredScore.

The Intersection of Workplace Data and Design

In-depth information on employee preferences informs an office redesign in Boston.

By Ben Waber

Photo courtesy of Gensler

Humanyze's redesigned interior space at its headquarters in Boston is the outcome of a seven-month collaborative process with Gensler that relied on a wide range of analytics.

In the modern office, work doesn't only happen at a shared desk or in a closed-door meeting. Work also happens in casual encounters like bumping into colleagues at the coffee station or during walks to a meeting.

With digital tools providing even more ways to connect in the workplace, creating the right physical space to support collaborative and efficient work is essential. Discovering what collaborative opportunities exist in order to inform design is rooted in understanding how people are already working, and those insights require objective data. Once it's understood how teams are collaborating, there is an opportunity to create spaces that impact employees' work life for the better.

Putting Data to Work

When Humanyze, a workplace analytics company, wanted to redesign the interior of its new corporate headquarters in Boston in November 2017, it enlisted Gensler, a global architecture and planning firm. The project centered on creating a new workspace that encourages collaboration among employees and supports a thriving culture.

Using Organizational Network Analysis (ONA), Humanyze helps companies make smarter, faster business decisions by providing insights into the relationships between workspace design and collaboration, as well as their impact on an organization. The science behind this technology helps companies uncover how physical space and digital technologies impact the way teams work.

Centered on gathering internal company data, ONA software can discover and measure an organization's internal communication patterns and collaboration levels. It then translates that information into insights around spatial workplace efficiency, such as office layout or remote work possibilities. With this information, companies can then create optimal workspaces for employees that drive productivity and collaboration.

Workplace research and analytics have long been intrinsic to Gensler's design process. That makes it uniquely poised to design a workspace that realizes Humanyze's vision and mission. By gathering data through digital and physical channels such as Slack, email, and in-person meetings and interactions, Humanyze gleaned detailed insights about its internal organizational needs and problems. Gensler then incorporated these data-based insights into its design and creatively transformed Humanyze's work environment.

Discovering what collaborative opportunities exist in order to inform design is rooted in understanding how people are already working, and those insights require objective data.

A Unique Space

Through a seven-month-long collaboration, Gensler created a space that fits the needs of Humanyze and positively impacts its employees. With unique features like a mobile coffee station and a video portal to its West Coast office, the open-concept design also has spaces that promote wellness. These include a treadmill workstation with views of the Charles River and a meditation room.

Rooted in Humanyze's history and brand of data-based office functionally and efficiency, the new design features bright, modern spaces that foster creativity and allow for better collaboration. The new 7,733-square-foot office includes meeting rooms in multiple sizes to fit the needs of the various teams. And it's built to accommodate a growing company — Humanyze currently has 40 employees with plans to expand.

The impact of the new design is already providing positive results at Humanyze. Leveraging its own technology, the data shows a positive impact on the company's levels of collaboration. The ample meeting areas and the strategic layout of the new office resulted in more time spent with coworkers across all teams. This maintains the company's overall culture and high levels of connectedness, and it also increases contact among employees.

Once it's understood how teams are collaborating, there is an opportunity to create spaces that impact employees' work life for the better.

Humanyze and Gensler's collaborative success is an example for future workplace redesigns. The project highlights the far-reaching influence of data-centered discoveries and the invaluable overlap between workplace analytics and architectural design.

In addition to the business returns, employees benefit from being fully supported by a work environment statistically tailored to meet their needs and set them up for collaboration. Building efficient and effective workspaces through data-informed insights is the next wave of customization for both companies and their employees. ■

Ben Waber is the president and co-founder of Humanyze.

Turning Building Permits into Profits

Knowledge is critical when it comes to getting projects through the approval process.

By Jack Dulin

Nearly every project from new construction to remodeling requires building permits. Securing them can be complex and time-consuming. The same goes for entitlements. An extensive list of approvals and entitlements can cost land or building owners a substantial amount of time and money.

"Cutting through the red tape involved in land development, zoning and entitlements is nothing short of a complex series of carefully managed activities and processes," says **George Garcia**, founder and president of Las Vegas-based G.C. Garcia, Inc., a real estate development and redevelopment services company. "Government and neighborhood relations, entitlements, due diligence, development coordination, permitting and business licensing are equally key elements."

According to Garcia, who served as planning director in Henderson, Nevada, and assistant planning director in Overland Park, Kansas, before founding his company, real estate investments need a systematic approach to site exploration and procedural planning.

Developers, asset managers, landowners and other stakeholders understand the intricacies of entitlements and permits. However, many don't have the time — or staff — to get through the process.

Getty Images

Managing the process of securing building permits requires patience and extensive knowledge of the rules and regulations in the jurisdiction where the development is taking place.

Jurisdictional Guidance

Developers, asset managers, landowners and other stakeholders understand the intricacies of entitlements and permits. However, many don't have the time — or staff — to get through the process. The work of coordinating with government entities can take months — and sometimes years. That can eat into a development's future profitability.

Additionally, these processes vary drastically from jurisdiction to jurisdiction, which can lead to confusion between developers and municipalities. That is why it is crucial to stay abreast of regulatory changes in areas where projects are being considered and developed.

This is especially important for projects in areas with complex regulatory systems, and due diligence is strongly recommended in cases that involve special-use permitting. This is when a piece of land or property is developed in a way that differs from how the area is zoned.

Know the Area

More U.S. developers are taking their money out of high-cost areas like California and building in fast-growing but less-developed parts of the country. Henderson, Nevada, a small but growing city on the outskirts of Las Vegas, is one such place. According to The Wall Street Journal, nearly 60% of Henderson's new residents come from the Golden State.

Cities like Henderson often have fewer regulations and are business-friendly, which means reduced development costs and increased profitability. However, don't assume that smaller,

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less-complex bureaucracies give out building permits faster. Garcia says it's important to understand and navigate the intricacies of these jurisdictions.

"When due diligence has been conducted and channels of communication between the developer and municipality have been properly cultivated, building permits are rarely denied in areas of high or low growth," he says. "What can slow up, or even cancel, a project in the permitting stage is when assumptions are made by a developer that the permits can be attained in the same manner and timeframe as other jurisdictions in which they have worked in the past."

Consider a developer based in New York City who has a project in a smaller city like Reno, Nevada. They might assume that permitting will be faster in a less complex municipality. But while a city the size of Reno may have less government red tape to cut through, it does not mean that permitting will take less time. For example, jurisdictions can interpret city codes in ways that could be completely misconstrued by out-of-state developers. That can lead to longer negotiations.

As small- and mid-sized cities grow and attract investments, it is critical to understand development standards and protocols in these areas.

Though expedited permitting does require additional fees, it can ensure that a lot gets done in a shorter amount of time.

New Georgia Law Streamlines Permitting

While the speed, complexity and cost of permitting can vary dramatically depending on the jurisdiction, a new law in Georgia should significantly streamline the process in that state. NAIOP Georgia led a three-year effort to get The Private Permitting Review and Inspection Act passed. The law took effect on July 1, 2019.

Key features of the act:

- All jurisdictions must publish the regulatory fee charged, the schedule for review and the items required for a permitting application to be deemed complete.
- The fee charged for the permit must be commensurate with the cost of delivering the service and not be a tax to cover other non-applicable activities.
- Jurisdictions must notify an applicant within five days of submitting an application if it is deemed complete. Following that notification, they must render a final decision on the request within 30 days.
- If a jurisdiction notifies an applicant that it cannot process the application in 30 days, the applicant has the option to use a third party (architect or engineer, at the applicant's expense) to review and process the application, but half of the fee must be redirected to the third-party reviewer. The applicant can use a third-party reviewer even if the jurisdiction says it can complete the application in 30 days.
- In addition to permitting, many developers find scheduling inspections to be problematic. The act requires inspections to be performed within two days of the request made by the developer. As with permitting, the applicant can opt for a third-party service provider to provide the inspection.

The bill also gives applicants more options for meeting local building codes. Applicants can use the standard process or develop an alternate approach, as long as they comply with local laws.

Having these options should speed up permitting and eventually lower costs by introducing competition into the process. ■

Expedited Permitting

Though expedited permitting does require additional fees, it can ensure that a lot gets done in a shorter amount of time. Because a development company, or its development services firm, manages the expediting process from start to finish, it must know the local formalities and regulations. For example, many cities don't allow expedited permitting for buildings that are zoned for "hazardous occupancy." These are structures that might store explosive or flammable materials or toxic chemicals.

"A government agency in one part of a state may have completely different interpretations of certain code provisions and standards in a different area or district," says Garcia. "The developer's goal should be to minimize any inconsistencies between the development project's process and an agency's protocol, especially when time and money are on the line."

Garcia says he's worked with many developers and managers who lost hope after finding that their tight deadlines did not align with a jurisdiction's timeline for standard permitting approvals. That can delay projects and waste money.

When expedited permitting is needed, Garcia says it's important to monitor the permitting process from beginning to end. First, ensure that an expedited building permit request gets approved, and then monitor the process to make

Some cities offer expedited permitting for extra fees. However, in some cases, this faster process is not enough.

sure the permit review occurs within the shortened timeframe requested by the developer. This all involves staying in close contact with a jurisdiction's staff.

What About Costs?

Expedited permitting, due diligence, entitlements and other paperwork require room in the budget. Developers' budgets, and the fees for a development services firm, can vary. It all depends on how much the project complies with, or deviates from, the city's plans and codes. Budgets should also include supplemental funds for addressing paperwork and planning should city staff members oppose development plans. However, thorough due diligence can define any pitfalls that may add costs.

Some cities offer expedited permitting for extra fees. However, in some cases, this faster process is not enough. If there are a large number of pending expedited permitting applications, or if only a small portion of the process gets expedited, it might not be possible to get the proper permits in less time.

"Streamlined communications between a developer and municipality necessitate the inclusion of a strategic methodology to address local and statewide regulations, thorough knowledge of government and community relations, and wide-ranging local support," Garcia says. ■

Jack Dulin is a manager with Eberly & Collard, an international public relations company.

"Worth Repeating"

Sound bites from NAIOP's Chapter Leadership and Legislative Retreat (CLLR), held February 3-5 in Washington, D.C.:

"NAIOP has never been stronger. We mirror the industry, and the industry is doing exceptionally well." — **Thomas Bisacquino**, *NAIOP CEO*

"Today, Americans vote for the same party from the White House to the courthouse. … This is the second-most polarized era in American history." — **Larry Sabato**, *political analyst and CLLR keynote speaker*

Noted political analyst Larry Sabato delivers the keynote address at NAIOP's CLLR.

"I don't look at social media as a communications tool directed just at our members. I look at it as something to reach a larger audience than we're talking to." — **Jim Villa**, *NAIOP Wisconsin*

"Having a consistent set of messages is key to an effective communications strategy." — **David Harrison**, *Harrison Communications*

"I firmly believe that talent is distributed equally, but opportunity is not. I am one of very few African American corporate real estate executives. … I happened to be in the right place at the right time. We're trying to get more folks in the right place at the right time." — **Joe Ritchie**, *vice president of development at Brandywine Realty Trust, on diversity efforts in the commercial real estate industry*

U.S. Senator Cory Gardner (R-Colorado) speaks to the NAIOP Board of Directors.

"Inside the Beltway, sometimes we think we understand how to run businesses, and that we know what your clients and employees need. It's only through your active engagement and participation — talking with us eye to eye — that you will have the impact we need you to have." — **U.S. Senator Cory Gardner** *(R-Colorado)*

"If you're a multinational company and you're using a recruitment firm, ask that firm to bring you one diverse candidate. If you're not doing at least that at this point, you've missed the boat." — **Taylor Pederson**, *director of programs and education, NAIOP Massachusetts*

"If people don't trust your character, it doesn't matter what happens next." — **Jeffrey Cufaude**, *president and CEO of Idea Architects, on effective leadership*

"According to the book 'The Leadership Challenge' by **James Kouzes** and **Barry Posner**, leadership is 'the art of mobilizing others to want to struggle for shared aspirations.' The reason the word 'struggle' is in there is because sometimes it is going to be a struggle. You should be upfront about that. You want people to sign on for that struggle." — **Jeffrey Cufaude**, *president and CEO of Idea Architects, on effective leadership* ■

CEO on Leadership:
Dennis Clarke, Chairman and CEO, Cummings Properties

The leader of this Massachusetts commercial real estate firm offers his perspectives on the industry and discusses his company as it celebrates 50 years in the business.

By Ron Derven


Dennis Clarke

"We do not do a lot of hiring from the outside for high-level roles. Instead, we focus on mentoring and developing talent from within. Our senior management team has remarkably long tenure."

— Dennis Clarke, chairman and CEO, Cummings Properties

CEO **Dennis Clarke** took the helm at Cummings Properties 15 years ago after holding various leadership positions with the company. He joined the firm in 1992 as general manager of Community Weeklies, Inc., a local newspaper chain that was under Cummings Properties' ownership at the time. He began working on the real estate side of the business in 1996 as operations manager, and was elected president and CEO in 2004. Cummings Properties owns and manages 10 million square feet of commercial real estate north of Boston. It is comprised of office, manufacturing, R&D, laboratory, medical, warehouse and retail space.

Development: *Your company has a motto — "The Cummings Way." What does that mean and how does it impact your business?*

Dennis Clarke: Cummings Properties is a privately held company and entirely debt-free, so we are able to operate differently than most other firms. For example, we do not leverage our assets, and we operate with very little bureaucracy. These practices enable us to be nimble and take fast action, and they have served us well for nearly 50 years. In addition, we look for great values so we can offer our clients the same. Buying at the right price — for everything from office supplies to steel and actual buildings — is important to our approach. We are highly disciplined about controlling cost, and we pay close attention to the details that allow us to do so. Finally, we often recognize opportunities that other developers do not see or want. With no outside financing on any of our buildings, we are able to acquire distressed or undervalued properties and make major investments in renovations, providing opportunities for growth.

Development: *What qualities do you look for in hiring senior staff?*

Clarke: We do not do a lot of hiring from the outside for high-level roles. Instead, we focus on mentoring and developing talent from within. Our senior management team has remarkably long tenure. But when we do hire senior staff, we look for not only a cultural fit, but also an outside perspective that brings value to our company. We have hired attorneys, architects and entrepreneurs who all have experience that benefits the organization by bringing specific skills, problem-solving ability, initiative and a spirit of collaboration.

Cummings Properties has joined other NAIOP Massachusetts members in actively encouraging greater diversity and inclusion within the commercial real estate industry. In recent years, we have been pleased to grow our roster of female managers and to partner with NAIOP to offer paid internships for students of color. In addition, our affiliated foundation (whose board of trustees is 50% female) has invested heavily in workforce development programs that promote employment equity for people of color, people with disabilities and other marginalized groups.

Development: *What's special about your company's environment that allows you to retain employees 10, 20, even 40 years?*

"We hire not only for experience, but also for character, and we look for candidates that fit well within our culture."

— Dennis Clarke, chairman and CEO, Cummings Properties

Clarke: Employee retention starts with strong hires. We hire not only for experience, but also for character, and we look for candidates that fit well within our culture. We often say, "hire the person, not the résumé." We share an overview of our corporate philosophy, outlining our culture and practices, with prospective new hires from the first interview. This helps assess whether a prospect is a good match for our company and vice versa. Our average employee tenure is 11 years, which is unusual for any industry in this day and age, but especially so for the construction field. Our colleagues choose to remain at the company because we provide work that is meaningful, offer an appropriate level of challenge, and enable colleagues to shape their career paths in line with what they enjoy and do well. Our culture recognizes contributions, and it rewards on merit. What's more, we offer stability. By providing consistent year-round work for both office and tradespeople, even in difficult economic times, our employees know we are committed to them, and we benefit from the loyalty we receive in return. Our corporate social responsibility and charitable giving certainly also contribute to our sense of culture and employee engagement.

Development: *Could you tell us about the Cummings Foundation and the organization's commitment to charitable giving?*

Clarke: Charitable giving is part of the DNA of Cummings Properties. Its founder, **Bill Cummings**, has always supported the communities in which our company operates and our colleagues live. In 2011, Bill and his wife committed to giving most of their wealth to charity. Even before making that public statement, they had donated the majority of Cummings' buildings to the Cummings Foundation. As a result, 100% of the rental income profit from those properties goes directly to the foundation for charitable purposes. The Cummings Foundation contributes more than $20 million a year to greater Boston nonprofits. This local commitment stems from the belief that businesses should be good neighbors. Above and beyond the foundation giving, Cummings Properties has a program called Cummings Community Giving, which allows each employee to select a local nonprofit to receive a $1,000 donation from the company. We have offered this program for the past eight years around Thanksgiving, and the 2019 program resulted in more than $550,000 in charitable support.

Development: *While we are experiencing tremendous transaction volumes in our industry, how is your company preparing to weather the inevitable downturn? Is that why you operate your assets entirely debt-free?*

Clarke: Our portfolio is currently 94% leased, which is a very healthy position. Cummings Properties attracts firms of all sizes from a variety of industries that are looking for value, and this niche has served us very well during the past 50 years of operation. Our clients tend to look for professional, functional and high-quality commercial real estate space at lower prices than downtown metropolitan areas. In a softer economy, when other commercial real estate companies are not active buyers, we have the ability to utilize our capital and look for value investments.

"Something I suggest, and we do very well at Cummings Properties, is to find a mentor and learn as much as you can about the business. Understand various roles within the organization and wear as many hats as you can."

— Dennis Clarke, chairman and CEO, Cummings Properties

Perhaps the best example of using 100% of our own capital is the purchase of the former United Shoe Machinery Corporation property in Beverly, Massachusetts, in 1996. This mammoth property had been on and off the market since 1980 and had dropped from an original asking price of $78 million to $10 million. This early brownfield project was not financeable for most parties. Cummings Properties purchased the site for a mere $500,000 and went on to invest $83 million to rehabilitate and greatly expand the dilapidated complex, which today is the 2 million-square-foot Cummings Center campus. This property was lauded by Wall Street Journal architecture critic **Ada Louise Huxtable** in 1997 as "the single most important, and generally unrecognized, concrete landmark in this country."

Development: *What is your outlook for the commercial real estate industry in New England and beyond over the next three to five years?*

Clarke: The Boston market tends to have a regional outlook. Areas along I-95 and I-495 have growing business clusters, good services and amenities, and industries like health care and biotechnology already have a world-class presence in the suburbs. Downtown Boston and Cambridge traffic has become a significant issue, so we see opportunity for job growth where a majority of working adults actually live. With a healthy — and expensive — downtown commercial real estate market, the suburbs are an attractive and more affordable option.

We have two current projects, the ongoing development of Dunham Ridge in Beverly and a new life science building planned for Woburn.

Dunham Ridge is a 54-acre campus north of Boston where Microline Surgical now occupies the previous headquarters of Parker Brothers and Atari. We purchased the site with just one existing building and went on to design two additional mixed-use buildings for the campus. One is now leasing, and the other is under construction. We also sold two subparcels to third parties. One of these parties, Harmonic Drive, outgrew its high-tech manufacturing space in nearby Peabody and is consolidating at a new 100,000-square-foot advanced manufacturing and headquarters building.

Development: *What advice would you give someone entering the commercial real estate industry today?*

Clarke: Something I suggest, and we do very well at Cummings Properties, is to find a mentor and learn as much as you can about the business. Understand various roles within the organization and wear as many hats as you can. If you show utility across the organization, it provides you more career paths to explore and helps you discover and play to your strengths. It is easy to work hard if you love what you do. ■

Ron Derven is a contributing editor for Development magazine.

An Office Move Doesn't Have to Mean Lost Productivity

Advanced planning, aided by technology, can ease the relocation process for tenants.

By Suzi Hansen

For building owners who hold leases that include relocation provisions, reducing costs related to a move is a critical consideration.

But beyond the costs, managing a relocation amid the ongoing needs of an active business often means disruptions and lost productivity. When envisioning a move, it's ideal to develop a proactive plan to account for disruptions and limit planned downtime.

However, when changing locations, most lost employee productivity is due to unplanned disruptions that are usually a result of unorganized move managers. These problems often pop up after the move — missing items, disheveled workspaces, and computers and phones that aren't hooked up.

According to a recent survey by Knotel, a company that helps businesses find, design and operate office spaces, about 93% of executives have moved while at their current company, and almost half were part of two or more moves. It's no surprise that 95% of these executives said the move created some level of distraction, and 64% labeled the move as either a major or moderate distraction. They identified the cost of downtime as the No. 1 negative consequence of relocation.

Getty Images

When moving an office, planning and organization are critical. Today, digital tracking tools are assisting in this difficult, disruptive process.

That's why intensive preplanning, along with recent technological strides in the commercial moving industry, can support companies as they work around these business disruptions.

Going Digital

Many moving companies are rethinking tedious and time-consuming manual processes and shifting them into digital (and paperless) applications.

"You can preheat your oven before you get home or adjust the house thermostat from 3,000 miles away, so why can't you instantly check the status of your company's move?" said **Mark Scullion**, president of Workplace and Commercial Services at The Suddath Companies, a commercial mover. "It's an issue that has caused frustration and cost companies hundreds of thousands of dollars."

For example, VyStar Credit Union, a large national financial institution, wanted to relocate more than 1,300 employees spread across four locations into a 23-story building in Jacksonville, Florida. The complex 12-phase process will take a year to complete.

Orchestrating a move this intricate requires precise planning. To avoid confusion and to make sure the business

According to a recent survey by Knotel, a company that helps businesses find, design and operate office spaces, about 93% of executives have moved while at their current company, and almost half were part of two or more moves.

is prepared, planning must include proactive communication to business units and employees about what is happening, when it is happening, and what their role in the project will be. Many companies that try to do this on their own don't understand the cost of having team members distracted from their core jobs. Professional move-planning assistance is affordable compared to the cost of disturbing core business operations.

Once it's time for the move, tracking the movement of items requires precise controls. This ensures that the pace of the relocation keeps up with planned milestones and that all items are delivered and set up accurately in the new space so employees can be productive immediately.

To track assets during the move, computer-generated move labels with QR codes are customized for each employee. This allows the company to scan and digitally track inventory, records, furniture and equipment. The software enabled VyStar's project manager to monitor progress throughout the move via a cloud-based dashboard visible on a laptop, tablet or mobile device.

"Tracker software was a key component and differentiator, "said **Kyle Boden**, VyStar's Client Technology Services Manager. "It let us view how many things were collected (and) where they were. It made it easy for us to visualize the whole process."

The tracking software addresses unplanned issues long before employees return to work after a move. Photo confirmation ensures that each employee's work area and assets are delivered and set up. After that, specialists can check the service network of computer systems and test phone connections. Since their crews receive instant updates, they can resolve any issues long before employees are in the new building.

Tracking software applications also deliver substantial productivity savings, Scullion said, cutting move time and costs up to 30%. This reduces the likelihood of expensive downtime in the new space.

For tenants in sensitive industries — a medical center or a financial institution, for example — security is often an added consideration. Software can provide a full line of visibility and con-

Anatomy of a Workplace Move

Companies move for a lot of reasons. Some are growing rapidly and need more space; others are shrinking or outsourcing functions, so they need less space. And, of course, leases expire or properties are bought and sold, which often means tenants need to find new locations.

On its website, moving company Suddath has identified some steps that businesses should take when planning a relocation:

Identify Space Requirements

- Count existing and expected employees
- Audit departments and business units
- Define space and amenity needs
- Assess renovation/construction needs
- Evaluate current and potential real estate

Select Location

- Rework existing space
- Lease new space
- Develop/build new property

Space Programming and Occupancy Planning

- Align business unit functions in space plan
- Assign space to business units
- Allocate space to people
- Establish common areas

Furniture Management

- Comprehensive inventory of current furnishings
- Evaluate furniture options (reuse existing furniture or acquire new/used furniture)
- Create detailed floor plans
- Surplus asset planning
- Select furniture vendors
- Plan and manage furniture installation

Move Planning

- Identify order of business unit moves
- Evaluate and select move provider
- Establish move contacts in each business unit
- Document the to/from move list, also known as the move grid
- Communicate move plan to business unit leaders and
- Final move preparations

Relocate

- Employees
- Furniture
- Technology

Post-Move Support

- Unpacking
- Repairs
- Adjustments
- Minor furniture and move changes
- Settling-in support

Vacated-Space Management

- Consider lease requirements and liability risks
- Decommission furniture, fixtures and equipment (FF&E)
- Liquidate, donate, recycle
- Document shredding
- Repairs ■

trol over confidential files from origin to destination.

Staying Ahead of the Game

Keeping up with the rate of technological innovation is a significant and ongoing challenge in commercial real estate. The National Association of Realtors' 2019 Profile of Real Estate Firms found that 44% of commercial real estate companies said keeping up with technology is one of the biggest challenges they will face in the next two years, according to an article in the Summer 2019 issue of Development magazine. Two-thirds of real estate decision-makers say they have not implemented a digital and technological innovation vision or strategy at their firms.

Once it's time for the move, tracking the movement of items requires precise controls. This ensures that the pace of the relocation keeps up with planned milestones and that all items are delivered and set up accurately in the new space so employees can be productive immediately.

Every tenant has a move-in date, a move-out date and ongoing churn within a location. Digital tools to manage that activity are a key need in the marketplace.

"Historically, the commercial moving industry has handled relocations with virtually no control over inventory, no digital visibility around progress reporting and no modern quality control processes," Scullion said. "The days of walking office floors with notepads, manually jotting down every item, are ending. Now the process is streamlined from beginning to end. The ability to provide metrics enables commercial customers to clearly measure the cost and satisfaction drivers in their operation and hold vendors accountable for measured performance." ■

Suzi Hansen is an account executive with the Sachs Media Group.

WeWork and Airbnb: A Tale of Two Disruptors

The companies represent different approaches to the future of real estate, and their success or failure will offer important lessons to landlords.

By Dror Poleg

The collapse of WeWork's $47 billion valuation was the most exciting real estate story of 2019. Landlords, lenders, customers and competitors watched in awe as the company crashed into a wall of scrutiny and ridicule. In 2020, Airbnb might offer a similar spectacle, with a $35 billion valuation and a growing number of questions about the company's long-term prospects.

What propels both companies? The changing needs of end users and the growing appetite of venture capital investors to disrupt the way real estate assets are operated and transacted. Both trends will keep transforming the industry, regardless of the struggles of WeWork or Airbnb.

Real estate and technology consultant Dror Poleg gave a presentation about WeWork and Airbnb to NAIOP's Board of Directors at CRE.Converge in Los Angeles in October 2019.

A Time of Transformation

The global economy is awash in capital. According to data from PitchBook and the National Venture Capital Association, venture capital investments reached an all-time high of $131 billion in 2018, exceeding the heyday of the dot-com bubble. Elsewhere in the financial world, the amount of capital available to institutional money managers is also at an all-time high, according to data from Preqin and Ernst & Young.

More generally, the technology boom has resulted in a war for talent. That, in turn, makes tenants more demanding.

In theory, investors only want to fund "real" tech companies that have high margins, can scale quickly and operate in industries that are easy to disrupt. In practice, the industries that could be easily transformed by technology — media, business processes, financial brokerages — have already been transformed. As a result, investors are venturing further up the risk curve, seeking out companies that want to disrupt other, more challenging industries such as real estate, health care and mobility.

Beyond its direct focus on real estate, venture investment also fuels other trends that affect how buildings are used and valued. Remote work, drones, ridesharing apps, electric scooters and autonomous vehicles are redefining location and accessibility. Social media and digital marketing are changing the perception, selection and design of physical spaces.

More generally, the technology boom has resulted in a war for talent. That, in turn, makes tenants more demanding. At the same time, the abundance of capital allows companies to stay private for longer — away from the scrutiny of public markets. That makes it difficult for landlords and lenders to assess the creditworthiness of some of the largest tenants.

Real Estate Disruptors

WeWork and Airbnb represent two ways to disrupt real estate — one focused on supply and the other on demand. As **Lisa Picard**, CEO of Blackstone's EQ Office, pointed out in a March 2019 Medium article, WeWork is essentially a value-added reseller (VAR). It adds a physical and service layer on top of a physical product made by others.

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WeWork and Airbnb represent two ways to disrupt real estate — one focused on supply and the other on demand.

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(***See cover story, page 54***.) WeWork signed leases at a rapid pace to secure prime locations in dozens of cities. The future liabilities represented by these leases were a key factor in the backlash against the company by public investors and the media.

WeWork's model is indeed risky, but signing leases is not, in itself, a bad idea. Thousands of successful hotels, retailers and other businesses commit to long-term leases while relying on revenue from customers who barely commit to stay for a single night (or pay for a single cup of coffee). And demand for office space in good locations is not likely to disappear overnight, particularly space that appeals to the sensibilities of the fastest-growing tenants and employees. This does not mean that WeWork will succeed, but it would be unwise to dismiss it as a passing fad.

Still, Airbnb's approach appears more sensible. The company is not signing any leases or investing in build-outs; instead, it aims to become the prime online destination for those seeking accommodations. Because of that, Airbnb is not trying to monopolize supply but to aggregate existing demand. Unlike WeWork, Airbnb still has a lot of cash in its coffers, and it has turned a profit for several quarters.

However, several travel giants are moving into Airbnb's turf. Booking Holdings, Expedia and Marriott International are all investing heavily in their own home-sharing platforms. These companies are not typical "incumbents." They are well-versed in digital marketing and customer service.

Airbnb also faces a growing backlash from cities that want to limit the company's ability to use residential buildings for short-term stays. Existing residents are uncomfortable with transient visitors in their buildings. Aspiring residents blame Airbnb for taking residential inventory off the market. And local officials are unhappy about the undermining of their zoning ordinances. In theory, Airbnb's suppliers could disappear overnight, either by government decree or by switching to a competitor. Not signing leases to secure its inventory might turn out to be an even more unstable business model than WeWork's.

The good news for landlords is that controlling actual buildings is still valuable. The bad news is that customers expect these buildings to be marketed and delivered in a whole new way — more serviced, flexible and focused on the needs and aspirations of individual people (as opposed to nondescript "tenants"). In addition, technology is redefining the meaning of location, visibility and accessibility, as well as the power of zoning laws. An industry that was once governed by personal relationships is now facing new competitors backed by unprecedented amounts of capital.

The good news for landlords is that controlling actual buildings is still valuable. The bad news is that customers expect these buildings to be marketed and delivered in a whole new way — more serviced, flexible and focused on the needs and aspirations of individual people.

Learning from History

In 1999, Napster was the hottest tech company on the planet. It was a precursor to what we now call the sharing economy, allowing users to share a vast catalog of music files. At the height of the dot-com bubble, Napster was growing faster than any company in history, reaching nearly 20% of all web users within a year of its launch.

But Napster was a terrible company. It had no business model, it generated no revenue, and it was illegal. It did not go public and fell into obscurity.

But music labels were wrong to conclude that Napster was a fad or that copyright laws would protect their monopoly. Napster failed, but the industry was forever changed. The annual revenue of the record labels fell from more than $20 billion in 2000 to less than $8 billion by 2015. It took years for revenue to start growing again. People didn't stop listening to music, they didn't even stop paying for it — but they paid new providers such as Apple and Spotify, which ate into the labels' margins.

Real estate executives would do well to learn from history. Even if both WeWork and Airbnb go bankrupt, customers expect new digital and physical experiences. ■

Dror Poleg is a former real estate and technology executive and the author of "Rethinking Real Estate," a new book about technology's impact on the way buildings are designed, operated and valued.



Living Walls: As Green as It Gets

They can improve the air, cut down on noise and drive productivity — as well as profitability.

By Richard Kincaid

Getty Images

Biophilic designs such as living walls are popping up in an increasing number of corporate offices. Research indicates that they can provide cleaner air and quieter work spaces.

As society embraces an expanded definition of what constitutes a healthy environment, more organizations are creating welcoming workspaces that appeal to a new generation of employees. These workers bring with them not only increased sensitivity around wellness issues, but also heightened expectations around work/life balance, job satisfaction and well-being.

The concept of a "healthy" workplace has grown beyond the proven benefits of flextime, on-site fitness centers and nutritious food options. Now, it includes the built environment itself. Volatile organic compounds (VOCs) such as trichloroethylene, benzene and formaldehyde are often found in carpeting, furniture, paints and varnishes. They can emit harmful byproducts that contribute to lethargy and headaches and exacerbate respiratory conditions, including asthma, allergies and colds.

Environmental pollutants can lead to higher stress levels, more sick days and lowered productivity. Over time, that can have a real impact on a company's bottom line. There is, however, an effective solution that is literally green.

The Growth of Biophilic Design

Biophilic design reconnects workplaces with nature and contributes to a healthier workforce. The concept has spread through the architecture and design communities, driving creators of large-scale commercial projects and public spaces toward seamless integration between nature and the built environment. Companies that have incorporated large green spaces into their corporate environments include Etsy, TedTalks, Google and Amazon.

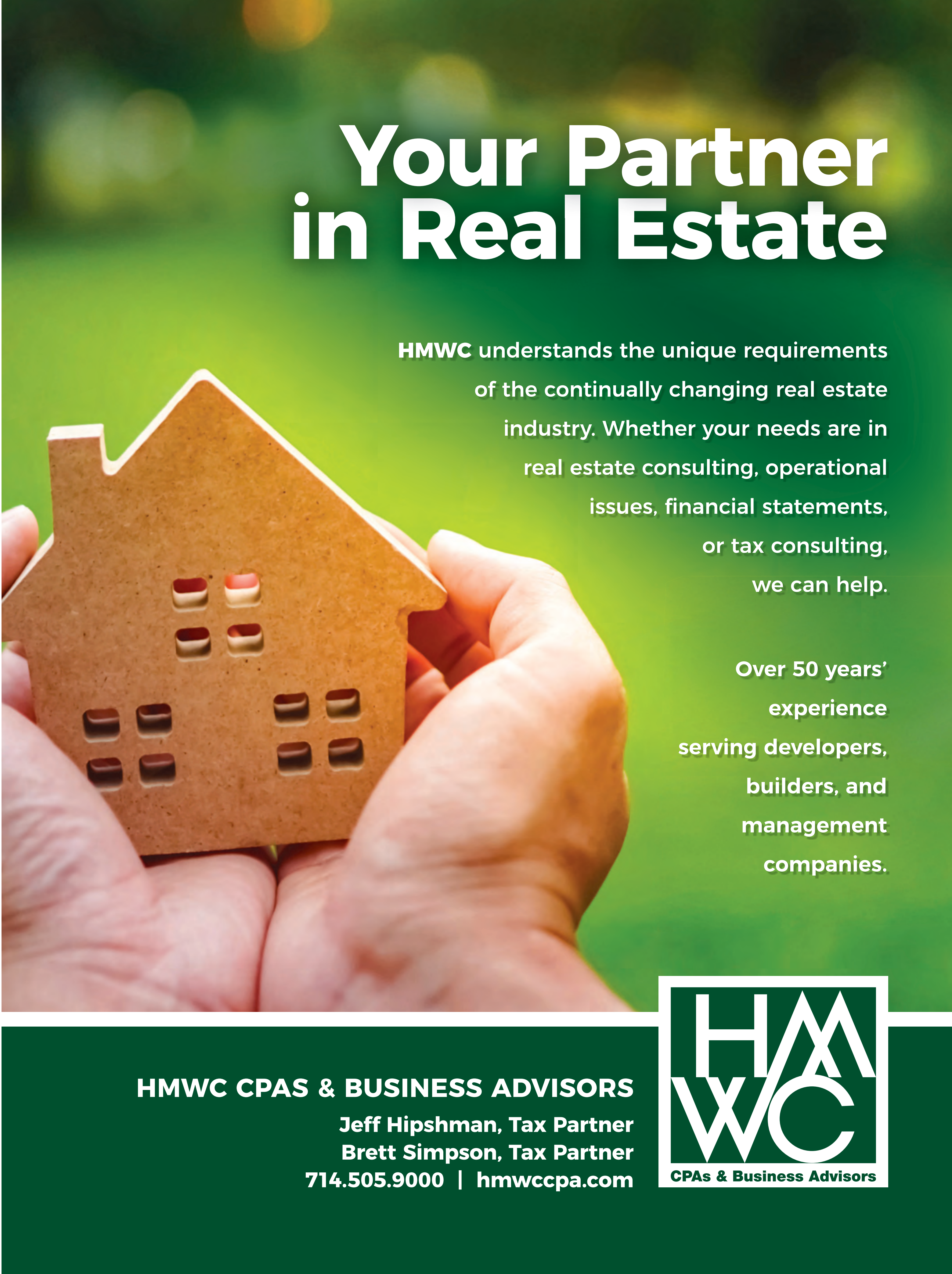
More architects, designers and space planners are incorporating living walls, also called green walls, into the workplace. These are walls of living, green plants that improve the aesthetics and atmosphere of the workspace, and the well-being of the workforce.

Similar to art and décor, living walls can transform an environment — and for a similar price. Much like specifying art, the size, medium and degree of customization of a living wall factor into the cost. Depending on the supplier, custom wall prices range between $90 and $150 per square foot, with stand-alone units beginning at $5,000.

Additionally, living walls can help building owners earn LEED and WELL

continued on page 50

More architects, designers and space planners are incorporating living walls, also called green walls, into the workplace. These are walls of living, green plants that improve the aesthetics and atmosphere of the workspace, and the well-being of the workforce.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points in several credit categories, including Energy and Atmosphere.

With an experienced manufacturer and vendor, the installation process is fairly straightforward. Plants are grown offsite at nurseries and then assembled onsite, yielding a green façade, entryway or statement wall. For companies such as Sagegreenlife, the process of building a project's base and irrigation system takes a few days. Plants are installed in a few hours. Many biophilic-design companies also offer maintenance services after living walls are put in place.

Clearing the Air

A study by NASA and the Associated Landscape Contractors of America (ALCA) suggests that plants, in addition to absorbing carbon dioxide and releasing oxygen through photosynthesis, may also remove other toxic agents such as benzene, formaldehyde and trichloroethylene from the air. And, according to Green Plants for Green Buildings (GPGB), a nonprofit that promotes the economic benefits of nature in the built environment, the plants in approximately three square feet of a living wall can remove a minimum of 10 ounces of carbon dioxide from the air. That equals six cubic feet of carbon dioxide over a year's time.

According to a 2013 Harvard Business Review article, a lack of sound privacy is far and away the biggest drain on employee morale, and a study by Steelcase and Ipsos found that workers lost as much as 86 minutes per day from noise distractions.

According to the Environmental Protection Agency (EPA), poor air quality leads to numerous health issues ranging from headaches and fatigue to dizziness and eye irritation. These seemingly minor symptoms have significant consequences for employers. The Occupational Safety and Health Administration (OSHA) estimates that poor indoor air quality costs companies an estimated $15 billion in sick leave and poor work performance each year.

Lowering the Volume

According to a 2013 Harvard Business Review article, a lack of sound privacy is far and away the biggest drain on employee morale, and a study by Steelcase and Ipsos found that workers lost as much as 86 minutes per day from noise distractions. A 2015 article from Harvard Business Review notes that "similar to planting trees along a loud highway, plants boast sound-absorbing capabilities that can work just as effectively in an indoor environment as an outdoor setting."

Steelcase reports that the level of acceptable noise within a work environment is linked to the type of work happening within that space. The German Association of Engineers sets noise standards of 70 decibels (dB) for simple office work and 55 dB for what it identifies as "mainly intellectual work." This includes complex creative thinking, decision-making, problem-solving and effective communication.

In 2015, a study conducted in Spain explored how living walls might cut the amount of noise within a building. Researchers placed approximately eight square feet of living wall between two rooms. It then measured the degree to which noises emitted in one room filtered through to a neighboring room. The study found that the living wall cut the noise by an average of 15 dB. When the portion of the wall dedicated to living plants was expanded to 32 square feet, it absorbed 40% of the sound.

Green Pays

In April 2019, Fast Company reported on Norwegian research showing that people performing attention-based tasks surrounded by greenery work more efficiently than those who do not. This has led companies like Google, Etsy and others to embrace biophilic design for happier, more creative and productive employees.

The International Handbook of the Economics of Energy states that labor costs in today's workplace are 25 times greater than energy costs. There is overwhelming evidence that stress reduces productivity, and research has shown that plants can lower stress levels. A study at Washington State University found that productivity increased 12% among participants in a plant-enhanced environment.

It's even possible to attach dollar amounts to lower levels of productivity.

In 2010, the U.S. Department of Labor reported that the absentee rate in the U.S. is 3% per employee in the private sector and 4% in the public. That costs organizations more than $2,000 per employee per year. And a 2011 study at the University of Oregon showed that 10% of employee absences can be directly linked to workspaces with no connection to nature.

Business will always be driven to increase productivity and profits. With research and results documenting the benefits of incorporating plant life into work life, it follows that an investment in biophilic design presents a real opportunity for measurable ROI. ■

Richard Kincaid is the CEO and founder of Sagegreenlife, which provides living walls for workplaces.

The Future of Parking is in (Almost) Everyone's Hands

Mobile parking apps can help owners manage costs while boosting convenience for customers.

By Adam Kriegel

According to statistics from Sensor Tower, a provider of market intelligence and insights for the global app economy, there were more than 3.4 million apps available across the App Store and Google Play in 2018. That's an increase of 65% from 2014.

As more consumers use their smartphones to shop online, secure and convenient mobile payments through apps have become the norm. Apps like Waze that help people with directions are also widely accepted.

But along with this simplicity and ubiquity comes another predictable consumer behavior: expectation. Consumers, especially younger ones, assume that they can use their smartphones for almost anything, almost anywhere. Parking management provides a case study of this phenomenon in real time.

The public tends to associate mobile parking payment with on-street city parking. However, the technology isn't just useful for municipal parking in urban areas. Increasingly, private lots and garages are incorporating mobile payment technology. By offering patrons the option to pay for a spot through an app, the driver enjoys a convenient experience that encourages them to use that lot or garage again in the future.

As more consumers use their smartphones to shop online, secure and convenient mobile payments through apps have become the norm.

Getty Images

Mobile parking apps are popular with consumers who have come to expect seamless digital transactions in many other aspects of daily life.

And for developers and building owners who rely on parking to generate revenue, returning customers are the name of the game. According to a 2017 article in the New York Times, Frost & Sullivan research indicates that parking apps track more than 57 million spaces in the U.S. and Europe, and the apps are used by 30 million people. Both of those numbers are almost certainly much higher today.

Mobile payment technology also gives developers and owners of private garages and lots a powerful management and enforcement tool.

How it Works

Convenience is key with most smartphone technologies, and mobile parking payments are no different. Everything needs to be fast, easy to access and unobtrusive. Drivers would rather pay for parking, or manage their parking permits, from the comfort of their vehicles. Mobile parking eliminates the hassles traditionally associated with parking payments.

Once a driver parks, they open an app, estimate how long they need to stay and pay the predetermined rate via a credit card linked to the app. This information is transmitted to the system so that the facility's staff knows the car is supposed to be there and for how long. When the driver's parking session is expiring, the driver even has the option to extend the time — all without having to run back to a meter to drop in additional coins.

Mobile payment is popular among owners with private parking lots and garages. The technology provides a simple, easy-to-manage alternative to traditional parking management equipment and strategies, because the app's

The more patrons use their phones to pay for parking, the less they use optional payment and revenue-control equipment or pay-on-foot kiosks.

servers handle all the identification and payment information remotely. Additional equipment isn't required.

Even owners who aren't relying on their parking resources to generate revenue can benefit from mobile payment technology. The apps can efficiently manage permit parking, eliminating the need for stickers or RFID transponders. Removing those costs can save owners thousands of dollars.

Additionally, there is often little or no cost for parking operators to offer apps. New signage may be needed for the parkers, and there is a short setup time. Since there is no hardware to buy and no software to license, most new parking operators can be set up in as little as four to six weeks.

Customers who must prove that they are authorized to park in a lot or garage can do so quickly and conveniently through an app. Since parkers typically enter payment or permit credentials when they initiate a transaction, the technology can simply keep the parking spots available to anyone who has the proper digital authorization. When unauthorized parkers are identified, enforcement officials are alerted to give a warning, ticket or a full tow.

One of the less obvious advantages of a mobile payment option is the reduction in some long-term costs associated with managing the parking facility. The more patrons use their phones to pay for parking, the less they use optional payment and revenue-control equipment or pay-on-foot kiosks. Less wear and tear on this equipment reduces the need to repair it when it breaks down or replace it when it's no longer serviceable. This can save owners thousands of dollars each year that they can use for other development or property-management priorities.

Everybody Wins

Mobile payment has the potential to provide notable benefits to developers, owners and their customers. Owners get to cut long-term costs, and the patrons get an experience that makes them want to use that parking facility again in the future.

By significantly improving the parking experience, mobile payment also provides the incentive for parkers to become repeat customers. ■

Adam Kriegel is the vice president, East for PayByPhone.

The Rise of Real Estate as a Service

Hana by CBRE offers several flexible office concepts. Hana Team Suites are fully serviced office suites designed for high-growth teams ranging from 1 to 300-plus people. They offer premium amenities such as in-house food and beverage, commercial-grade furniture, on-site tech support and more.

The flexible model is rapidly expanding beyond the office market, and it doesn't appear to be slowing down anytime soon.

By Ron Derven

Flexible working. Coworking. On-demand space.

Whatever name it goes by, it is here to stay. As far back as 2015, when WeWork was just five years old, Google's Workplace 2020 study declared flexible working to be "the defining characteristic of the workforce." Today, it is impacting the real estate industry in ways that extend far beyond the office properties that the public associates with this growing niche, according to **Antony Slumbers**, a software development and technology strategist in commercial real estate.

"This isn't the usual property cycle; it's structural," he said during a talk at an industry event in 2017. "The very nature of demand is changing and forcing fundamental change on the supply side. All sectors of real estate are merging. We are beginning to think of live/work not as being a binary thing, but more of a

Denver-based REACTIV offers a wide variety of spaces that can be used for any purpose. For example, this space is available in a former school that was built in 1904. According to REACTIV, it could be used for creative workspace, artist studios, gallery space or wellness studios.

blend. The net result of this is that the industry needs to create, refine and adopt new business models."

Slumbers notes that as society moves to an almost post-consumer world, people are less interested in accumulating "stuff" and more focused on services, experiences and ephemeral pleasures.

"Today, it's Uber instead of cars, Spotify instead of CDs and Netflix instead of DVDs," he said. "For the real estate industry, it's space as a service."

Despite WeWork's high-profile decline in late 2019, real estate as a service is poised to become an even more important part of the commercial real estate business (***see sidebar, page 57***).

"The rise of the new generation of connected workers, empowered by collaborative and mobile solutions, will radically alter the shape of the future workforce and workplace," Slumbers said.

A 2019 JLL study predicts that 30% of the office market will be flex space by 2030.

"That seems conservative when you consider workplaces that are procured beyond just the flexible basis (coworking, short-term leases and the like) and include all the workplaces that are adopting flexible working practices," he said.

Understanding Real Estate as a Service

According to **Michael Kloppenburg** of Avison Young, real estate as a service means different things to different constituents in the transaction — although there is overlap.

"Landlords want to offer space as a service to enhance their relationships with tenants, meet market demand for space with flexibility, community and hospitality, and make money," he said. "Tenants want to occupy space as a service to enhance productivity, community

> "Today, it's Uber instead of cars, Spotify instead of CDs and Netflix instead of DVDs. **For the real estate industry, it's real estate as a service.**"
>
> — *Antony Slumbers, commercial real estate technology strategist*

WeWork and the Market

The spectacular crash of WeWork's IPO at the close of 2019 has done nothing to dim the coworking trend, according to recent research from CBRE.

CBRE reported a "precipitous" drop of nearly 3 million square feet in flexible space leasing activity in the fourth quarter of 2019. This was largely linked to a 90% fall in leasing activity by WeWork.

Despite that, **Julie Whelan**, CBRE's head of occupier research for the Americas, emphasized that "the drop in Q4 leasing does not signal a change in demand for more flexibility in real estate. WeWork leased by far the most flexible office space, so its overnight change in focus from pure growth to profitability has created a significant shift in the leasing numbers. Other flexible space operators such as IWG, Industrious and Hana have continued to lease space at levels that are comparable to their own benchmarks." ■

and agility. Service providers want to manage space as a service in a way that allows them to deliver hospitality, community, flexibility and technology to drive productivity and retain clients."

Real estate as a service has existed for decades, according to **Wendy Waters**, vice president of research services and strategy with GWL Realty Advisors Inc. Waters and **Anthio Yuen**, GWL's director of research services and strategy, recently completed a study, "From Freelancers to Fortune 500 Clients: The Evolution and Future of Coworking," that offers an in-depth look at the market.

"Accountants and professional services-type businesses have often rented a packaged office or a meeting room from Regus [now IWG], or contracted to use the Regus address to pick up mail in order to make their company look more professional," Waters said. "Coworking is an evolution of the packaged office."

According to the paper by Waters and Yuen, today's coworking companies "have rebranded and elevated the packaged office business into one with a superior customer experience alongside a superior technology backbone." Tenants also benefit from the stylish, turnkey spaces that can be used for "individuals needing space, small businesses unsure of their growth and larger firms wanting project space or simply attractive, hassle-free office options, especially for branch locations with fewer employees."

Making and Saving Money on Flexible Space

According to Waters, major coworking brands have demonstrated to landlords that some companies are willing to pay a premium for leasing coworking space versus a traditional office lease.

"Although every city is different, there are examples of the coworking operator getting 1.5 to 2 times what the rent would be for leasing the space through a long-term lease," she said. "That is a big premium, and some of the landlords want to capitalize on it themselves. For this reason, some landlords have started their own coworking brands, while other landlords are partnering with an operator."

Melanie Gladwell, head of flexible workplace solutions for the Americas at Cushman & Wakefield, and **David C. Smith**, Americas head of occupier research, recently completed a survey of real estate executives titled "CRE Executive Perspectives of Coworking: How and Why the Flexible Workplace Matters." Their report finds that the business model of coworking providers is to take on long-term leases with traditional office terms and then sell memberships to that space at marked-up prices, thus creating rent arbitrage.

"For example, it is not unheard of for coworking memberships in Washington, D.C., to reach a 60% per square foot (psf) premium when

Coworking provider Industrious has entered into a partnership with shopping mall developer/owner Macerich to add flexible workplaces in its malls. The first location is Macerich's Scottsdale Fashion Square in Scottsdale, Arizona.

including all infrastructure and services," according to the report.

Even though coworking occupiers are paying a premium for space through this arrangement, there are still financial advantages for them as well.

"The math is more complicated than just a straight-line analysis of psf rents," the Cushman and Wakefield report says. "For starters, the cost structure is not an apples-to-apples comparison…the flexible workplace turnkey service agreement pricing accounts for upfront capital expenditures, monthly operating costs, technology, communications, utilities, food and beverage amenities, common spaces, and various elective services (i.e., facilities management, receptionist and/or concierge)."

Further, the report notes that flexible workplaces greatly reduce the time it takes to start using a space. There is no initial capital expenditures to build it out. There is no long-term liability of signing a multiyear lease. In addition, there is a huge cost saving in staffing the space because there are no maintenance, staffing, support, facilities management or concierge personnel.

Flexible Space Operating Models

Until recently, landlords and flexible space providers have typically set up traditional lease agreements, according to **Julie Whelan**, CBRE's head of occupier research for the Americas. Now that the proof of concept has been in the market for some time, landlords are interested in more creative ways to offer flexible space. They remain interested in engaging with third-party operators to build and operate flexible space, but through partnerships or management agreements.

"Some owners embraced flex space into their buildings 20-plus years ago, others are just getting into it now, and still others are saying **'we know we need to offer flex to our tenants, but this is hard. How exactly do we do it?'**"

— Melanie Gladwell, Cushman & Wakefield

According to Whelan, these structures give landlords more control over the design, branding and operation of the space, not to mention the benefit of sharing in the profit. She notes that other landlords offer privately branded and operated flexible office space, either in the form of coworking or prebuilt suites available on flexible terms.

There is no one-size-fits-all solution for flexible space offerings, according to Whelan. Occupiers have different reasons for seeking flexibility, and different options may suit them depending on what is driving their decision.

"Some owners embraced flex space into their buildings 20-plus years ago, others are just getting into it now, and still others are saying 'we know we need to offer flex to our tenants, but this is hard. How exactly do we do it?'" said Gladwell.

Today, some landlords and investors are doing it themselves and doing it well, she continued. Often, those companies have a hospitality background. To run a successful coworking space, the operator must have a knowledge of food and beverage, community and event planning, spas, gyms and even doctors on site. It's an ecosystem where retail meets hotel meets office in one space. It requires a high-touch delivery mechanism.

"A total of 579 companies [that were] surveyed around the world revealed that two-thirds of respondents are currently using flex space for some of their employees, and many plan to double their commitment in the next five years," said Cushman & Wakefield's Smith.

"The results show that corporate leaders have a generally positive view of coworking and see flexible space as a growing part of their occupancy," he continued. "The percentage of employees with access to flexible space is on the rise, and companies increasingly see this as part of a broader solution."

One building owner who suggests working with a third-party provider rather than trying to do coworking space alone is **Daniel Levison**, principal with SharedSpace, an Atlanta coworking company. In addition to running SharedSpace, he also owns office and industrial properties.

"We had read a lot about flexible space and coworking space and felt it would be part of the real estate industry going forward," he said. "In 2016, we had half a floor vacant on the top floor of our five-story office building near Perimeter Mall and I-285 in Atlanta. We decided to create a coworking space there, which totaled about 6,000 square feet."

Since opening that coworking space, he has opened two more — one in Atlanta in the I-75/I-285 area, which is in the outer perimeter of suburban Atlanta, and one in Augusta, Georgia.

After three years in the business and climbing a steep learning curve, Levison has some key advice for other owners: Do not undertake coworking space by yourself, and do not rent space in your building to a coworking provider under a long-term lease.

"Instead, find a reliable provider and create a joint venture or management agreement for the space, sharing the risks and the potential profits," he said. "The tenant improvement for a coworking space costs at least 50% or more than the typical office space, and it takes 18 months or more for that space to ramp up and break even."

Valuing Buildings With Coworking Space

One of the biggest questions about real estate as a service is how do lenders value buildings when a new development or an existing building dedicates a substantial portion of space to coworking.

"It is a general rule of thumb that 20% flexible office space in large Class A buildings is an acceptable amount to have to keep the building value relatively stable," said CBRE's Whelan. "Any more than that is thought to introduce risk and erode building value due to the conservative underwriting associated with the flexible office space."

Given this period of uncertainty in the capital markets with flexible of-

SharedSpace's Cobb location in Atlanta is just half a mile from SunTrust Park at the Battery, the new home of the Atlanta Braves.

fice space, even generally accepted principles are being scrutinized more heavily, she said. Over time, the capital markets will be more adept at pricing flexibility into asset values.

"To determine the optimal amount of flexible office space in a building, many other factors such as competitors in the market, demand in the market and the long-term strategy of the building need to be evaluated," Whelan said. "As with any real estate transaction, there are many factors that go into the value of a building, and the ratio of flexible office space to traditional office space is only one."

New Coworking Ventures

There are other companies finding success moving into flexible space on their own — typically big firms with deep pockets and deep talent on staff.

Two examples are Tishman Speyer and CBRE. Tishman Speyer developed a concept called Studio, which offers flexible workspaces with high-tech solutions, lounges and private meeting rooms. It initially opened a 35,000-square-foot Studio at its Rockefeller Center property in New York City in September 2018. Since then, Tishman Speyer has added Studios in Boston, Washington, D.C., Chicago, Los Angeles and Rio de Janeiro.

CBRE launched a flexible space concept called Hana. Hana has three offerings within its space: Hana Team Suites are branded and dedicated spaces that act and feel like a company's own space (70% of a Hana); traditional coworking space (20%); and Hana Meet, which are meeting rooms (10%).

"Our clients want space that reflects the quality and brand of their companies, not of the flexible space provider," said **Andrew Kupiec**, CEO of Hana. "Our facilities in Dallas and Irvine, California, offer what we

"Although every city is different, **there are examples when the coworking operator is getting 1.5 to 2 times what the rent would be for leasing the space through a long-term lease.** That is a big premium and some of the landlords want to capitalize on it themselves."

— *Wendy Waters, GWL Realty Advisors Inc.*

call enterprise-grade design. It is reflected throughout the facilities with the commercial-grade construction materials, the Herman Miller furniture, the technology infrastructure, and data security and privacy. All of these things are what a large company or a high-growth company require."

As CBRE launches more Hanas, it is open to structuring different types of arrangements with building owners. It will set up agreements to share profits or simply manage the Hana with all profits going to the building owner. However, CBRE does not plan on leasing space long-term in a building and opening a Hana. Instead, it is committed to working with owners.

Hines is taking a different approach to coworking. The Houston-based company is opening coworking spaces with Industrious, a major coworking provider. Called Hines2 (Hines Squared), the platform focuses on enterprise clients to deliver premium workplace environments in Hines buildings.

With all of these different types of coworking arrangements, one thing is certain — smart landlords are looking beyond simply offering an array of added services and amenities to those who occupy the flexible space in the building.

Learn More About Real Estate as a Service

While the traditional real estate approach sees real estate as a product, the real-estate-as-a-service model utilizes a customer-focused approach, providing a space that offers amenities, flexibility, scalability and a sense of community that keeps users coming back. A new on-demand course from **NAIOP's The Center for Education** gives industry professionals an opportunity to develop a comprehensive understanding of real estate as a service and its unique considerations, opportunities and challenges.

This course will provide real estate professionals with an understanding of the latest trends and best practices for the real-estate-as-a-service model. Students will hear tips from experts in the real-estate-as-a-service world, have opportunities to respond to realistic scenarios, read case studies on successful real-estate-as-a-service spaces, and create an action plan for next steps in establishing their own real-estate-as-a-service space. Course modules focus on some of the most important aspects of real estate as a service, including the real-estate-as-a-service mindset, creating community, effective marketing, building design, recruiting a team and understanding finances and documents. Upon completion of the course, students will have a comprehensive understanding of the unique real-estate-as-a-service model, and gain critical knowledge to help them to succeed in establishing a real-estate-as-a-service space.

To learn more about the course or to register, follow this link: learn.naiop.org/p/reaas ■

This Tahitian-inspired tree house, which is available through Denver's REACTIV, can host "thought-provoking talks, sound ceremonies, meditations, yoga, movie nights or add a unique element to any gathering," according to the REACTIV website.

"Landlords generally have to take a much more active role in the tenant experience than ever before," said CBRE's Whelan. "From activated lobbies to shared amenity floors to prebuilt offerings and even the technology that wraps it all together — the capital, resources and operational capabilities required to play the role of a landlord today are rapidly changing."

Real Estate as a Service Spreads

The move to flexible space and coworking space is rapidly expanding to all areas of commercial real estate. A prime target today is shopping malls, which have struggled in recent years as the retail landscape has changed.

Industrious and shopping mall developer/owner Macerich struck a national partnership to add flexible workplaces in its malls, starting with the firm's Scottsdale Fashion Square in Scottsdale, Arizona. Industrious has also reached an agreement with the Mall at Short Hills in Short Hills, New Jersey. The coworking location occupies 30,000 square feet of space left behind by Saks Fifth Avenue when it closed. The space includes enclosed, private offices for teams that are move-in ready with access to shared amenities and common areas.

Coworking venues are also spreading out from urban cores to suburban and even rural locations. According to a December 2019 Yardi Matrix report, while coworking continues to grow vigorously in urban areas, the suburbs hold great potential for future development. Urban markets have about 63.3 million square feet of coworking space, which represents 2.7% of

"Find a reliable company and create a joint venture or management agreement for the space, sharing the risks and the potential profits. **The tenant improvement for a coworking space costs at least 50% or more than the typical office space, and it takes 18 months or more for that space to ramp up to break even."**

— Daniel Levison, SharedSpace

the total urban office stock. By comparison, suburban submarkets have about 30.4 million square feet, or only 1% of the total stock.

According to Yardi, suburban locations appeal to people who work at home and need to get out to network, as well as to large companies that need small satellite offices. Suburban locations average between 7,000 square feet and 13,000 square feet, far smaller than the typical urban coworking space.

Industrial Flex Space

Real estate as a service has come to the industrial world as well. Cubework, based in City of Industry, California, has had remarkable growth since its launch in March 2018.

"Cubework transforms industrial buildings into communal workspace for our members," said **Christine Wei**, vice president of business development at the firm. "Our goal for creating an industrial workspace was for business owners to come together to network, and generate partnerships and opportunities for each other."

The company started with one 280,000-square-foot building in City of Industry. As of January 2020, it now has 31 locations with over 4 million square feet of industrial warehouse space.

Cubework is seeking warehouse users that need 500 to 20,000 square feet of storage space. For these users, the company not only offers storage space, but also warehouse management software solutions, fulfillment and transportation services. Amenities include high-speed internet, printing, conference rooms, beverages, snacks, daily cleaning, CCTV, security, gym/lockers/showers, game rooms, 24/7 building access, forklift rentals, and community managers for each facility.

This service is not just for start-ups. Cubework is also attracting big names such as FedEx and Walmart.

"They come to us for seasonal space without having to sign a long-term lease, and we provide them the space they need for however long they need it," Wei said.

Real Estate as a Service for Any Reason

REACTIV, a new company headquartered in Denver, is taking the concept of real estate as a service to new levels by offering every conceivable type of space for rent on flexible terms.

Need a fully outfitted restaurant for six months to try out a new food concept? Want an unusual wedding venue for the day? Require a furnished yoga studio for 30 days? Need only a one-bay garage for storage? You can find all these on the REACTIV website.

Jason Shepherd and **Ryan Boykin**, co-founders of Atlas Real Estate, created REACTIV. They were looking for ways to maximize returns on properties in their portfolio when they came up with the concept.

"Signing a five- to 10-year lease on a space and then personally guaranteeing it takes a lot of people out of the market," said Shepherd. "Because of the nature of commercial real estate, there can be gaps between the time a space is vacated and the space is re-leased. We were looking for ways to improve the cash flow of underutilized assets. REACTIV is a new platform that allows users of spaces to be nimble while activating the spaces to their fullest capacity. Property owners can showcase their spaces online free of charge, while renters can search."

The REACTIV team is currently focusing on the Denver market, but it is planning to expand to other markets in 2020 and beyond. ■

Ron Derven is a contributing editor for Development magazine.

Real Estate as a Service: What Developers/Owners Need to Know

Michael Kloppenburg of Avison Young's flexible office solutions practice has in-depth experience working on a variety of large coworking projects as leasing manager. Here, he offers his take on the real-estate-as-a-service market today and where it might be going in the future.

Development: *What distinguishes real estate as a service from other types of amenitization?*

Michael Kloppenburg: The need for active management. Thoughtful, hands-on management is required to provide an actual service to tenants and guests, rather than simply providing space. Service is the operative word.

Development: *What is the value proposition for the landlord of real estate as a service?*

Kloppenburg: Meeting the undeniable market demand for flexibility and managed office services, which in turn makes your assets more competitive and drives increased rents, tenant retention, and ultimately building values. By offering workplaces for businesses to expand and contract, the choice to leave the building becomes more difficult. Allowing a business to flex and adapt provides the agility required in today's economy. Tenant engagement within the building ecosystem is enhanced through technology; the overall experience improves and becomes more meaningful for tenants.

To most efficiently capture revenue, the infrastructure must be owned and managed by the landlord, or there must be a partnership agreement with a space operator where these new revenue streams are shared. The question is what are your core competencies, and can you effectively deliver the services on your own, or is partnering a better option?

Development: *What has been the lender/investor response to real estate as a service?*

Kloppenburg: In our experience, lenders and investors appear to remain comfortable with conventional lease arrangements for flexible space operations. Given recent events [the failed WeWork IPO], I suspect there will be additional scrutiny placed on those basic leasing economic fundamentals when analyzing a new potential flexible space lease. Risk management remains important.

Where we have seen consistent resistance from capital markets is with alternative partnership arrangements wherein the space and the improvements are not secured by a traditional lease instrument, such as management contracts or participation leases. The capital required to build out and furnish a coworking space is substantial, so detailed financial projections and a sound business plan must be part of the owner's approach to pitch his or her lender.

Development: *In what ways are building owners getting involved with coworking operators?*

Kloppenburg: Aside from traditional lease agreements, coworking operators are partnering with owners through management or operating agreements and participation leases. These are becoming more common. Although the concepts are still being socialized with institutional owners and lenders, a lot of progress has been made with these concepts in the past 12 months.

Michael Kloppenburg

Development: *How do you think coworking/flex space impacts property valuations, occupancies or tenant retention?*

Kloppenburg: The capital markets will have opinions on the value of buildings with large exposures to coworking spaces, but I believe it should be viewed based on the lease structure and the rents derived from the operating business. Leases should be valued based on the operator's performance history and the ability to honor its rent obligations. Partnerships require a more nuanced explanation to establish trust and understanding, but if structured properly, value can be derived through additional revenue streams to the owner and a premium over market rents. A stable, serviced operation is a value-add to the building.

Intermediate options such as thoughtfully designed, pre-built spec suites lease quicker and reduce tenant improvement costs over the long term, which we believe also increases value. We continue to see tenants demand speed to occupancy, term flexibility, and a finished product that removes the stress and challenges of building out their own spaces. Tenants are more frequently relying on third parties to deliver their spaces, allowing them to focus on their core businesses. Landlords that are

> "**Landlords want to offer space as a service to enhance their relationships with tenants, meet market demand for space with flexibility, community and hospitality and make money;** tenants want to occupy space as a service to enhance productivity, community and agility; and service providers want to manage space as a service in a way that allows them to deliver hospitality, community, flexibility and technology to drive productivity and retain clients."
>
> *— Michael Kloppenburg, Avison Young*

making these options possible are positioned to capitalize on evolving tenant demands and preferences.

As acceptance of these types of space products grows, we expect markets to become more comfortable with shorter leases and coworking in general to properly adjust building values.

Development: *What effects would an economic downturn have on the real-estate-as-a-service business model?*

Kloppenburg: I believe in tough times, businesses will flock to flexibility rather than engage in capital-intensive long-term commitments.

Similar to the spirit of retail leasing to manage market fluctuations, if the coworking operator and owner are aligned in their business objectives, together they can absorb the effects of a downturn. Landlords can also lean on these spaces to provide creative solutions to avoid tenant defaults.

Development: *What types of companies are seeking flexible leasing arrangements? What types of companies are drawn to traditional leases?*

Kloppenburg: We see businesses of all types and sizes embracing flexibility. Every major Fortune 1000 enterprise business is applying some level of flexibility to their portfolio. This is not necessarily a new concept, but you are now able to match your company culture more closely with an operator's — WeWork or Regus environments are not for everyone. With some varieties, such as Knotel's model, and owner-built and managed spec suites, the ability to customize private space is also offered.

Development: *What does the growth of real estate as a service mean for the traditional lease?*

Kloppenburg: The traditional lease is and will remain a mainstay as the majority of the office marketplace. As of Q2 2019, the market penetration for flexible office was around 2% in the U.S. CBRE published a report outlining three scenarios for growth of the flexible sector. Low, medium and high ranged from approximately 6.5% of the market to 22% of the market by 2030. JLL previously predicted a shift of up to 30% flexible space out of the total office inventory. A driving factor depends on large enterprises converting portions of their portfolios to flexible arrangements.

Development: *What type of impact will the recent events surrounding WeWork have on landlords?*

Kloppenburg: Skepticism and scrutiny from landlords will be strong moving forward, and more landlords will likely attempt to meet the market through partnerships where they have more control of the assets or by doing it themselves. The extent of the impact for landlords will be determined by how they choose to participate with flex in their own portfolios, either through traditional leasing and partnering with shared space operators or building in-house capabilities to provide these products to their tenants.

Development: *What can those with WeWork exposure do?*

Kloppenburg: They are probably considering how they would manage that space if WeWork defaulted. I see that as an opportunity for other operators to take over those spaces and reuse a lot of the existing infrastructure. Tenants may question WeWork more, which presents an opportunity for the company's competitors. Personally, I believe WeWork has received the funding necessary to continue its operations, restructure internally, slow its growth and emerge in six to 12 months with a revived message.

Development: *Is this business model the future of office? What do you think offices will be like in 10 years?*

Kloppenburg: It is absolutely a meaningful component of the future office. Leases are getting shorter and will continue trending in that direction as tenants demand more flexibility. I also see the market shifting to delivering finished products and managed services to tenants, thereby removing the complexities of building, designing and furnishing space for occupiers. The relationships between tenants and landlords will be in greater alignment, and technological enhancements will continue to drive operational efficiencies within the built environment. That will positively impact productivity and value. ■

Integrating WELL into Industrial Properties

This industrial building is seeking WELL certification at the Rockefeller Group Logistics Center in Piscataway, New Jersey. It covers 197,200 square feet and includes 43 trailer spaces and 30 loading bays.

A brownfield redevelopment project in New Jersey showcases a first-of-its-kind warehouse that aims to meet exacting environmental standards.

By Heath Abramsohn, Rockefeller Group
Vice President and Regional Director

The Rockefeller Group Logistics Center in Piscataway, New Jersey, opened in October 2019. It marked the culmination of four years of collaboration between Piscataway Township, Middlesex County and the companies involved with the project. With five buildings totaling 2.1 million square feet across 228 acres, the effort transformed a former brownfield site into a productive asset that should create more than 1,500 permanent jobs.

However, for the commercial real estate industry, an especially newsworthy aspect of this $250 million project could be the introduction of a concept that has the potential to revolutionize the way developers and users approach industrial space.

One of the park's five buildings will not only be LEED Platinum but will go a step beyond by seeking WELL certification. Once certification is complete, it will be only the second WELL-certified U.S. industrial

The location of the Rockefeller Group Logistics Center was an abandoned industrial site in Piscataway, New Jersey.

building, and the first such building in the world to achieve both LEED Platinum and WELL certifications. That means that the facility is not only energy efficient and environmentally friendly; it is also healthy for the people who work there.

The Background

Located less than 10 miles off the New Jersey Turnpike, the infill site was not viewed as a Class A, institutional-quality distribution hub until recently. Still, its long history dates back to World War II, when it served as the original site of Voice of America radio antennas. Later, it was the location of several chemical processing facilities for the Bakelite Corp., Union Carbide and Dow Chemical.

Once housing up to 4,000 jobs, the site's productivity started to decline in the 1960s. More operations vacated over the years, with the final structures demolished in the late 2000s. After sitting vacant, a joint venture of Lincoln Equities Group and Real Capital Solutions acquired the land in 2014.

Following the acquisition, the partners worked with Piscataway Township to secure a redevelopment plan and incentives. As a result, eight buildings ranging from 200,000 to 400,000 square feet, as well as new roads, infrastructure and landscaping, received preliminary approvals.

Rockefeller Group bought the 228-acre parcel that would eventually become the Rockefeller Group Logistics Center in May 2017 for $57 million. The company partially redesigned the site plan and secured final entitlements. A lack of developable land worked in favor of the site, which is located within one of the most active distribution centers in the country.

The parcel, which was partially remediated, represented one of the largest sales of development rights in the state's history. The company delivered the 2.1-million-square-foot Rockefeller Group Logistics Center two years later with all five buildings fully leased and sold to users or institutional investors. The remediation efforts include a capping solution as well as a passive mitigation system.

The Rockefeller Group Logistics Center in Piscataway, New Jersey, features five buildings totaling 2.1 million square feet across 228 acres.

Although entitlements for up to eight buildings of various sizes were in hand, the firm conceived a site plan that would accommodate users in multiple types and sizes.

The WELL Angle

Third-party logistics firm Kuehne + Nagel handles distribution for its client, a major luxury goods retailer. That company occupied industrial space in Cranbury, New Jersey, but was looking for a building of its own.

Early on in its search for a new facility, Kuehne + Nagel and its client met with BranchPattern, a building consultancy dedicated to improving the built environment. BranchPattern introduced the WELL program to the team, which had already made LEED a requirement for any developer it solicited. The European-based retailer is dedicated to environmental protection and social governance, and it has integrated several formal programs and policies within its strategic planning.

Embracing WELL could also help the retailer attract and retain employees during a time when unemployment is at historic lows. According to the U.S. Bureau of Labor Statistics, the jobless rate has been at or below 4% for the past two years.

"Tenant requirements for industrial space have evolved over the past 10 years," says **Jules J. Nissim**, Cushman and Wakefield's vice chairman for industrial and global supply chain solutions. "Companies are

The most newsworthy aspect of this $250 million project could be the introduction of a concept that has **the potential to revolutionize the way developers and users approach industrial space.**

SHI International, a provider of information technology (IT) products and solutions, has a 396,750-square-foot building in the Rockefeller Group Logistics Center. The original design was altered to accommodate the company's IT configuration work. The finished facility has greater HVAC capacity, a depressed slab, increased electrical service and solar panels on the roof.

focused on more than just location and pricing. There has been a growing trend toward providing employees with an increase in quality of life and workplace satisfaction."

The retailer soon found that the WELL concept harmonized with its broader corporate culture and core values, and it engaged BranchPattern to assist with its search. After another year of searching, the team found a developer that could meet its needs on time and within budget.

Kuehne + Nagel selected Rockefeller Group in 2018, and the firms quickly set out to form a plan to achieve LEED and WELL certification. The development team collaborated to maximize opportunities on the construction and design side, while BranchPattern worked with Kuehne + Nagel and its client to find the best way to run its operations to comply with WELL standards and ensure a healthy workplace.

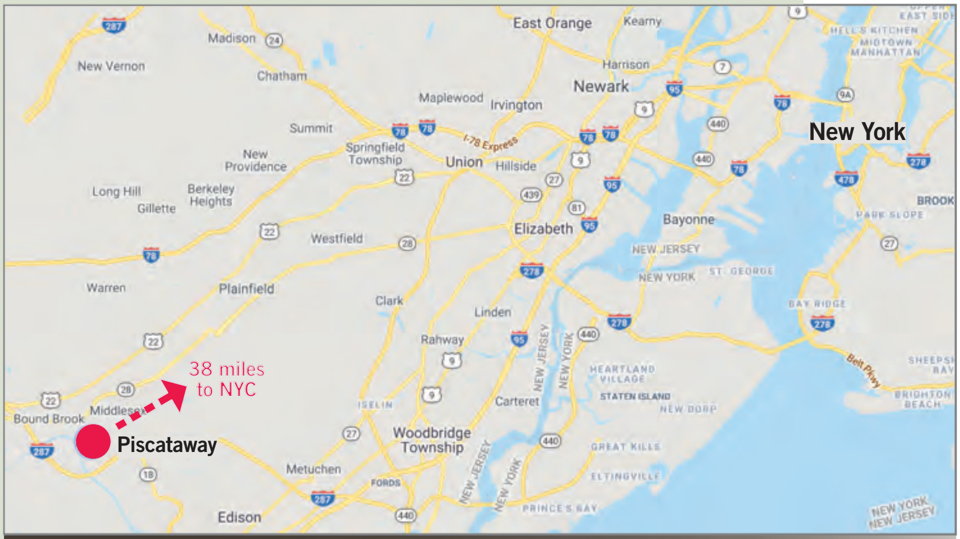
At the time, BranchPattern managing partner **Nate Maniktala** was involved with the only two industrial facilities worldwide seeking WELL certification during this period — one in Washington state and one in the Netherlands. As part of the IWBI's industrial advisory task force and pilot projects, Maniktala and his team modified the existing WELL standard to appropriately apply to industrial buildings.

Once certification is complete, it will be only the second WELL-certified U.S. industrial building, and **the first such building in the world to achieve both LEED Platinum and WELL certifications.**

Qualifying for WELL

The International WELL Building Institute (IWBI) developed the WELL certification to improve human health and well-being in buildings and communities. To qualify for WELL certification, projects must meet the requirements on a checklist of around 100 “features” within 11 concept categories: Air, Water, Light, Nourishment, Movement, Thermal Comfort, Sound, Materials, Mind, Community and Innovations. The number of points (up to 200) the project receives determines whether it is WELL Silver, Gold or Platinum certified.

Through thoughtful design, the Rockefeller Group Logistics Center team found creative ways to implement strategies for some of the required concepts within an industrial setting. For example:



The Rockefeller Group Logistics Center in Piscataway, New Jersey, is located near major transportation routes close to New York City.

Air and Water. Continuous and vigorous testing ensures that the project will meet high thresholds for healthy air and water quality. The project is designed to maximize the amount of outdoor fresh air being brought into the building. Hydration stations are near employee workstations to ensure quick and easy access. Research shows that closer access to a source of drinking water can increase consumption, helping to avoid dehydration throughout the workday.

Nourishment. Foods and beverages have been carefully selected and tailored to meet the rigorous standards of WELL. Healthy foods are a key focus. Break rooms prioritize fruits and vegetables. Nutrition labeling is transparent, and there are minimal advertisements for unhealthy foods. To encourage mindful habits, areas for eating in the building accommodate both warehouse and office employees. These spaces are designed to be large enough to give all shift workers adequate seating and amenities so that employees can eat with their coworkers. This builds comradery and avoids the unhealthy habit of eating at a workstation, which research shows can increase stress levels and encourage overconsumption.

Light. Daylight is a fundamental need for the human body, and it can increase worker productivity and overall workplace satisfaction. Large skylights and clerestory windows in the warehouse, and punched openings and glass partitions in the office, help ensure that most areas in the building receive some amount of daylight. Because Kuehne + Nagel’s client didn’t need all of the building’s docking locations, the team installed storefront windows in the cross-dock doors, transforming workers’ views from concrete walls to the outdoors. The flexible design retained the dock doors, however, allowing the windows to be shuttered when needed and the panes to be removed if future demands require more docks.

Movement. Ergonomic, customizable workstations maximize employee comfort, and amenities such as showers, locker rooms and bike racks allow for active commuting. Employees also have access to an on-site gym and outdoor amenities such as a nearby walking trail and pond.

Mind and Community. The interior design of the office incorporates natural elements to foster a connection to the outdoors. Through the corporate policies of the organizations, employees receive access to mental health screenings, coverage and workplace support. A mothers’ room is designed to provide a comfortable and practical environment for nursing mothers. Bathrooms include features such as child changing areas and syringe drop boxes.

The project also meets a number of sustainability goals through such measures as a heat-reflecting cool roof, minimized light pollution accomplished by reducing and shielding site lighting, and reduced water consumption through low-flow fixtures and native low-water-use landscaping. The site also offers amenities to reduce carbon emissions, including shuttle service to nearby transit stops and preferred parking spaces for low-emissions vehicles. ■

Electronics retailer Best Buy was the first tenant in the Rockefeller Group Logistics Center in Piscataway, New Jersey. It's also the largest, with a distribution facility that spans 725,830 square feet. About 300 people work in the building.

Next Up: Certification

The finished building covers 197,200 square feet. Kuehne + Nagel signed a lease in March 2019. The property sits on 18 acres in the middle of the Rockefeller Group Logistics Center campus and includes 43 trailer spaces, 30 loading bays, and 219 existing and 37 banked parking spaces. After delivery in November 2019, the real estate arm of DWS Group, the $830-billion global asset management division of Deutsche Bank, acquired it for $37.9 million ($192.22 per square foot).

Ultimately, the Kuehne + Nagel building is seeking Gold certification for WELL v2 New and Existing Buildings. The development team is also pursuing Platinum certification under the LEED v2009 Standard for Core and Shell.

Development magazine first examined the WELL standard in the Summer 2016 issue. In "Building for Wellness," author **Ed Klimek**, a partner with KSS Architects, ex-

Economic Impact

Although the environmental issues created by its previous occupants left few reuse options aside from industrial, the area around the Rockefeller Group Logistics Center has long been one of Piscataway's biggest redevelopment initiatives. The support and incentives provided by the township and county served as a testament to the project's importance.

Most significant of these is a payment in lieu of taxes (PILOT) program, which allows owners to pay an annual service charge over a given period instead of property taxes. The funds typically go toward improvements targeted by the municipality. As a result of the PILOT program, a greater percentage of the revenue generated by the site goes to the town.

With a starting rate of $0.75 per square foot and a rare 30-year lifespan, this PILOT was particularly attractive because it gives end users certainty of future PILOT payments, rather than having to deal with uncapped property taxes.

The town also issued a Redevelopment Area Bond (RAB) for the reconstruction of two major roadways along the site. For one, Rockefeller widened the road and installed a traffic signal. The township and county are working together to improve the other, which was in a poor state of disrepair. The PILOT will help service the debt of the RAB.

In addition, Piscataway officials and agencies have made the repurposing of fallow industrial sites and dormant corporate campuses a priority. By providing incentives and smoothing the planning, zoning and entitlement process, they've played a major role in converting deserted business areas into productive economic use. ■

Rockefeller Group Logistics Center Project Summary

Location	171 River Rd., Piscataway, New Jersey	
Type of Site	Infill Brownfield Redevelopment	
Development Type	Ground-Up Speculative & Build-to-Suit Construction	
Building Types	Warehouse/Distribution, Light Industrial	
Occupants		
Building 1 (100 Ridge Rd.)	Humanscale	155,000 sq. ft.
Building 1 (100 Ridge Rd.)	Fujitsu GeneralAmerica	155,000 sq. ft.
Building 2 (300 Ridge Rd.)	Best Buy	725,830 sq. ft.
Building 3 (200 Ridge Rd.)	Kuehne & Nagel	197,200 sq. ft.
Building 4 (600 Ridge Rd.)	Kiss Products	469,600 sq. ft.
Building 5 (400 Ridge Rd.)	SHI International	396,750 sq. ft.
Rental Rates	Mid to high $8.00 per sq. ft.	
Site and Building Dimensions		
Total Acreage	226 acres	
Building 1 (100 Ridge Rd.)	21 acres	311,040 sq. ft.
Building 2 (300 Ridge Rd.)	42 acres	725,830 sq. ft.
Building 3 (200 Ridge Rd.	18 acres	197,200 sq. ft.
Building 4 (600 Ridge Rd.)	65 acres	469,600 sq. ft.
Building 5 (400 Ridge Rd.)	80 acres	396,750 sq. ft.
Development Team		
Developer	Rockefeller Group	
Broker (leasing/sales)	Cushman & Wakefield	
Architect	M+H Architects	
Construction Manager	Alston Construction	
Civil Engineer	Langan Engineering	
MEP/FP Engineer	Solutions AEC	
Structural Engineer	Smith Roberts and Associates., Inc.	
Legal Counsel	Drinker Biddle (Land Use) McCarter & English (Transactional & Environmental)	
Financial Partners		
Joint Venture Partner	PCCP, LLC	
Lenders	JPMorgan Chase	TD Bank, N.A.
Construction Loan	65%	
Equity	35%	
Incentives	PILOT - Payment in Lieu of Taxes $0.75 starting, five-year incremental increases over 30 years Redevelopment Area Bond from the Piscataway Township Council for roadway improvements	
Total Project Costs		
Development Cost	$250 Million	
Timeline		
Site Acquisition	May 2017	
Construction Period, Start to Delivery		
Building 1	Jun 2017 - Aug 2018	
Building 2	Jun 2017 - Apr 2018	
Building 3	Dec 2018 - Nov 2019	
Building 4	April 2018 - Mar 2019	
Building 5	July 2018 - Aug 2019 ■	

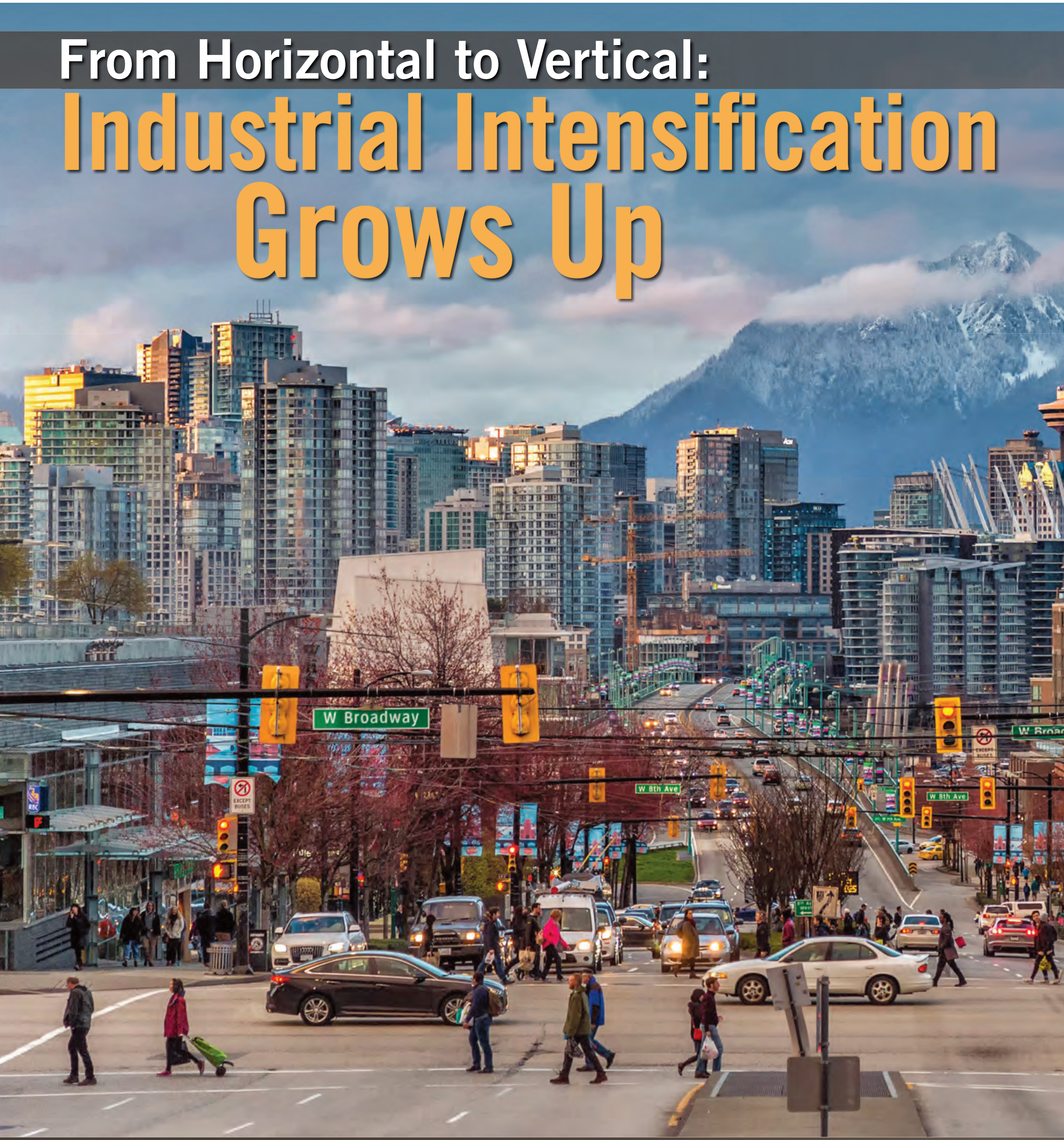
Embracing WELL could also help the retailer attract and retain employees during a time when unemployment is at historic lows.

plained that developers and building owners can obtain certification by completing "a five-step process for each project that begins with online registration and includes documentation as well as a series of on-site performance tests known as performance verification. Certification recognizes that the project has successfully documented compliance with all feature requirements and has passed performance verification."

The WELL process is ongoing since many of the evaluations can't be conducted until the facility is up and running, but certification is expected by the second quarter of 2020. ■

Heath Abramsohn is a group vice president and regional director with the Rockefeller Group.

From Horizontal to Vertical: Industrial Intensification Grows Up



Hemmed in by mountains and water, Vancouver, Canada, is a prime example of a city where multilevel industrial properties could thrive because of a constrained supply of land for development.

Getty Images

Multistory industrial facilities illustrate innovative strategies for areas with a constrained supply of land.

By Eric Aderneck, RPP, MCIP

As e-commerce and technology push industries to evolve, businesses are placing greater importance on integrated work spaces. These are places where design, manufacturing, distribution and showroom activities occur within a single building.

At the same time, companies must deal with land supply constraints, increases in space demand, and economic and population growth. These trends are driving new opportunities for industrial lands intensification, such as multilevel developments (sometimes referred to as "vertical" or "stacked"), while challenging old planning regulations.

Industrial properties are no longer single-story buildings located on the urban fringe. New forms of industrial intensification provide more space for companies to expand and boost employment growth within communities.

IntraUrban Evolution in Vancouver provides 105,000 square feet of industrial and office space across four levels.

What is Industrial Intensification?

"Intensification" refers to increased use of, or greater productivity within, industrial properties. It can range from higher ceilings with racking in distribution centers, to more shift workers, to investments in automation, or multilevel buildings in urban locations.

There are two ways to think about industrial land use:

Intensity is the amount of activity. It is measured as jobs per building or land area, or the volume of goods produced or processed per unit.

Density is the amount of building. It is measured as floor area ratio, site coverage or building heights/volumes.

Higher intensities are associated with higher densities, but this is not always the case. Exceptions are land-intensive industrial uses with high throughput activity that don't require a large building, such as a lumber mill. These activities need land for truck loading, vehicle parking, and outdoor storage of equipment and materials.

Drivers and Benefits of Intensification

In East Asia, multistory industrial buildings are common. Because of a lack of affordable land, companies have had to build up to fulfill their space needs.

In North America, there are relatively few multilevel industrial buildings. However, more are being built, with notable new projects in Vancouver, Seattle, San Francisco and New York — all places with very high land values.

Consider Metro Vancouver, which has a population of 2.5 million and is home to the largest port in Canada. There is a severe shortage of industrial land in the region. This manifests itself in various ways — rising land prices, very low vacancy rates and rental rates that are among the highest in North America. According to a report from Colliers International for the third quarter of 2019, the industrial vacancy rate in Vancouver was below 2% for the 10th consecutive quarter. The current average asking

Sample Projects in Vancouver

There are many new multilevel industrial developments in the Metro Vancouver region, mostly in Vancouver's historic industrial districts. Tenants increasingly want urban locations and building amenities to help attract and retain employees, although some developments include considerable commercial components.

These example projects are both within the City of Vancouver's I-2 Zone (Light and Medium Intensity Industrial), which allows density up to a floor-area ratio (FAR) of 3.0 and requires underground parking.

IRONWORKS in Port Town Vancouver by Conwest

The centrally located 188,000-square-foot project provides mixed industrial, warehouse, showroom and office space in two- and three-level buildings (plus mezzanines). Features include freight and passenger elevators, modern designs with bike facilities, a common roof deck, and ample retail and restaurants within walking distance. The area where it is located has a rich industrial history as an iron works.

IntraUrban Evolution in False Creek Flats Vancouver by PC Urban

The location offers quick access to Vancouver's downtown core, major commuter and transportation routes, as well as the Port of Vancouver. The project has 105,000 square feet of industrial and office space over four levels. Efficient floor plates with a variety of dividable options and abundant glazing create open, flexible workspaces. A high-speed freight elevator system provides access throughout the building. It also features 12- to 18-foot ceiling heights, extensive glazing that provides a variety of views, and a common rooftop and patio areas. ■

In North America, there are relatively few multilevel industrial buildings. However, more are being built, with **notable new projects in Vancouver, Seattle, San Francisco and New York — all places with very high land values.**

triple net rent has increased 25% from two years ago. These supply-and-demand forces are spurring intense and dense forms of industrial development, such as multilevel buildings.

Industrial intensification promises many potential benefits for both industry and the community, especially in jurisdictions with a constrained land base:

- More efficient use of resources, reduced development pressures on lands in the region and possible conversions, such as from agricultural to industrial.
- Building multilevel properties creates more industrial space and capacity as land for industrial use becomes increasingly difficult to find.
- Clustering or co-locating related operations can support eco-industrial networks and circular-economy systems. In these innovative complexes, companies collaborate to use each other's by-products (material loops) and share resources (peer-to-peer lending) to increase efficiencies.

Evolving Types of Industrial and Accessory Uses

Industrial activities are evolving and becoming more diverse. Some have more accessory uses, which require new and different types of spaces.

Many new commercial activities do not fit neatly within the traditional concept of "heavy" or "light" industrial. These can range from conventional distribution, warehousing and manufacturing in large single-user buildings to small-scale operations such as parts suppliers, food processing, equipment maintenance, workshops, laboratories, local "maker movement" craftsmanship, fabrication/assembly in industrial flex space units, as well as emerging e-commerce, advanced technology and creative/media/design.

Industrial areas can contain accessory and commercial activities that support or are related to the primary industrial use. These areas can also

An internal view of IntraUrban Evolution shows areas for warehousing and office uses.

provide amenities for local employees. However, allowing too much additional office or retail space could destabilize or displace established industrial uses by raising land costs, property taxes and rents, and introducing land-use conflicts.

The Challenges of Building Up

Compared to conventional single-level structures, multilevel industrial buildings are much more complex to design and more expensive to construct. For example, they often require underground parking facilities, as well as access stairs and elevators. Functional building features for industrial tenants include loading bays; cargo elevators or truck ramps; specific corridor widths; specific requirements for ceiling heights and column spacing; and floors with load-bearing capacity.

Multilevel buildings and structured parking facilities introduce inefficiencies that reduce net usable areas. In addition to stairs, elevators and hallways, they prominently feature vehicle ramps, which are not used in conventional single-level industrial buildings with surface parking.

These extra costs require higher rents for projects to be financially viable. In some cases, this means new higher-density industrial developments. These may include accessory or commercial uses that are related to the main industrial tenant, which can help cross-subsidize the cost of the building. In Canada, new multilevel industrial projects are often associated with stratification (condominium) tenure, with units that are owned rather than leased. Pre-sales of units help finance these developments.

In other cases, density is limited by regulatory and functional requirements for parking, loading and setbacks.

Considerations for Municipal Plans and Policies

Multilevel industrial development follows international trends toward intensification and densification, and it generates much-needed industrial capacity. Industrial inten-

Multilevel industrial development follows international trends toward intensification and densification, and it generates much-needed industrial capacity. **Industrial intensification offers community benefits such as jobs, economic growth and a higher tax base.**

NAIOP Vancouver Gets Involved

With a limited land base and the need to coordinate planning, the Metro Vancouver planning authority is preparing a regional industrial lands strategy to address these issues and explore policy options and actions, including industrial intensification.

NAIOP Vancouver has an Intensive Use of Industrial Lands Committee that is exploring how to promote intensification. The organization recognizes three different types: multilevel logistics/manufacturing; multilevel urban industrial; and multilevel urban industrial with rental housing.

As part of that initiative, NAIOP Vancouver organized a panel event in June 2019 to discuss the trends affecting industrial lands utilization and the potential for intensification.

Here are the key areas of focus for NAIOP Vancouver:

- Identify municipal policy required to enable/facilitate intensification
- Economic feasibility of intensification
- Ways to better utilize limited supply of industrial land
- Assess industrial companies' appetite for multilevel facilities
- Review best practices in other cities

To learn more, visit: www.naiopvcr.com ■

sification offers community benefits such as jobs, economic growth and a higher tax base.

More North American cities recognize the evolving nature of business, and they're adopting industrial, economic and employment strategies that advance new opportunities and remove barriers. A primary policy consideration is how regulations should permit these types of new industries and business models. Municipalities should recognize these new industrial forms while not discarding established uses.

To boost industrial development, municipalities should work to remove outdated barriers to densification/intensification by considering the following when reviewing land-use policies:

Permitted industrial uses. Add new industrial uses that may not appear in existing industrial zoning bylaws, such as e-commerce, last-mile delivery and integrated work spaces.

Non-industrial uses. Restrict non-industrial uses to an accessory scale that supports the primary industrial functions.

Density limits. Adjust density caps such as building setbacks and height limits, as well as floor area ratio and site coverage maximums.

Parking requirements. Reduce minimum parking in urban locations and areas located near mass-transit options.

Some government agencies worry that newly constructed buildings will not be used for their intended purposes. To secure the industrial use of the premise beyond zoning use definitions, municipalities should enforce occupancy permitting and business licensing.

Future Considerations

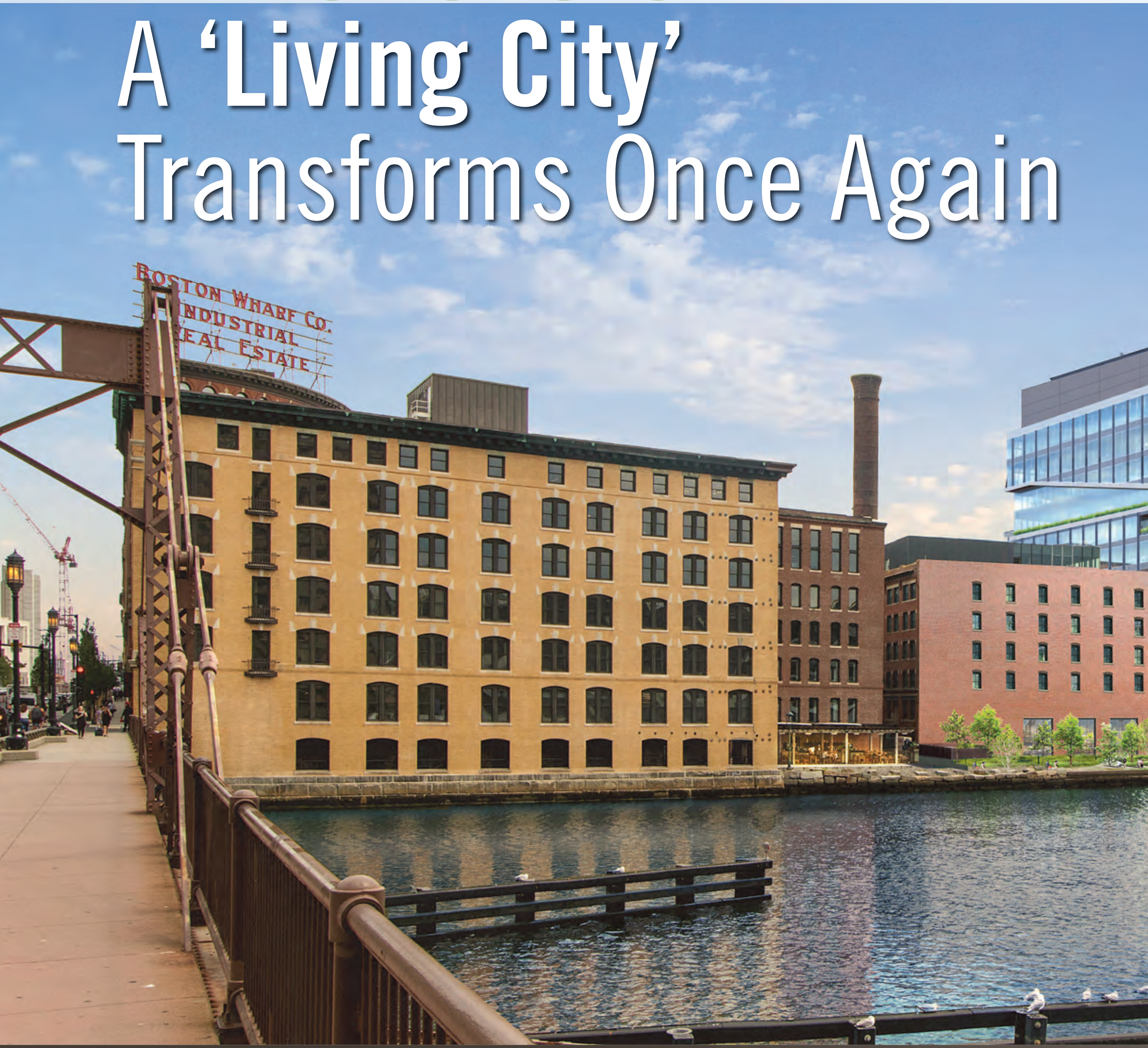
Industrial development is an important part of a regional economy. While some uses will continue to be land-intensive, new forms may reside in multilevel buildings. Municipal plans and regulations should guide market forces in ways that respond to industrial needs while considering other community objectives. The complexity lies in balancing industrial trends, development viability, business needs, responsive regulations, and other community interests moving forward.

The challenge and opportunity is how to intensify industrial uses without losing the industrial function of the lands. ■

Eric Aderneck, RPP, MCIP, is industrial lands planning consultant. He can be reached at eric@aderneck.ca. His website, www.MVindustriallands.com, includes resources about industrial lands planning and development matters.

Boston

A 'Living City' Transforms Once Again



15 Necco Street, a 12-story office and life-sciences building, is among many developments planned or underway in Boston's Seaport district.

Courtesy of National Development

The city has experienced a building boom during the latest cycle, and even more development is on the horizon.

By Aaron Jodka

Boston is a city in transition.

Demographics, jobs, urbanization, availability of capital and a more accommodative planning environment have combined to create an ecosystem of progress and change.

A 2017 report from the Boston Planning and Development Agency cites U.S. Census data showing that the metropolitan area has the highest share of 20- to 34-year-olds as a percentage of population in the country, ahead of Austin, Raleigh and Nashville. The city has seven colleges and universities ranked in the top 40 by U.S. News and World Report, plus another 50 in the Greater Boston area educating 250,000 students from around the world per year.

Elkus Manfredi Architects, courtesy of Samuels & Associates

The proposed Parcel 12 Project is expected to "knit together" the Back Bay, Fenway and South End neighborhoods, as well as the city of Cambridge, according to the Boston Planning & Development Agency.

And because Boston's economy has outperformed that of the broader U.S., with stronger job growth and GDP gains, more graduating students are establishing their careers in the city. Since the 2010 Census, Boston has added an average of one new resident per hour. This has driven a need for new housing, which has been met by developers building a mix of rental and for-sale product throughout the city's neighborhoods and the Greater Boston area.

The urban core, including downtown, the Back Bay, Seaport, Charlestown, Allston/Brighton, East Boston and Fenway/Kenmore, has been remade to varying degrees in this economic cycle. What were once hard boundaries between submarkets or neighborhoods have blurred or even disappeared. Future growth will continue to blend borders from place to place as infill development continues.

New high-rise living has changed the fabric of neighborhoods, particularly downtown and the Seaport. Condo prices have never been higher (the penthouse at 1 Dalton in the Back Bay sold for $34 million, the second-highest price ever paid for a condo in the city), and waterfront residential has been popular with renters and owners alike. Empty-nesters from the suburbs are moving into the city, along with international buyers, and the city has plans for the tens of thousands of additional units needed to house the ever-expanding population.

However, maintaining a supply of workforce housing remains a challenge. Developers are balancing ways to bring more affordable product on line while making projects economically feasible.

Here's a look at what's happening in Boston commercial real estate by submarket.

The Seaport

Nowhere in Boston has change been as profound and impactful as the Seaport. Development there seems to have popped up overnight, but it's actually been in the works for decades in an area with a long history as an economically important section of Boston.

In the 1800s, the former Boston Wharf Company built the majority of the Seaport area, which was originally a shipping, warehousing and manufacturing district adjacent to the Fort Point Channel. As those industries went away, it devolved into an underused neighborhood of windswept parking lots. Most of the buildings were vacant and in need of repair, with rock-bottom rents. During this time, the area became popular with artists due to the affordability and historic character of the properties.

Development in the Seaport took tentative steps in the early 1980s when planning started for the Central Artery/Tunnel Project, also known as the Big Dig. It took an elevated highway that cut Boston off from its waterfront — which isolated the Seaport for decades — and buried it underground. By connecting the Massachusetts Turnpike (I-90) to Logan International Airport, it opened up access to the Seaport. The massive infrastructure project ran from the early 1990s through 2006 and cost more than $22 billion. It remains the costliest highway project in U.S. history.

However, it wasn't until the early 2000s that development really took off. Fidelity, John Hancock/Manulife and the federal government were trailblazers, bringing new offices, hotels and a federal courthouse to the area. The Boston Convention and Exhibition Center (BCEC) opened in the mid-2000s.

Fast-forward to the current cycle, and the area's growth has been phenomenal. In fact, the Seaport's development since 2005, along with what is underway, is at the scale of New York's Hudson Yards project. Development is approaching more than 19 million square feet in total, encompassing all product types, from residential, to office, to lab, hotel and retail. Asking rents on new-construction office product is into the $80s per square foot, triple-net, on select assets.

The Northern Avenue/Seaport Boulevard corridor, the epicenter of this new construction, has been developed primarily as three mixed-use projects: Fan Pier, with office and residential; Pier 4, with residential and office; and Seaport Square, a true mixed-use master plan. The area is home to multiple residential buildings, office towers and the city's newest retail corridor. MassMutual, Amazon and Foundation Medicine have chosen Fan Pier and Seaport Square as their future homes in the area. More land could be unlocked from the USPS, Army Corps of Engineers and Massport, creating millions of square feet of future commercial and residential space.

Since the 2010 Census, Boston has added an average of one new resident per hour. This has driven a need for new housing, which has been met by developers building a mix of rental and for-sale product throughout the city's neighborhoods and the Greater Boston area.

Along A Street, local, regional and national builders have plans to build millions of square feet of mixed-use development. It will be one of Greater Boston's next life science hubs, but it will include residential and office projects as well. This will connect the Fort Point Channel to the Seaport's waterfront development and the Massachusetts Bay Transportation Authority's (MBTA's) Broadway Station along the Red Line. Red Line subway access is important, as Kendall Square, the global epicenter of life science research and development, is along that line as well.

The area between Broadway and Andrew is set for redevelopment, too, with residential as the focus.

Courtesy of Colliers

Boston's major submarkets are seeing an explosion in development. Active areas include downtown, the Back Bay, Seaport, Charlestown and Fenway/Kenmore.

This area along Dorchester Avenue is now home to industrial properties, but higher-value uses such as housing are proposed here, and investors are aggregating sites to prepare for the future.

Near the JFK/UMass MBTA station, the University of Massachusetts has leased a 20-acre site to a private developer. This could yield 3 million square feet of mixed-use construction in the years to come. The former Boston Globe newspaper headquarters is being redeveloped into a creative office project in the same area.

Hotel construction is also booming in the Seaport, where the BCEC hosts many trade shows each year. The area has lacked enough hotel rooms for conventiongoers, but a 1,000-room-plus Omni hotel, the largest in the neighborhood, is under construction across the street from the convention center. A few blocks away, Hampton Inn, Homewood Suites and Hyatt flags are going up as well, joining recently opened Yotel, Envoy, Element and Aloft hotels.

Downtown

Development in the city isn't just about the Red Line, though. Downtown Boston is seeing tower development for the first time since the early 2000s, with Winthrop Center set to become the tallest building there at 53 stories. It will feature a mix of office and condo space, replacing a dilapidated city garage. It will also be the largest office building in the world to be certified by the Passive House Institute US (PHIUS) when it's completed in 2022. It will be designed to meet rigorous energy consumption standards while maintaining consistent interior temperatures.

Steps away at South Station, a long-planned tower on top of the station has secured equity financing and could move ahead shortly as an office and condo project. And not far from South Station, 125 Lincoln Street will replace a parking garage and bring new office space to the border of the Leather District and Chinatown.

That is a key theme of development across the urban core — finding higher and better uses for aging parking structures. Boston followed the lead of other cities in the 1950s and 1960s and built many large garages to provide as much parking as possible for people driving to work. Today, those structures are old and in need of repair, and many have been purchased for redevelopment or are in the midst of a makeover.

One of the city's most prominent parking structures, at One Congress Street, is being reimagined as Bulfinch Crossing. This mixed-use development follows multiple themes: it replaces a parking facility, it is transit-oriented, and it blends boundaries between neighborhoods and submarkets. A multiphase process will bring multifamily, retail and office space to the property.

Currently, the garage straddles Congress Street and creates a physical and sight-line barrier between downtown Boston/Government Center and North Station. The first phase includes a multifamily residential project and a 1 million-square-foot office tower that will become the headquarters of State Street, a financial services and bank holding company that is one of Massachusetts' largest employers. While the parking structure over Congress Street will remain in use during development, it will eventually be removed.

Bulfinch Crossing is near North Station, the city's second-largest transit hub. It is the terminus for north and some westbound commuter rail service, and it connects to the MBTA's Green and Orange lines. It is also the home of the Boston Bruins and Celtics, who play at the TD Garden arena, formerly Boston Garden.

Development at North Station has been focused on multifamily residences, with thousands of units completed in recent years and hundreds more underway today. At the center of this changing neighborhood is The Hub on Causeway, a mixed-use development. It features both creative and high-rise office space. Rounding out the project is the citizenM hotel, the first of its kind in Boston. It combines a residential tower and a concert venue with retail, including an urban grocery store, movie theater and restaurants. It has given the North Station area an entirely different look and feel. Long gone are the days of an empty lot sitting in front of the Garden.

Beyond Downtown

There is also significant development activity in areas outside of Boston's central core.

Charlestown. Hood Park is transforming a former milk plant into a master-planned mixed-use development. A parking garage is being renovated to include office space, while future development will include office and other uses. This is yet another example of infill development in proximity to the urban core.

Suffolk Downs. Northeast of the city on the East Boston/Revere line sits Suffolk Downs, a former horse racetrack. With 161 acres, the site could support millions of square feet of development, including thousands of housing units along with office and retail. However, plans are still being finalized, and the build-out is likely to take 10-plus years.

Nowhere in Boston has change been as profound and impactful as the Seaport. Development there seems to have popped up overnight, but it's actually been in the works for decades in an area with a long history as an economically important section of Boston.

Back Bay/Fenway. Air rights projects in this area over the I-90 are moving forward as well. The city has not seen air rights development over the Massachusetts Turnpike in decades, and projects will connect the urban fabric that has been broken up by the highway. And projects in Kenmore Square, close to Fenway Park, continue the theme of development around Boston's sports teams. The area's famed Citgo sign sits atop the properties being repurposed for office space, located along the MBTA's Green Line.

> Fast-forward to the current cycle, and the area's growth has been phenomenal. **In fact, the Seaport's development since 2005, along with what is underway, is at the scale of New York's Hudson Yards project.**

Allston/Brighton. This area has undergone a major wave of residential and office development, and more is on the way. Boston Landing, home to the MBTA's newest commuter rail stop, is the headquarters of New Balance. It also has practice facilities for the Bruins and Celtics, along with lab space and Bose's urban home. NEXUS At The Allston Innovation Corridor will be a mixed-use development led by lab space. Nearby, Harvard University has a multidecade plan to expand its campus and connectivity to the business community with its Allston redevelopment. That master plan, however, requires a straightening of I-90, which will open up more than 100 acres of space. The highway will be moved to land formerly occupied by train tracks.

An Exciting Time

"A living city is constantly being rebuilt," said Boston Mayor **John B. Hynes** in 1954. That sentiment has never been truer of the city of Boston than it is today.

The urban core is alive and well, and as these projects and others complete, they will add more density, housing and commercial space. Existing assets are remaining competitive by renovating lobbies, adding new amenities or through massive redevelopment.

These projects and many others make it an exciting time for the city, positioning Boston for its next wave of innovation and economic growth. ■

Aaron Jodka is the managing director for Colliers International in Boston.

A Boston CRE Party

NAIOP's National Forums Symposium is April 29-May 1 at Boston's Marriott Copley Place. It is a Forums-member exclusive event that brings together prominent professionals from across North America to share best practices, strengthen relationships with fellow Forums partners, and identify how best to capitalize on business opportunities.

On Thursday, April 30, a special workshop, "Negotiating to Win," will be held from 9 a.m. to 2 p.m. It will be led by **Michael J. Lipsey**, president of The Lipsey Company, a recognized leader in training and consulting for the commercial real estate industry.

The objective of a skilled negotiator is to reach a resolution as efficiently as possible while securing the best deal. Great negotiators play to win, and their understanding of the tools and tactics of the trade helps them secure more value for themselves or their clients. Participants will learn to identify common negotiating tactics and engage in an interactive and detailed negotiation of a simulated deal.

The workshop is open to all attendees; however, space is limited, and pre-registration is required. Breakfast and lunch will be served.

The Boston Marriott Copley Place is offering a discounted rate of $259 plus tax single/double. The rate will be offered until Friday, April 3, or until the room block has been filled, whichever occurs first.

For more information about the National Forums Symposium and to register, visit www.naiop.org/forums20 ■

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NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION

NAIOP RESEARCH FOUNDATION

Cutting-edge Research That Has an Impact

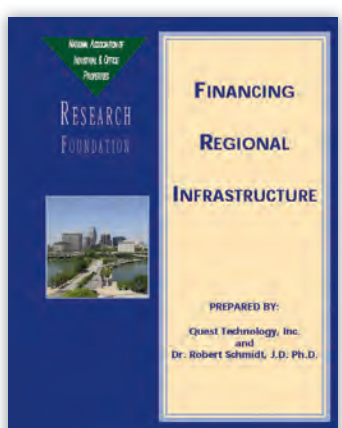
2020 ANNUAL REPORT

Celebrating the 20th Anniversary of the NAIOP Research Foundation

Ronald Rayevich,
President
Raymar Associates, Inc.

Twenty years ago, NAIOP saw a shift as small local development companies began transforming into regional powerhouses. These firms required an established source of professional, vetted knowledge to continue to thrive and meet the evolving challenges of the industry. To answer this need, NAIOP established the NAIOP Research Foundation in 2000 under the guidance of 1997 NAIOP Chairman Ronald Rayevich.

From its first report published in 2002, "Financing Regional Infrastructure," to its most forthcoming (at the time of publication), "A New Look at Market Tier and Ranking Systems," the Foundation has delivered insights into a broad scope of trends and topics shaping the industry for the past two decades. Today, through the generosity and support of the Foundation's Governors, NAIOP's annual research budget is $100,000, with numerous reports commissioned and published annually.



"We established the Foundation to respond to multiple groups within NAIOP — the National Forums, the education committee, the board of directors — who were all voicing the same need for practical, thorough industry research," said Rayevich. "In 2000, the board of directors formed a team to develop a solution, and our recommendation was to establish a foundation funded by individuals, now called Governors, who were willing to make a significant investment to create an endowment that would generate income to be used for research. Our original objective was to have 10 Governors — today we have 66 and have established a sizable endowment that will generate income in perpetuity."

Through the development and dissemination of cutting-edge research and outreach activities, the NAIOP Research Foundation will continue to play a vital role in helping the industry stay competitive by identifying best development practices, future opportunities and strategies.

This annual report highlights some of the Foundation's activities in 2019, with an eye to the exciting research, activities and deep dives to come in 2020 and beyond.

To learn more, visit **naiop.org/research**.

The Latest in Innovative Research

Economic Impacts of Commercial Real Estate, 2020 U.S. Edition

Development and construction of commercial real estate across the United States — office, industrial, warehouse and retail — generate significant economic growth at the city, state and national levels. This study measures the contribution to GDP, salaries and wages generated, jobs supported, and more from the development and operations of commercial real estate in the United States.

In 2019, combined commercial, residential, institutional and infrastructure development and operations yielded the following economic benefits:

- Contributed $3.9 trillion – 18.1% of U.S. GDP
- Supported 26.2 million American jobs (a measure of both new and existing jobs)
- Generated significant personal earnings and state revenues, adding inventory to attract new businesses and jobs

This annual report also includes data by state.

naiop.org/contributions20

Creating a Private Equity Fund: A Guide for Real Estate Professionals

The NAIOP Research Foundation commissioned this white paper to help demystify private equity fund formation and operation. It is geared toward those who have limited familiarity with the process and want to learn the basics. The authors provide step-by-step guidance, along with an example of a fund waterfall and a case study of how one company successfully used a series of private equity funds to seek out opportunities during the financial crisis when other sources of funds were limited.

naiop.org/privateequityfund

> It is this sense of purpose, ownership, trust and giving back that drives the Foundation's work.

Coming in 2020

JAN

Economic Impacts of Commercial Real Estate, 2019 Edition (U.S.)

Recognize Sustainers Fund donors who supported the Foundation with an annual gift

FEB

Industrial Space Demand Forecast Q1

Addressing the Workforce Skills Gap in Construction and CRE-related Trades

A shortage of construction and logistics workers has increased the cost of construction for developers; it has also hampered the expansion and profitability of warehouse and distribution centers. This report explores some of the contributing factors to the workforce shortage and how the construction and logistics industries can improve worker recruitment, training, productivity and retention. The author interviewed several national and regional workforce development program leaders to learn about their partnerships with industry to recruit and train the next generation of construction and logistics workers.

naiop.org/workforceskillsgap

Profiles in the Evolution of Suburban Office Parks

Many suburban office parks in North America are now functionally obsolete due to their location, layout or limited amenities. The NAIOP Research Foundation commissioned this report to identify ways that firms are revitalizing suburban office parks through redevelopment, rehabilitation and adaptive reuse. The author interviewed five developers who have recently updated suburban office parks in the United States and Canada to learn how they made these properties relevant for today's market.

naiop.org/suburbanofficeparks

Preparing for Autonomous Vehicles: A Survey of Local Governments

Municipal governments, through their abilities to set and enforce regulations, will play an important role in determining how transportation and land use evolve in response to autonomous vehicles (AV) adoption. This report describes how local governments are preparing for fully autonomous vehicles and explores how future AV-related policies could affect the commercial real estate industry. The author interviewed eight community leaders from local governments in the United States, Canada and Australia and reviewed recent secondary sources to identify significant trends in AV development and related municipal policies.

naiop.org/autonomousvehicles

MAR

A New Look at Market Tier and Ranking Systems

Dividing and grouping the major metropolitan regions of the United States into ranked groups or "tiers" is a frequently used method to evaluate, prioritize and rank markets for investment. This project will provide an understanding of the origins, methodologies and uses of market tier models. The project will also assess the implications and risks of using these models and will explore how they may evolve in the future.

The Latest in Innovative Research continued

Repurposing Retail Centers: Profiles in Adaptation, Repositioning and Redevelopment

The growth of e-commerce and shifting consumer tastes have led to the decline and closure of hundreds of malls across North America. Although these closures bring economic disruption, the properties they leave behind are often strong candidates for redevelopment into new uses. The NAIOP Research Foundation commissioned this report to examine how developers are bringing new life to former malls by transforming them with uses, services and amenities that align with local market conditions and serve community needs. The author interviewed five developers who have recently redeveloped malls in the United States and Canada about how they transformed and revitalized these properties.

naiop.org/repurposingretail

Foundation Research in the News

Research by the Foundation has been cited in leading news publications:

E-Commerce Made Warehouses Hot. Trade War Could Cool Them Down.

Wall Street Journal
September 17, 2019

*"In a new report, trade group **NAIOP** forecasts that less new industrial space will be occupied over the next two years, compared to the past two years. The group says the difference between new space being occupied and old space being vacated will drop to 37 million square feet per quarter over the next two years, down from 60 million over the past two years."*

The Home Depot Foundation Goes Back To School

Forbes
September 30, 2019

*"Commercial real estate is similarly influenced by shortages of construction and logistics workers. In July 2019, the **NAIOP Research Foundation** published a commissioned report which, among several of its conclusions, magnified a pressing need for the construction and logistics industries to invest in training and recruiting high school students."*

The Suburban Office Park, an Aging Relic, Seeks a Comeback

New York Times
November 19, 2019

*"'The millennial work force is getting older and finding suburbs more appealing than they did 10 years ago,' said Dustin C. Read, a professor at Virginia Tech and the author of a recent **NAIOP** report on the evolution of suburban office parks."*

APR

Governors, Trustees and Industry Trends Task Force meet at National Forums Symposium 2020

New Governors and Visionaries inducted

Members-only webinar on Industrial Space Demand Forecast

MAY

Office Space Demand Forecast Q2

JUN

Summer Research Foundation E-newsletter

The Latest in Innovative Research continued

Industrial and Office Space Demand Forecasts

These forecasts provide an efficient, accurate outlook on current and future conditions in the U.S. commercial real estate market. The reports help define linkages between economic and specific sector activity and the demand for office and industrial real estate.

The most recent Industrial Space Demand Forecast (Q3 2019) predicted decreased net industrial space demand amid slower growth in the U.S. economy. Absorption is now expected to average 37 million square feet per quarter for the next two years, a significant slowdown from the average 60 million square feet of quarterly net absorption experienced during 2017 and 2018. (See Table 1, left)

naiop.org/industrialdemand

The most recent Office Space Demand Forecast (Q4 2019) predicted the U.S. office market will continue to perform as expected, with an average of 14.7 million square feet absorbed per quarter in 2019, and will remain strong at an average of 13.2 million square feet absorbed per quarter in 2020 and 12.7 million square feet per quarter in 2021. (See Table 1, right)

naiop.org/officedemand

TABLE 1

The NAIOP Industrial Space Demand Forecast with 70% Confidence Intervals

U.S. Markets, Quarterly Net Absorption

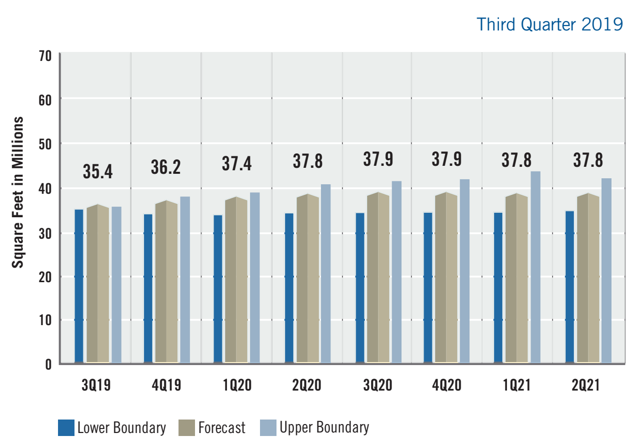
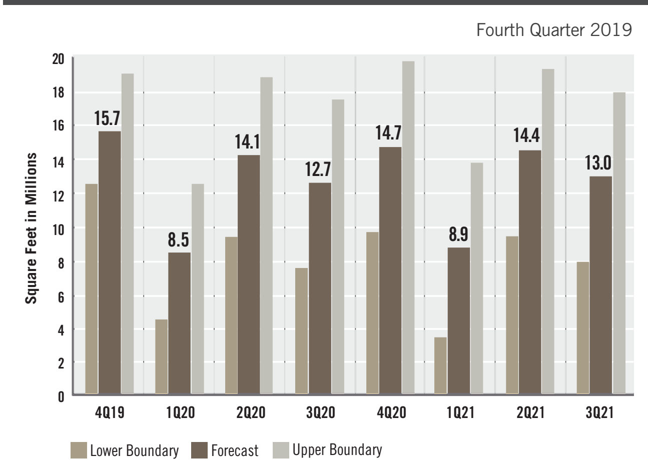


TABLE 1

NAIOP Office Space Demand Forecast with 70% Confidence Intervals

U.S. Markets, Quarterly Net Absorption



JUL

Development Approvals Index

In most jurisdictions, the approval process for commercial real estate development is lengthy, inefficient and can introduce considerable project risk. This project will develop a model development approvals index to rank jurisdictions across several performance metrics and allow them to be quickly compared. The resulting index will allow developers to become more fully informed about the development approvals processes in new markets and can be used by jurisdictions as a benchmark to improve their processes.

The Research Foundation's Distinguished Fellows Program engages the nation's foremost commercial real estate, economic and public policy experts.

Meet Our Distinguished Fellows

The Research Foundation's Distinguished Fellows Program engages the nation's foremost commercial real estate, economic and public policy experts. Distinguished Fellows are active participants in NAIOP and contribute articles to NAIOP's Development magazine, present to the association's leadership via the Board of Directors or National Forums, participate on corporate committees, and provide advice, feedback and information regarding research being conducted in commercial real estate.

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Department of Urban Studies and Planning
University of California, San Diego

Richard Buttimer Jr., Ph.D.
Director, Childress Klein Center for Real Estate
Distinguished Professor of Real Estate and Professor of Finance
Belk College of Business
University of North Carolina at Charlotte

Jim Clayton, Ph.D.
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Brookfield Centre in Real Estate & Infrastructure
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Read more about this elite group at **naiop.org/distinguishedfellows**.

★ *Denotes New Distinguished Fellow*

Ways to Support the NAIOP Research Foundation

There are a number of ways that your financial support can help underwrite the important work of the Research Foundation, including: special occasion giving; donations in memory of a loved one or colleague; planned gifts; and annual donations.

Sustainers Fund

Income raised through the Sustainers Fund helps the Research Foundation continue to fulfill its mission by providing a sustainable and flexible source of unrestricted income to be allocated where it is needed most. Funds raised allow the Foundation to be more responsive to industry-related issues that arise throughout the year.

Honor a Loved One or Colleague

Tribute gifts support the mission of the Research Foundation and allow individuals, groups and organizations to make memorial gifts to remember someone who has passed away, honor a living person or mark a significant life event. Notification of a gift received (with any special message), along with the donor's name, is sent to the person or persons being honored or memorialized. Those being honored or memorialized are recognized in Foundation materials and on its website.

Planned Gifts

Planned gifts are designed to help you meet your financial and charitable goals while supporting the Research Foundation in the long term. By making a planned gift, you can create a lasting impact by expanding the Research Foundation's capacity to address the industry's most pressing issues through its cutting-edge research, education and outreach activities. You can provide significant support through a gift that costs nothing during your lifetime through a charitable bequest in your will.

The *Legacy Society* recognizes those individuals who have made estate plans to benefit the Research Foundation.

Thank you to our founding Legacy Society members, **Ron Rayevich** and **Joan Woodard**, for their commitment to the Foundation's future.

Please contact Bennett Gray at the Research Foundation for more information or to discuss giving options.

Sustainers Fund – 2019 Donors

We are grateful to the donors who made generous contributions to the Sustainers Fund in 2019. With their help, we exceeded our goal for the year.

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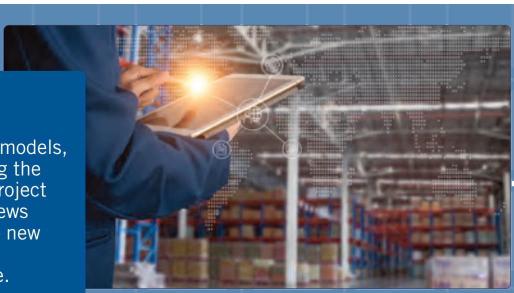
NOV

Tech Reinvents the Warehouse Report

Technology is bringing fundamental change to commercial real estate, enabling new business models, empowering better decision-making, and forcing the industry to adapt and innovate. This research project will explore — through case studies and interviews with industry leaders and technology experts — new products, processes and perspectives that are reinventing warehouse and industrial real estate.



A New Look at Market Tier and Ranking Systems

The practice of dividing U.S. cities and markets into ranked tiers to identify metropolitan regions with the best investment opportunities is popular among commercial real estate professionals. However, there is no uniform approach to creating these tiers, which may contain different labels and categorize individual cities differently from model to model. In addition, different models may be designed for users who have different goals and definitions of the "best" opportunities, creating the potential for even more confusion. This inconsistency raises the question: is there a better way to track, differentiate between or select markets for due diligence and possible investment?

An upcoming report sponsored by the NAIOP Research Foundation, "A New Look at Market Tier and Ranking Systems," seeks to answer this question through interviews with industry and academic experts, and a simplified analysis of metropolitan markets using the most recent data available. Interviewees provided information on the histories, methodologies, uses and risks of their existing tier models, as well as their measurable performance over time (when available).

Existing models tend to divide over whether to emphasize more consistent qualities of markets (such as size, historical growth rates, valuation and diversity of investors active in the market) or more cyclical patterns (such as rapid growth in prices and number of transactions). Differences between industry models and disagreements about which markets belong in which tier appear to result from specialization (for specific product types and investment strategies) and adaptation to new sources of information, not methodological weaknesses or incentives to deliver predetermined results.

While practitioners can be confident in the usefulness of market tiering and ranking as an analytical tool, proper usage still requires an understanding of how each model is constructed and whether it meets a user's specific needs. In addition, there is still room for improvement as industry investments in big data and analytics enhance modeling capabilities.

There may never be one "magic bullet" solution among the specialized ways in which markets are grouped and ranked, but the next step forward may be away from a one-dimensional ranking and toward a two-dimensional comparison of a market's size and depth to its dynamism and cyclicality.

Authors Maria Sicola, Megan Weiner and Charles Warren, Ph.D., state that market tiers, groupings and rankings do not arrive at the same result consistently because each is designed for a specific audience. Identifying which markets are in a "top tier" for specific criteria is different than identifying which markets are in an absolute "top tier."

The authors suggest an alternative to ranking markets that evaluates individual markets across two dimensions to more precisely describe their characteristics. One dimension would measure market size, which has historically been the core variable of the market tier method. The other dimension would represent a continuum of risk versus reward, from markets that have held up through multiple recessions to markets that have the potential for strong growth but also major contractions.

The report will be released in March 2020 and will be available at **naiop.org/markettier**.

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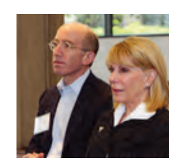

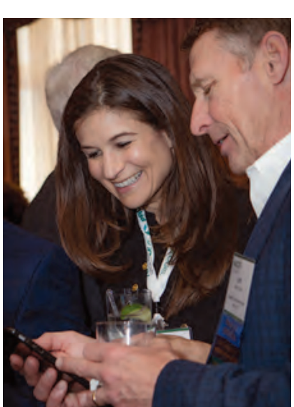

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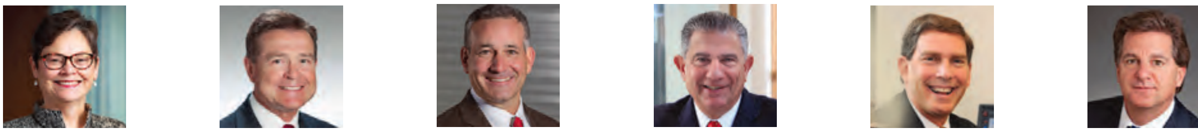

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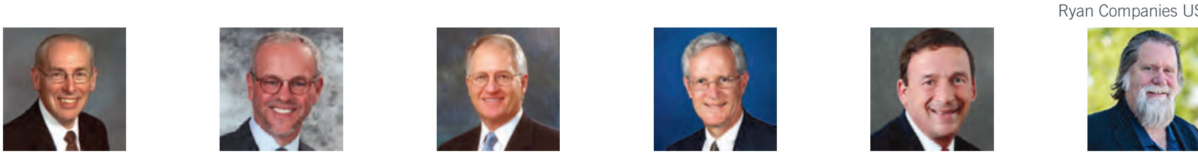

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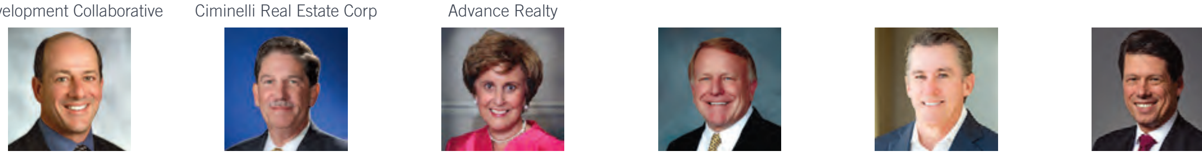

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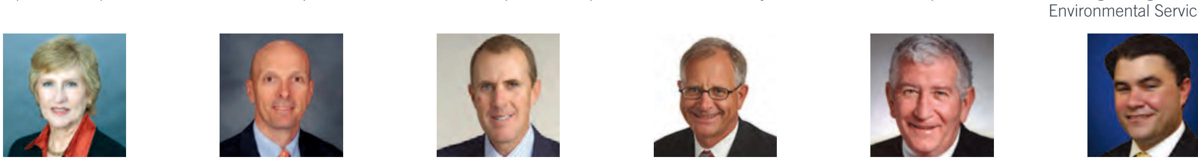

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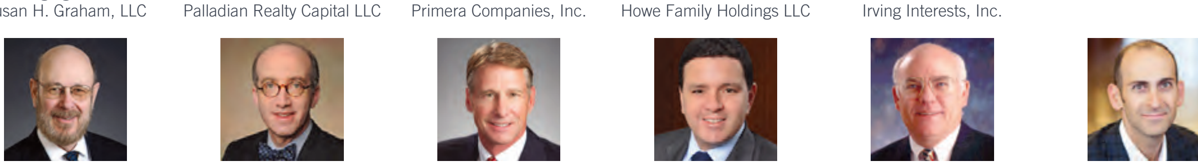

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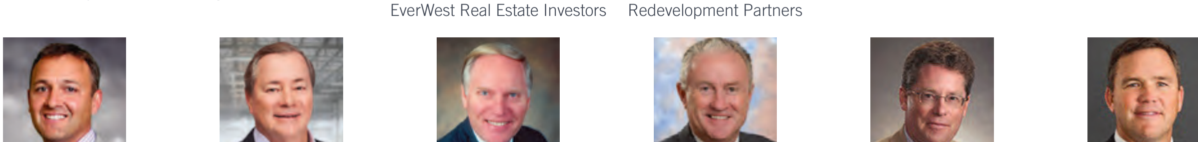

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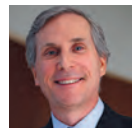
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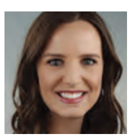
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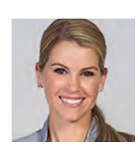
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Autonomous Vehicles Will Drive Change in CRE

A new NAIOP report shows how local governments are preparing for this transportation revolution.

By Shawn Moura, Ph.D.

The widespread adoption of autonomous vehicles (AVs) will have significant implications for commercial real estate, with impacts on land-use regulations and, in turn, the built environment.

A recent report from the NAIOP Research Foundation, "Preparing for Autonomous Vehicles: A Survey of Local Governments," by **David Dale-Johnson**, Ph.D., examines how eight localities in the U.S., Canada and Australia are planning for the arrival of fully automated vehicles and how AVs could affect the commercial real estate industry.

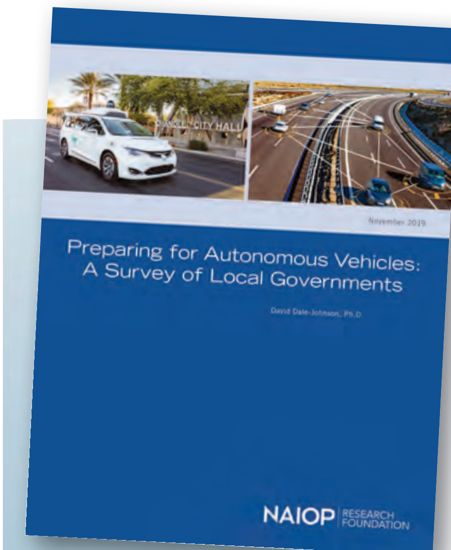
The report finds that much remains uncertain about how soon AVs will be widely available, how they will integrate into existing transportation networks, and the extent to which they will reshape current transportation patterns. Automated vehicles are being tested on city streets, but as of now they require supervision by human drivers. Fully autonomous vehicles that can drive unsupervised to any location in all weather conditions are many years away. Although occupant and pedestrian safety has been a primary motivation for AV development, public concerns about the safety of AVs could slow their adoption. Research into AVs has also supported the development of driver-assistance technologies like automated braking and lane control, which could delay widespread adoption of autonomous vehicles by making human-operated vehicles safer to drive.

The degree to which AVs will affect transportation and urban development patterns will depend on how widely they are adopted and whether they are primarily integrated into shared fleets or owned by individuals. If AVs operated by ride-hailing services or public transit systems displace human-operated vehicles, they could substantially reduce traffic congestion and lead to denser urban development. On the other hand, individually owned AVs could encourage longer commutes and lead to a larger number of vehicles on the road, which would undermine many of their purported benefits for traffic and the environment.

Local Preparations for Automated Vehicles

Dale-Johnson interviewed community leaders working in urban transportation from Edmonton, Canada; Arlington County, Virginia; Grand Rapids and Detroit, Michigan; Boston, Massachusetts; Chandler, Arizona; and the state of Victoria, Australia. These interviews reveal that although these localities are in different stages of planning for AVs, most are preparing for their commercial adoption over the next decade.

AVs fit into broader local mobility strategies to improve transportation safety and efficiency. Municipalities currently hosting AV trials seek to improve their safety through local regulations or coordination with AV developers. Several communities are exploring ways to incentivize vehicle-sharing through curb-management strategies and changes to parking requirements. While these policies will affect how AVs are eventually adopted, they also incentivize the current use of traditional ride-hailing and vehicle-sharing services. Some cities are replacing on-street parking with passenger pickup and drop-off zones. Others offer developers the ability to reduce overall parking requirements in exchange for reserving parking spots for ride-sharing services, autonomous vehicles or shared vehicles.



Get the Report

To view and download "Preparing for Autonomous Vehicles: A Survey of Local Governments," visit www.naiop.org/autonomousvehicles.

How Autonomous Vehicles Could Affect Commercial Real Estate

Although AVs continue to evolve and much remains unclear about how they will be adopted, the report identifies several ways that AVs could affect commercial real estate.

Just as ride-hailing services have reduced demand for parking in recent years, AVs should further reduce the need for onsite and curbside parking. While parking demand is expected to decline gradually over several years, in the near-term, developers will still need to build garages that meet current parking requirements. Developers can extend the useful life of new parking structures by avoiding sloped floors and other design features that would inhibit their future conversion to alternative uses.

AV implementation may also encourage the installation of telecommunications infrastructure on commercial buildings. Although most AV developers now focus on designing cars that can operate on existing infrastructure, sensor and signal equipment installed at traffic intersections and on commercial buildings could improve traffic flow and safety. Networking AVs together — allowing them to operate remotely or travel closely together — would also require the deployment of new telecommunications infrastructure such as 5G networks, including antenna systems atop commercial buildings.

AVs will also affect supply chains and demand for industrial buildings. Several states now allow autonomous truck (AT) testing on intercity highways. ATs can currently operate in autonomous mode on highways, but they require human drivers to maneuver on city streets and in warehouse yards. Since human drivers would make ATs more expensive to operate on city streets than highways, experts predict that AT adoption will increase incentives to locate warehouses near major freeways.

While much remains uncertain about the future of autonomous vehicles, their potential to significantly alter the transportation landscape merits continued attention from the commercial real estate industry. ■

Shawn Moura, Ph.D., is the director of research for NAIOP.

Herb Tousley — In Memoriam


Herb Tousley

NAIOP Distinguished Fellow Herb Tousley III died unexpectedly on January 30 at the age of 67. Tousley served as Faculty Director of Real Estate and Director of the Shenehon Center for Real Estate at the University of St. Thomas. In that role, Tousley directed the university's M.S. in Real Estate and taught undergraduate courses in real estate. While at St. Thomas, Tousley founded the Minnesota Real Estate Hall of Fame and served as the university's faculty advisor for the NAIOP Minnesota University Challenge Real Estate Competition. Enrollment in St. Thomas' undergraduate real estate program more than doubled under his leadership.

Tousley was well-known in the local real estate community, including for his authorship of the Minneapolis/St. Paul Residential Real Estate Index, the Minnesota Commercial Real Estate Survey and the Twin Cities Home Builders Survey. Tousley had extensive experience in commercial real estate and previously served as senior vice president at Coldwell Banker Commercial Griffin Companies in Minneapolis from 2007 to 2009 and as vice president of Omni Investment Properties in St. Paul from 2002 to 2007. ■

Portman-Shaheen Proposal Is a Winner for Commercial Real Estate

NAIOP supports legislation that emphasizes voluntary tools to help property owners reduce energy consumption.

By Alex Ford

Builders, developers and landlords are working to address the nation's energy efficiency, sustainability and emissions challenges. Finding ways to meet those challenges is generating buzz on Capitol Hill as well.

In the past few years, lawmakers created the bipartisan Climate Solutions Caucus, introduced dozens of bills and led hours of debate. Yet as we enter a new decade, there is little consensus among lawmakers about how to move forward.

But a sensible approach to energy efficiency policy already exists. It would not only help protect the environment and reduce harmful emissions; it would also create thousands of jobs and make the U.S. economy more competitive. Elected officials from both sides of the aisle, as well as the business community and environmental advocates, support this approach.

It's the Energy Savings and Industrial Competitiveness (ESIC) Act, and if Congress wants to get serious about moving the needle on energy efficiency, it should work to enact this bill before the end of 2020.

Republican Sen. Rob Portman of Ohio, left, and New Hampshire Democratic Sen. Jeanne Shaheen are the cosponsors of the Energy Savings and Industrial Competitiveness Act.

A Multiyear Effort

Commonly referred to as "Portman-Shaheen," as a nod to its bipartisan cosponsors — Republican Sen. **Rob Portman** of Ohio and New Hampshire Democratic Sen. **Jeanne Shaheen** — the ESIC Act would spur greater use of energy-efficient technology and boost the U.S. economy. NAIOP has backed the bill since it was first introduced in 2011. Efforts to pass it have failed in a deeply divided Congress, though provisions from the original bill have been incorporated into other legislation.

The appeal of Portman-Shaheen is that it uses low-cost, voluntary tools to help property owners reduce their energy consumption. Rather than imposing onerous, counterproductive and difficult-to-achieve mandates, the legislation strengthens model building codes and allows for voluntary implementation.

It would also bring about much-needed reform to the way building codes are created in the first place. Under current law, when the U.S. Department of Energy participates in the codes-development process, it ignores economic impacts, effects on small businesses and a slew of other critical variables. Portman-Shaheen would direct federal agencies to take into account economic realities such as payback periods, return on investment and present-value considerations.

Notably, the latest iteration (Energy Savings and Industrial Competitiveness Act, S. 2137) includes a new provision to improve the data used by the Environmental Protection Agency (EPA) in its Energy Star Portfolio Manager program.

NAIOP members are likely familiar with Portfolio Manager. It's an online tool that allows property owners to measure and track energy consumption in their buildings and benchmark the performance to similar property types across the country. To see how a specific building stacks up, EPA extrapolates data from the Commercial Buildings Energy Consumption Survey

(CBECS) and uses it to establish a baseline of energy usage in properties nationwide.

However, when it comes to larger buildings (particularly those bigger than 500,000 square feet), the CBECS sample size is relatively small. In other words, the survey uses energy consumption data from just a few dozen buildings to make determinations about how tens of thousands of buildings perform. Given the multitude of state and local governments that use Portfolio Manager to administer energy-efficiency mandates, it's vital to ensure the integrity of the baseline data. New language in the current version of the ESIC Act would direct federal agencies to better coordinate and share information to improve the CBECS data.

Making Government Accountable

Portman-Shaheen takes the correct approach: it relies on incentives, rather than mandates, to effect change. However, it would implement a key requirement on the nation's largest energy user, the federal government. It requires the Office of Management and Budget to collaborate with federal agencies to develop energy-consumption strategies that target a range of operations and equipment, from computer monitors to maintenance procedures. Given that the federal government owns and leases some 350 million square feet of space, this seemingly minor change would have considerable implications.

The Portman-Shaheen bill checks every box. According to a 2014 study from the American Council for an Energy-Efficient Economy, it would save billions of dollars by cutting wasteful energy use, create 190,000 new jobs and eliminate several million metric tons of carbon dioxide emissions. It's also supported by more than 250 businesses, non-profits and trade associations, and the Senate Energy and Natural Resources Committee recently approved it in a broad bipartisan vote.

NAIOP supports pragmatic, effective strategies for improving energy efficiency in buildings. And thanks to the tireless work of Senators Portman and Shaheen in crafting the ESIC Act, these goals are within reach. It's time for Congress to finally step forward and pass legislation that advances energy efficiency, creates jobs and strengthens the U.S. economy. ■

Alex Ford is the director of federal affairs for NAIOP.

NAIOP's Chapter Merit Awards Honor Outstanding Programs and Individuals

Recognition goes to exceptional leadership and impressive local efforts in education, special events, membership and legislative advocacy.

By Trey Barrineau

A total of 16 chapters and seven individuals were honored at NAIOP's Chapter Merit Awards Celebration gala, held during the Chapter Leadership and Legislative Retreat in Washington, D.C., in early February.

The Chapter Merit Awards (CMAs) recognize success in education, special events, membership, legislative advocacy and leadership. Recipients are selected by a committee of their peers comprised of volunteer judges.

"Congratulations to all our award winners," said NAIOP President and CEO **Thomas Bisacquino**. "They are truly deserving of this high honor. I encourage everyone to reach out to these folks to learn more about the great programs that have made them the winners they are."

These programs included podcasts, charitable initiatives, competitions for college students and much more.

Chapter of the Year

NAIOP Washington State was named chapter of the year in the Large Chapter category.

In 2019, the chapter formed the Coalition for a More Affordable Washington to ensure that lawmakers hear from the commercial real estate industry regarding significant increases to the state's real estate excise tax. The coalition's efforts have raised more than $310,000 toward that advocacy effort. Additionally, the chapter's diversity and inclusion programming won the 2019 Association Ally award from CREW Seattle.

NAIOP New Mexico received the chapter of the year award in the Medium Chapter category. During 2019, the chapter hosted 10 monthly luncheons on topics related to governmental affairs and commercial real estate that drew an average of 301 attendees for each gathering. It also hosted members-only breakfasts concentrated on industry issues and career development that averaged 94 attendees per event.

Outstanding Leadership by a Chapter President

Lauren Young, president of **NAIOP San Francisco Bay Area**, was honored in the Large Chapter category. During 2019, the chapter reached an all-time high of 751 members and 63 sponsor firms. The San Francisco Bay Area chapter also received the Highest Number of New Members Award for adding 75 new members in 2019.

In the Medium Chapter category, the award went to **Donald Smith, Jr.**, president of NAIOP Pittsburgh. His efforts in 2019 saw membership rise 19% to more than 400, a figure that earned a separate award for the highest chapter growth rate.

Chapter Volunteer of the Year

James M. Mansfield of **NAIOP Colorado** was honored in the Large Chapter category for his work organizing the NAIOP Colorado Winter Classic hockey tournament. Since its inception six years ago, the event has raised more than $150,000 for Children's Hospital Colorado's Pediatric Cancer Research Center.

In the Medium Chapter category, the award went to **Yvonne Baker** of **NAIOP Central Florida**. Under her leadership, NAIOP played a key role in reducing the state's business rent tax from 5.7% to 5.5%. Florida is the only state in the nation with this tax, which is an assessment on the rent businesses pay to use commercial property.

James Reeves of **NAIOP Northwest Florida** received the award in the Small Chapter category. Among his accomplishments, he raised $20,000 in one month to support NAIOP's legislative priorities.

Outstanding Contribution by a Chapter Executive

In the Large Chapter category, **Katrina Bruce** of **NAIOP Southern Nevada** was recognized for many accomplishments. These included guiding the chapter through a complete makeover of four 1,200-square-foot cottages at St. Jude's Ranch for Children in Boulder City, Nevada, which provides a safe transitional home for abused, abandoned and neglected children. The renovations totaled more than $225,000, and chapter members volunteered more than 1,200 hours of labor.

Brandon Mendoza of **NAIOP Pittsburgh** received the award in the Medium Chapter category. Mendoza testified at several public hearings, wrote an op-ed on inclusionary zoning for the Pittsburgh Business Times, developed white papers for the chapter's pressing issues, and oversaw the rollout of a new website, newsletter and social media strategy. Additionally, he appeared on a local television show, "Our Region's Business," to discuss NAIOP Pittsburgh's awards banquet and other topics.

Education

NAIOP Massachusetts was honored in

NAIOP New Mexico was named chapter of the year in the Medium Chapter category during the Chapter Merit Awards Celebration gala, part of NAIOP's Chapter Leadership & Legislative Retreat in Washington, D.C., in early February.

the Large Chapter category for its Big Dig podcast. The chapter partnered with BLDUP, a local online publication and commercial real estate search engine, to create the podcast series. Each episode focuses on a relevant, timely topic and features guests who are important figures in the industry.

NAIOP Vancouver was the winner in the Medium Chapter category for its 2019 Education Day, which featured case-study-based learning sessions led by local experts.

NAIOP Northern Nevada's Developing Leaders Institute was the winner in the Small Chapter category. With classes made up of a maximum of 12 students, the program is designed to foster greater interaction and more hands-on learning.

Legislative Affairs

In the Large Chapter category, **NAIOP Georgia** won for its efforts to secure passage of the Private Permitting Review and Inspection Act, which went into effect on July 1, 2019. It reduces inconsistencies and delays in the permitting process in Georgia, which helps developers and other stakeholders. (***See related story, page 32.***)

NAIOP Raleigh-Durham was the winner in the Medium Chapter category. In 2019, it hosted a breakfast with members of the North Carolina General Assembly as a way to introduce the chapter's legislative priorities. The chapter also hosted the NAIOP Raleigh Mayoral Candidate Forum, which attracted more than 150 attendees and was covered by three newspapers, a magazine and a news station.

NAIOP Cincinnati/Northern Kentucky won in the Small Chapter category. In 2019, it worked closely with the Cincinnati Chamber of Commerce to advocate for the community benefits of economic development with a specific focus on tax abatements.

In another award, **NAIOP Massachusetts** won the Capitol Dome award for overall excellence in legislative affairs.

Membership

NAIOP Arizona was honored for its efforts in the Large Chapter category. In 2019, the chapter saw membership increase by nearly 8% with a retention rate of over 90%. Renewal efforts focus on incentives, including drawings for prizes, and personal outreach to members who had not yet renewed.

NAIOP Raleigh Durham was recognized in the Medium Chapter category. It had the highest membership retention rate of all the medium-sized NAIOP chapters in 2019. This was accomplished by educating members on pricing and benefits, recruitment socials and targeted follow-ups with prospective members after events.

The **Dayton chapter** received the award in the Small Chapter category. Since 2016, membership has grown 39% to 65 members, and it had the highest retention rate among NAIOP's small-market chapters in 2019.

Special Events

NAIOP Colorado won in the Large Chapter category for the Rocky Mountain Real Estate Challenge, a competition in which graduate students from the University of Colorado and the University of Denver work with leaders in the Colorado real estate community to provide solutions for a commercial site. The Challenge culminated in May 2019 when the finalists presented their recommendations to an audience of more than 750 real estate professionals at the Hyatt Regency Denver Convention Center.

NAIOP Central Florida was recognized in the Medium Chapter category for its Developers Showcase, which provides a trade-show-like platform for Central Florida developers to share new, planned and existing projects with NAIOP's network of brokers, developers, owners, investors and associated professionals. A casino element was incorporated to encourage the brokers to visit each booth. The event attracted 22 developer booths and more than 250 guests.

In the Small Chapter category, **NAIOP Cincinnati/Northern Kentucky**'s case study competition for real estate and architecture students at the University of Cincinnati was the winner. The competition was developed to expand the chapter's relationship with the university and build a pipeline of talent into the local industry. Eight NAIOP mentors led 34 students in teams to create a mixed-use development. The winning team received $2,500. ■

Trey Barrineau is the managing editor of Development magazine.

A Young Professionals Group Makes Its Mark

NAIOP Southern California reflects on the 15-year anniversary of a successful professional development and leadership program.

By Pamela Westhoff

During a meeting approximately 15 years ago about recruiting new members to NAIOP Southern California, **James Camp**, **Tom Sherlock**, **Al Beaudette** and **Sayres Dudley** of the chapter's membership committee looked around the room and realized they faced a bigger problem — a lack of diversity and youth.

"We were sitting around a table of 40-year-old white guys and there were no young people in the room," one of them noted at the time.

Sherlock was a guest lecturer at two local universities. He noticed that the real estate students he saw in the classroom came from more diverse backgrounds than the area's practicing industry professionals. He also knew the difficulty of moving to California and having to build a new peer network.

To answer those concerns, these Southern California real estate leaders created a young professionals group within the NAIOP chapter. They wanted to attract more members and create an educational program with an active networking component. While they accomplished those initial objectives, the program's evolution has had a positive impact on the chapter and helped change the composition of the Southern California real estate industry at large.

Today, the NAIOP SoCal Young Professionals Group, known as YPG, has more than 500 commercial real estate alumni. It is a diverse group from all sectors of the industry. To underscore its influence, the current NAIOP SoCal Board of Directors includes 14 members who have gone through the YPG program, including three from the inaugural 2005-2006 class.

In its first year, the YPG Leadership Summit featured a panel presentation on "Taking the Leap – Stories from YPG Entrepreneurs," with (from left) Kevin Hayes, Pendulum Partners; Bridget Herdman, Herdman Architecture + Design; Joon Choi, Harbor Associates; and moderator Malcolm Johnson, JP Morgan.

In-Depth Training and More

At its core, YPG is a professional development and leadership program. Each year, 35 real estate professionals are selected by a group of four to five representatives from the current YPG Recruitment & Selection committee, along with two to three senior-level real estate executives from the chapter board or YPG founders. This wide-ranging 12-month, 70-hour program covers critical components of the real estate industry such as land planning, construction, capital markets, architecture, engineering and more. MBA-level instructors also offer coaching in personal and professional development that focuses on the candidates' strengths. Additionally, YPG provides extensive relationship-building activities, and leading industry executives guide small seminars.

The founders developed the program from the ground up. Dudley reached out to a real estate council in Dallas that operated a young professionals program to create an initial template. Sherlock and the group wrote a detailed white paper about their plan. Camp convinced the NAIOP SoCal Board of Directors to fund the program. Beaudette presented the opportunity to NAIOP Corporate to garner matching funds to kick off the program's first year.

Beaudette also knew that a strong leader was needed to anchor the educational program. **Wayne Strom**, a professor of behavioral science at Pepperdine University who is also an executive coach and organizational-change specialist, led the program with an emphasis on leadership, self-awareness and communication.

Additionally, the team determined that YPG needed a formal application process that emphasizes diversity. Initial interest was strong, with 45 applicants for what became a 35-member class that included seven women.

To understand its evolution, consider that YPG's application process in 2019 encompassed almost 100 real estate professionals. More women apply every year, and they now typically represent 30% of each incoming class.

A Class of Leaders

Emily Mandrup is a vice president, industrial development with LBA Logistics. She had just four years of experience at a real estate investment firm when she was selected for the first YPG class. Mandrup was looking to transition to land development and construction, and her boss and mentor at the time suggested she apply to the program. She was on the YPG alumni board for almost 10 years, shifted to legislative affairs and is now serving on the chapter's board of directors. Of the first class, nine members are presidents/founders of their own firms or C-suite executives at major Southern California-based organizations.

Birtcher Development Managing Director **Brooke Birtcher Gustafson**, a 2008-2009 YPG graduate and 2019 YPG chair who now serves on the chapter's board of directors, noted how the program helped establish a solid foundation for her career. She says Strom became a mentor early on because of his lessons in how to be present and that it's "not always necessary to react" in a professional setting. Gustafson has also maintained strong personal and professional relationships with class peers, many of whom are now industry leaders and entrepreneurs.

Mike Chukwueke today is vice president, acquisitions and development with Duke Realty as well as the 2020 YPG alumni chair. He was an analyst when he was chosen for the 2012-2013 class and is one of the few black members of the YPG program. He says that he and Gustafson are a microcosm of the changing demographics within commercial real estate. Increasing the diversity of the chapter brings varied perspectives and insights, which enables everyone to better respond to the changes the industry is facing.

Aaron Hill, president of Bixby Land Company, was a member of the inaugural class. He notes that today's YPG is much more structured and effective. The lessons learned over the years have improved the program and made it even more diverse, not only from the standpoint of individuals but also through different industry disciplines.

Events Promote Leadership

YPG alumni have launched several unique annual industry events. These include a Leadership Summit, Y-Games athletic competition and Big for a Day.

At Big for a Day, YPG members spend the afternoon with youth from Big Brothers Big Sisters, a non-profit focused on one-on-one mentoring relationships. It reflects how YPG has impacted the culture of NAIOP SoCal, increasing its emphasis on charity and giving back.

Chukwueke points out that these events allow alumni to take on leadership roles and work on their leadership skills, which is critical for young professionals early in their careers. Chukwueke worked with fellow YPG alum **Brad Schmitt**, who created the Leadership Summit, to produce an event focused on leadership and personal and professional development that is specifically tailored to the young real estate demographic. The event, an annual homecoming for YPG graduates, also highlights individuals who have gone through the YPG program and showcases future CRE leaders.

While the success of YPG is evident, there have been valuable lessons learned along the way that other chapters could apply if they wanted to launch a similar program.

The YPG program is designed to be 60% personal/professional development and 40% industry education. Because of this structure, it is critical that the right instructors are found to help students identify their personal strengths and weaknesses and teach them leadership and business-development skills.

The industry speakers are high-level decision-makers in the industry from a variety of disciplines who share their experiences, in essence serving as role models and mentors.

The class composition is critical, with the goal to have both diversity and a balance of different job disciplines represented.

Class size and age range matter. Limiting the total to 35 students allows for interactive networking and learning from each other in order to develop a peer group that can "grow up" in business together. This provides access to critical resources across a range of real estate specializations.

Looking ahead, there is no doubt the impact of YPG will continue to grow. Many of the graduates from each new class remain active in the chapter and YPG to lend their own personal stories, inspire the next generation and serve as mentors. That is why this program and its graduates will continue to make a difference in the future success of the chapter and strength of the Southern California commercial real estate industry. ■

Pamela Westhoff is the president of NAIOP SoCal and a partner at Sheppard Mullin Richter & Hampton.

NAIOP represents commercial real estate developers, owners and investors of office, industrial, retail and mixed-use properties. It provides strong advocacy, education and business opportunities, and connects its members through a powerful North American network. **For more information, visit naiop.org.**

Programs and Services

NAIOP Membership
For membership, information or changes to your membership record, contact membership@naiop.org.

Chapter Network
NAIOP chapters provide local and regional education, networking and legislative affairs.

naiop.org
NAIOP's central resource for industry and association news, programs, advocacy efforts and connections.

National Forums
Special-interest groups that comprise senior-level NAIOP members in a non-competitive environment for exclusive networking and experience exchange.

Center for Education
The principal learning resource for the commercial real estate development professional. Offerings include online, on-demand and live courses, plus two certificate programs.

Development Magazine
Current and past issues are available online and are mobile-responsive for those who want to read Development magazine on-the-go.

NAIOP Research Foundation
Research projects and initiatives to improve the understanding of the built environment and the challenges that lie ahead for individuals and organizations engaged in real estate development, investment and operations.

Career Center
Online resource designed to help employers and job seekers find new commercial real estate job opportunities.

Business Development Industry Partners
Enhance your company's presence as an industry partner by sponsoring, exhibiting or advertising.

Government Affairs
Strong, effective support and guidance to create, protect and enhance development and property values. NAIOP's government affairs team is active on Capitol Hill, in state legislatures and in Canadian provinces.

Market Share Blog
Insights on trends, CRE-related topics and professional development tips. Subscribe to weekly posts, interviews and news at blog.naiop.org.

Mobile Apps
Take NAIOP wherever you go. Access the membership directory, find news, chapters and events, and connect on social media. ■

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Getting to Know the Chairman

NAIOP has created an environment where I can meet the best and the brightest in the industry — people who are making deals and shaping commercial real estate in big ways. This has been a main driver of my membership during the past 33 years. I'm excited to lead the organization in 2020, which I expect will be another strong year for our industry. To help others get to know me, Development magazine asked me to share some thoughts on our industry and association.

Larry Lance

What are your goals as chairman?
We're all stronger when we all operate together. As chairman, I plan to provide strategic leadership to our chapter and volunteer leaders, encouraging them to use the systems and tremendous resources we have in place. The knowledge shared through NAIOP's conferences, magazine and research can help our members stay informed and ahead of the curve. I'd also like to focus on deepening engagement between CEOs and Developing Leaders (DLs) through mentoring and encouraging DLs to share their views, ideas and challenges. Finally, it's important for our association to be cohesive and strong across North America, and I look forward to working with our Canadian chapters and launching a new chapter in Ottawa this year.

How has your National Forums membership shaped your career?
I joined the National Forums 23 years ago, and consider it one of the most important benefits of my NAIOP experience. Although we only meet in person a couple of times annually, we collaborate on issues, ideas and challenges throughout the year. We've established a high level of trust in our group, which serves almost as an external advisory board for each member, both personally and professionally. The relationships I've built have been important to our business throughout the years, and I always look forward to our time together where we share best practices, ideas and friendships.

During your years in commercial real estate, you've seen the industry soar sky-high and then bottom out, only to climb again. Where do you view us in that cycle?
The U.S. is now 11 years into an economic expansion, the longest on record. It has also been one of the slowest-growing and more measured expansions I have experienced. The 2007-2009 recession severely impacted industries and companies, but it also created stronger fiscal awareness, controls and balance sheets, and it moderated riskier business practices.

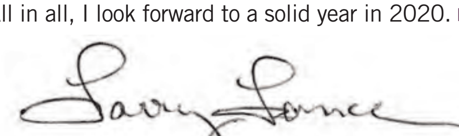
These characteristics have helped keep the current expansion at a more balanced pace. Although not its longest expansion on record, Canada has had an equally long growth run since 2009.

Inventory growth in many real estate asset classes during the 2010-2020 period has been slower and more disciplined than in the previous cycle. Leasing markets today are generally in equilibrium, and indicators suggest further economic expansion and therefore space demand across most asset classes. Consumer spending remains strong, supported by the long expansion, stock market gains and lower interest rates. Additionally, downward pressure on prices for many consumer goods has supported retail sales and expansion for industrial logistics space. Long-term interest rates have declined; however, rates are expected to remain low over the short to midterm, which supports further economic growth as well as stable asset valuations or even downward pressure on cap rates.

This said, there are some signs that this cycle is reaching a peak. Uncertainty has been growing in the business and financial communities owing to the length of this cycle, geopolitical concerns and other indicators.

Slower GDP and employment growth are likely ahead and may continue for some time, or evolve into a mild recession. Economists have mixed views on this. However, it does appear that any recession in the next 24 months would likely be short and shallow — and impacts on the commercial and industrial real estate industries should be limited. North American property markets are healthy. Occupancy levels are above long-term averages with demand expected to remain solid even if net absorption slows in the coming quarters. Rent growth should continue in most markets.

All in all, I look forward to a solid year in 2020. ■



Larry Lance, Executive Vice President, Everwest Real Estate Partners
2020 NAIOP Chairman

See Larry Lance talk about NAIOP and his vision as chairman.
www.naiop.org/larrylance

All About Larry

Education:
Associates degree in Applied Science, Lorain County (Ohio) Community College

Last book read:
"Halftime: Moving from Success to Significance" by **Bob Buford**

Favorite out-of-the-office activity:
Skiing, biking or hiking — anything outdoors

Industry mentors:
Daniel Galbreath, former chairman of The Galbreath Company, and **Gary Rickel**, vice president with CBRE

Best words of wisdom you ever received?
"Tell the truth and do what you said you would do." ■