Commercial Real Estate Development SUMMER 2022

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Office-to-Industrial Conversions

How Do They Stack Up? *56*

NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION

Middlesex Logistics Center
Middlesex, NJ

Contents

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Contents

Development® Summer 2022

Research from Newmark shows that there have been about 45 office-to-industrial conversions in the U.S. since 2018, and more could be in the pipeline to satisfy surging demand for industrial space.

COLUMNS

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A Job Well Done

This summer, NAIOP members and staff will say farewell to longtime president and CEO **Thomas J. Bisacquino**. After leading the organization for more than 30 years, he will begin a well-deserved retirement. (See story, page 78.)

Jennifer LeFurgy

His extraordinary leadership has successfully steered NAIOP through not only the ups and downs of the commercial real estate market, but also natural disasters, 9/11 and a global pandemic. Over the past three decades, he grew NAIOP from a small trade association to one of the largest and most influential real estate organizations in North America.

For this issue, we asked many longtime friends of NAIOP to reflect on Tom's contributions. As you will see, he is a man of impact. Thank you and we wish you all the best, Tom!

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

Most Popular From Spring 2022

1. **"A 1980s-Era Office Park is Reborn as Multifamily Housing"** (naiop.org/22housing), page 46
2. **"Going Big: Large-Format Multilevel Industrial Buildings"** (naiop.org/22goingbig), page 60
3. **"How Industrial Projects Can Spur Economic Growth"** (naiop.org/22projects), page 54
4. **"The New Office is Outdoors"** (naiop.org/22outdoors), page 25
5. **"Construction Sites Build a Circular Economy"** (naiop.org/22construction), page 40 ■

"Nearly all members know Tom as the face and the booming voice of the organization. Nobody commands a room like Tom. With that cannon of a voice, he can actually get a crowd of 1,000 Type A networkers to quiet down and listen! More than deep tones and heavy handshakes, though, he speaks passionately for — and builds relationships for and with — NAIOP's members. The industry stands in awe and appreciation for all that Tom has accomplished. We cheer him on as he embarks on the ship of his retirement. Happy cruising, Tom!**"** — ***Jim Neyer****, 2018 NAIOP chair; former executive vice president, Al. Neyer, Cincinnati*

"Tom's strong leadership skills rallied the organization through an extraordinarily difficult period in the 1990s. Thanks, Tom, for being there when we needed you to most." — ***Ron Rayevich****, 1997 NAIOP chair; president, RayMar Associates, Inc., Sarasota, Florida*

"Tom was an excellent leader and supported his team at every turn." — ***Joan Woodard****, 1994 NAIOP chair; former president and CEO, Simons & Woodard, Santa Rosa, California*

"Tom has been an extraordinary CEO at NAIOP. It was always a pleasure to be with Tom during my trips to local chapters. He was extremely knowledgeable about the challenges and opportunities facing each region and was always well received due to his great sense of humor and constant positive attitude." — ***Bill Hunt****, 2012 NAIOP chair; president and CEO, The Elmhurst Group, Pittsburgh, Pennsylvania*

"Tom's leadership in how we defined ourselves has been so important. The fundamental thing that Tom brought forth was 'what was best for the membership? How can we help our members?' " — ***Douglas Howe****, 2009 NAIOP chair; founder and CEO, Touchstone, Seattle*

"In addition to being the consummate, well-organized professional and a good friend, the word that comes to mind when I think of Tom's time at the wheel for NAIOP is equanimity." — ***Phil Stevenson****, 1999 NAIOP chair; partner, Clear Creek Group, Jackson Hole, Wyoming*

"What stuck out most to me was Tom's humbleness for the membership, board and executive committee. He never lost sight of the fact that NAIOP belongs to the members. He was a great steward of our organization." — ***Steve Martin****, 2015 NAIOP chair; owner, SDM Partners, Atlanta*

"Tom's persona is larger than life, and I will miss that. But I'm happy knowing he's sailing around enjoying his next adventure. The team he has built reflects his leadership style and ability and will serve NAIOP well into the future." — ***Kathie Barstnar****, executive director, NAIOP Colorado*

"It has been a pleasure working with Tom, and one of his most notable traits has been his steady hand throughout the inevitable boom-and-bust periods of our industry. Additionally, one of the best measures of a great leader is the legacy he leaves through his team and mentorship of others. Most importantly,

Future NAIOP Events

- **CRE.Converge 2022**, October 9-12, Chicago

For the most current information on upcoming NAIOP events, both virtual and in-person, visit naiop.org/Events-and-Sponsorship ■

NAIOP President and CEO Thomas J. Bisacquino addresses the crowd during the February 2019 Chapter Leadership & Legislative Retreat in Washington, D.C.

Tom is a genuinely good guy, and he has represented our industry so well through the years. I will miss seeing Tom at our annual NAIOP gatherings, and I wish him all the best in this next chapter!" — ***Larry Pobuda****, 2010 NAIOP chair; executive vice president and general manager, Opus Development, Phoenix*

"Tom has been so flexible and so oriented to doing everything he could to make NAIOP the best it could be. It made it a pleasure to work with him." — ***Paul Novak****, 1995 NAIOP chair; executive director for lodging, Whitman Peterson, Key Biscayne, Florida*

"He's a fun guy to work with. He had a lot of confidence and gave me a lot of freedom to do my job and didn't second-guess me. He was a great person to report to in that he backed me up. He'd come into the office every day full of enthusiasm and energy. And, he has a great sense of humor." — ***Shirley Maloney****, former senior vice president, NAIOP*

"I have worked with Tom since 1990. During his tenure, NAIOP has grown from an organization focused on industrial and office parks to the premier commercial real estate association focused on all types of building development and ownership." — ***Martha Marks****, president, NAIOP Northern Virginia*

"I was privileged over the years to work with Tom on a NAIOP-created program called Project Analysis, where a group of five top NAIOP-affiliated developers and architects would go out into the field and analyze a project or a piece of ground for another NAIOP developer. Tom always went along on these trips and masterfully focused the group on the task at hand." — ***Ron Derven****, contributing editor, Development magazine* ■

A Triple-Whammy Threatens Project Viability

Contractors cope with rising materials, labor and interest costs.

By Ken Simonson, AGC

Developers have had an appetite for nearly all types of construction projects in the past year. But they may soon get indigestion as their contractors and lenders pass along the cost increases they are experiencing for materials, labor and money.

Census Bureau data covering spending on projects underway in the first two months of 2022 show a positive comparison to the year-to-date totals for January and February 2021 for most developer categories. The seemingly insatiable demand for warehouses grew an additional 23%. Not far behind, there were 19% increases in spending on both medical buildings (clinics, offices and labs) and retail structures (automotive sales, service and parking; food and beverage; shopping centers, malls and other types of stores). Spending rose at a more modest 6% rate for multifamily construction and 4% for offices (including data centers, which the bureau does not break out separately).

Two smaller segments bucked the overall favorable trend. Spending on lodging structures tumbled 26% from the first two months of 2021, while spending on "special care facilities" such as assisted-living and skilled-nursing facilities slumped 15%.

These numbers overstate the seemingly good news, however, for two reasons. First, the agency doesn't adjust the dollars for inflation. Second, the totals include renovations as well as new construction. For instance, the retail totals include spending on replacing one tenant with another or converting a vacant big-box store to a distribution center.

The overstatement that results from construction cost increases is hard to quantify because the spending series include projects being built under fixed-price contracts that may have been signed years ago as well as new starts. In the current cost environment, that can make a large difference.

For instance, in the 12 months from September 2019 to September 2020, the producer price index (PPI) for inputs to new nonresidential construction increased 1.8%, according to the Bureau of Labor Statistics (BLS). The bureau estimated that the price that contractors said they would charge to erect new nonresidential buildings also climbed 1.8% during that period.

The "bid price" index continued to rise at an annual 3% rate or less through June 2021, even as the PPI for inputs (materials and services such as design and trucking services) accelerated to a 25% year-over-year rate. At that point, bid prices also began escalating steeply. By March, the bid-price index was climbing 17% year over year, while the growth rate for the inputs PPI had moderated slightly to a 21.5% year-over-year change.

But materials costs accelerated again following the invasion of Ukraine and the sanctions imposed on Russia. Structural-steel producers implemented several large, immediate price increases. A leading supplier of roofing and insulation materials announced increases ranging from 6% to 75%. Many companies instituted or added fuel surcharges as the retail price of diesel fuel shot up 33% in five weeks to an all-time high of $5.25 per gallon on March 14.

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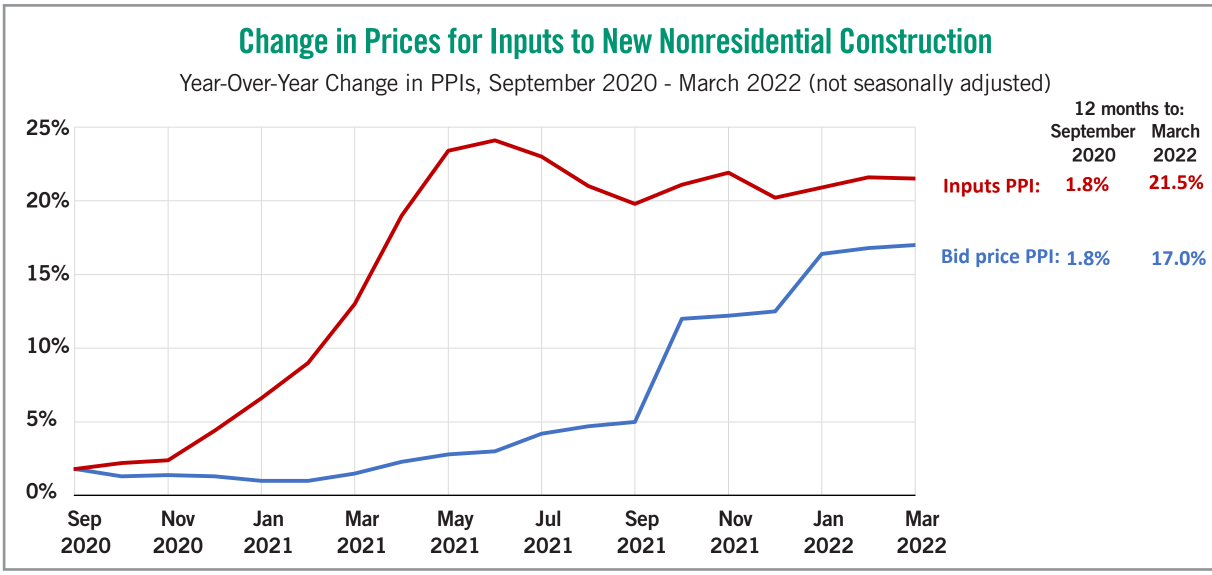
Construction labor costs have also accelerated recently. BLS reported on April 1 that average hourly earnings for "production and nonsupervisory employees" in construction — primarily hourly craft workers — climbed 6.2% from March 2021 to March 2022. That was the steepest increase since 1982 and more than double the 2.5% rise a year earlier.

While there is no fixed relationship between contractors' materials or labor expenses, at some point construction firms will pass these along in their bids or withdraw from market segments where they can't cover those costs.



Source: Bureau of Labor Statistics

At the same time that developers are encountering higher construction expenses, they are also experiencing a sudden rise in interest rates, after years of virtually ignoring those costs. The Federal Reserve has signaled that it may raise its short-term rate target repeatedly for the rest of 2022 to help bring inflation down, while long-term rates have already risen rapidly and appear poised to go still higher.

None of these changes means the demand for property — or tenants' ability to absorb rent hikes — is about to crumble. But together, the increases pose a much higher degree of risk than developers have faced in years. ■

Ken Simonson is the chief economist with the Associated General Contractors of America. He can be reached at ken.simonson@agc.org.

Vacant Storefronts Can be Repurposed into Retail Incubators

They can provide an immediate boost in shopping districts and grow future businesses into long-term tenants.

By Ilana Preuss, Recast City

The COVID-19 pandemic has left America's retail districts pockmarked with empty storefronts, but there is a creative solution. These vacant spaces, which often can be purchased or rented at reduced prices, are prime targets for conversion into retail incubators.

Retail incubators, like business incubators, nurture new or small-scale entrepreneurs during the startup phase. They mitigate some of the challenges of opening a business by providing financial and technical assistance, such as the basics of marketing and business plans. Tenants typically share space, ideas and operating expenses in locations that they could not otherwise afford. Many spaces have flexible or temporary lease terms. Some allow for small-scale manufacturing and hold community events, such as product demonstrations, fashion shows and art openings.

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According to the U.S. Chamber of Commerce, new business applications in the United States set an all-time record of 5.1 million in 2021. At the same time, the pandemic has led to consolidation of space and locations by major retail brands, which reduced the prospect of attracting businesses. The challenge for small businesses is they can't immediately fill the footprints of major store closings. However, they can make temporary use of retail space to establish their businesses, and occupying formerly abandoned stores can help energize struggling downtowns.

Many entities can create retail incubators. They include the property owners, local government agencies — such as community development corporations — that could acquire or lease the space, and community foundations and other philanthropies that could underwrite the process by engaging nonprofit community organizations. For example, a property owner could set aside a portion of the ground floor for a retail incubator. The space could be made flexible — in size and cost — to suit the needs of emerging businesses.

Retail Incubators in Action

In downtown Washington, D.C., local property owners and a business improvement district recently partnered to form a retail incubator. Spurred by numerous ground-floor retail vacancies, the partnership came together to offer popup space to local entrepreneurs with a priority given to business owners of color. One successful tenant deal helped launch The DC PopUp, a collective of makers who are women of color, to create a shared downtown retail space where they can sell their products. The popup started as a holiday event but proved so successful that the collective extended its tenancy year-round.

In addition to real estate, retail incubators provide fledgling businesses with valuable resources such as technical and financial assistance.

In Atlanta, The Village Market launched in 2016 as a popup event to create more sales opportunities for Black-owned product businesses. The event grew into a permanent shared

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retail space in the Ponce City Center. It focuses on training and systems to help vendors grow from six-foot vendor tables to bricks-and-mortar locations, bringing more than $4.5 million in sales to these business owners in the first year.

In some markets, small-scale manufacturers won't be able to pay prime retail rents; in others, access to micro-retail space might enable an above-market rate. Property owners could consider percent-revenue leases, shared storefronts (like a food hall but for producers), or low- to no-cost seasonal popup spaces. Over time, growing businesses could scale to larger spaces.

The benefits to the community can be profound. Small-scale manufacturers, for instance, can energize business communities by creating a draw, which can bring foot traffic to nearby retail outlets. They diversify local employment and business ownership, as owners come from the full spectrum of the community — crossing racial, ethnic, income and other divides. Their unique products draw on the heritage and skills of a wide variety of

New & Noteworthy

638,000 sq. ft.

Trammell Crow Company and **Principal Real Estate Investors** recently completed **Indeed Tower** in **Austin, Texas**. The 683,000-square-foot **Class AA office tower** features ground floor retail, a historic 1914 post office repositioned into a 25,000-square-foot retail/restaurant destination and a 20,000-square-foot urban greenspace. At 36 stories, the building is the tallest and largest office tower in downtown Austin.

512,710 sq. ft.

ViaWest Group and its building partners **Willmeng Construction, Butler Design Group** and **Kimley-Horn** recently broke ground on the 512,710-square-foot **Converge Logistics Center** in **Phoenix, Arizona**. This **Class A infill industrial development** will feature three structures. All three have clear heights of 32 feet, multiple drive-in bay doors and dock-high doors, and robust trailer parking, as well as ample employee parking.

431,630 sq. ft.

Duke Realty Corporation has developed a **distribution facility** for **Yokohama Tire Corporation** at **Intermodal III Industrial Park** in **Wilmer, Texas**, about 15 miles southeast of Dallas. The LEED-Certified facility sits on a 22-acre site adjacent to the Union Pacific Railroad Dallas Intermodal Terminal with access to I-45, I-20/635, I-35 and I-30. The facility includes 7,000 square feet of office and breakroom space, 85 dock doors, parking for up to 281 cars and trailer storage capacity of up to 114 spaces.

individuals and communities. In addition, these businesses create jobs for people with a broad range of skills and generate community wealth through business ownership.

The shared facilities attract residents and visitors alike, and downtowns are differentiated and distinguished by a collection of businesses that are unique and marketable.

COVID-19 has devastated small retail businesses and local business districts, but the dynamics it has set in motion can provide hope. Retail incubators and other flexible concepts of shared retail space have the potential to help business districts flourish. ■

Ilana Preuss is founder and CEO of Recast City and author of "Recast Your City: How to Save Your Downtown with Small-Scale Manufacturing" (Island Press, 2021).

What Does a Business Incubator Do?

According to Entrepreneur magazine, business incubation programs aim to assist in the formation and growth of new firms by providing them with resources including financial and technical assistance. Private enterprises, municipalities and public organizations such as universities frequently sponsor these efforts. The National Business Incubation Association says the goals of business incubators are:

- Create jobs in a community
- Enhance a community's entrepreneurial climate
- Retain businesses in a community
- Build or accelerate growth in a local industry
- Diversify local economies

Incubators assist fledgling entrepreneurs in several ways. For example, they supply office and manufacturing spaces at below-market prices, and their team provides assistance and much-needed experience in building business and marketing plans, as well as assisting in the funding of start-ups. Firms normally spend two years at a business incubator, during which time they frequently share telephone, secretarial, office and production equipment expenditures with other newborn companies. ■

Mitigating Environmental Risks in Life Science Leases

A lot of hazardous material passes through these facilities, so caution is necessary.

By Michael Pollack, Barton LLP

Life science industries span a range of uses — clinical research and trials; biologics; medical devices; pharmaceuticals; vaccines research, development, manufacturing and distribution; plant and animal technology; and veterinary products, to name just a few. Leases for life science facilities can present unique challenges and considerations for building owners. Besides the special demands life science uses place on electrical capacity, HVAC, floor loads and waste removal, the activities within these facilities can pose many other risks.

Inherent in many life science facilities is the utilization, storage and/or distribution of materials considered hazardous or toxic under applicable environmental laws. Of course, most common leases will contain standard indemnification clauses allocating responsibility to the tenant for losses resulting from its activities.

When it comes to environmental issues, though, there are heightened concerns for owners of life science properties. These include the environmental indemnity the principal owners provide to their lender (which typically comes from a well-funded source other than the property owner) and the strict liability imposed under federal law on anyone in the chain of title for clean-up and other costs, whether or not they caused the contamination.

New & Noteworthy

240,000 sq. ft.

Meritex recently completed **Meritex Lenexa Executive Park Buildings 1 and 2**, two 120,000-square-foot **industrial buildings** in **Lenexa, Kansas**. The new buildings each feature clear heights of 28 feet and eco-friendly, insulated wall panels. The site is located minutes away from I-35, K-10 and I-435 highways. **Merit General Contractors Inc.** served as the contractor and **Colliers** will be the listing broker.

176,000 sq. ft.

Carroll Industrial Development, a division of **The Carroll Companies**, is developing the **Rockingham Business Park**, a 176,000-square-foot **spec industrial building** in **Stokesdale, North Carolina**. The space is designed for light industrial, assembly, warehouse or distribution companies. It will offer 34-foot heights and 44 dock doors in a location adjacent to Interstate 73 and about 13 miles from Piedmont Triad International Airport.

111,000 sq. ft.

Goldenrod Companies is developing **The Van Zandt** in **Fort Worth**'s popular West 7th District. It is the first **speculative office development** in Fort Worth since 2017. The project will include approximately 99,400 square feet of Class AA office space, 147 multifamily units, and 11,600 square feet of street-facing retail and dining space. Goldenrod has selected **Stream Realty Partners** to provide office leasing services for The Van Zandt.

This is exacerbated by the fact that the owner would normally only have recourse from the tenant for a breach of the lease's environmental restrictions. (While the lease may include a security deposit, it is unlikely that it will be sufficient to address the costs that may be incurred.) When the tenant is an established pharmaceutical company or medical device maker, the owner may feel comfortable with the financial stability that can support these obligations. However, many life science companies are startups, often backed by private equity or venture capital funds. These firms have more limited operating histories and capital reserves, as well as more uncertain future earnings.


Dangerous chemicals and infectious diseases are among the many hazardous materials that are handled inside life science facilities.

Typically, the tenant has the most control over what is brought to the property and how it is handled there, while the owner is more removed from day-to-day operations. Given the disconnect between the parties' relative degree of control and potential for personal liability should environmental contamination occur, the owner of the life science project should include additional guardrails and mechanisms in the lease document to monitor

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operations at the property and protect against environmental exposure. Examples of steps owners may take to manage these risks include:

Upfront disclosure. Identify and limit the hazardous materials that may be brought into the premises and in what quantities. Independent environmental professionals should review this list of materials to confirm they are necessary and reasonable. Where the property or material being handled is subject to a "right to know" law, ownership may need to provide notice to other tenants or neighbors of the materials being brought into the building.

Monitoring. The owner must be able to enter and inspect the premises periodically to confirm compliance with applicable covenants and requirements.

Environmental insurance. Ownership should require the tenant to carry pollution-related legal liability insurance that covers the owner and the tenant against property damage, bodily injury, cleanup costs and claims. The

New & Noteworthy

58,258 sq. ft.

C.W. Driver Companies recently broke ground on a 58,258-square-foot **mixed-use multifamily product** for **Begonia Real Estate Development** in **Temple City, California**. The four-story podium structure will feature 74 market-rate apartments, 11,000 square feet of commercial space and a subterranean parking garage. The project is expected to be completed in June 2023. The unit mix will offer one-bedroom, two-bedroom and three-bedroom options with floorplans ranging from 732-1,251 square feet.

55,670 sq. ft.

Ware Malcomb has finished construction on **Toyota Financial Services (TFS) Experience Center East**, a **dealer service center** in **Alpharetta, Georgia**. Creating a connection between people and nature — known as biophilic design — was a priority. A green biophilia wall covers 28% of the first-floor lobby wall, and two 18-foot-long biophilia walls, comprised of 70% wood pieces and 30% greenery, are found on the second and third floors.

Benny Chan, Fotoworks

22,000 sq. ft.

LPA Design Studios designed the recently completed **headquarters** for **Traffik**, a global marketing firm in **Irvine, California**. The company's new two-story, 22,000-square-foot workplace is in an outdoor shopping center in a space originally intended for a steakhouse. The retail component is highlighted by street views of the firm's glass-enclosed podcast studio and main conference room. Elsewhere, metal frames, brick, wood floors and leather furniture define the space.

LPA

terms and limits should be satisfactory to the owner. The term of this insurance should extend beyond the end of the lease.

Reporting. If not already in hand, the owner or the tenant may want to perform a baseline report establishing the environmental condition of the property at the beginning of the lease term. Periodically throughout the term, the owner may want the tenant to provide (or ownership may want the right to perform) an updated report, with the responsibility for the cost of the update being a negotiable item. (The owner will certainly want the tenant to perform and deliver such a report to the landlord, at the tenant's expense, if a release or contamination occurs and again, at the end of the lease term, whether or not a release has occurred.)

Decommissioning. At the end of the lease term, the tenant should dismantle and remove any equipment used to handle hazardous materials, remediate any contamination and restore the affected areas to a satisfactory condition.

These suggestions are in addition to the usual lease provisions requiring indemnification, compliance with laws, notice of claims and survival of liability.

Other lease provisions may also warrant special attention in this context. One example is the assignment and subletting provision. There, ownership may want to make sure that successors to the original named tenant, whether by merger or assignment, maintain adequate liquidity and net worth to meet the tenant's obligations under the lease. Elsewhere, ownership may want to require periodic financial reports from the tenant to confirm that it maintains adequate liquidity and net worth to meet its lease obligations, whether or not a merger or assignment has occurred.

In light of the severe consequences should a violation of environmental covenants occur, the owner must understand the nature of the activities being conducted by the life science tenant in advance and include provisions in the lease protecting it accordingly. Besides having these provisions crafted by qualified legal counsel, the substance and nature of the activities to be conducted by the prospective life science tenant will need to be reviewed by environmental professionals. ■

Michael Pollack is a partner with the Barton LLP law firm in New York.

How RFIs and Change Orders Disrupt Multifamily Development Projects

Early planning and collaboration can help avoid costly do-overs later

By Denis Koval, Kapella Group

Complete construction plans for multifamily new construction and renovations consist of multiple sheets. These can include architectural, mechanical, electrical, civil, structural and possibly more depending on the complexity of the project. With the cost of hiring an architect typically accounting for about 10% to 15% of the entire construction and development budget on a multifamily project, it is imperative to make the most out of that investment. To ensure these drawings are accurate, comprehensive and complete, owners, architects and contractors must work together as a team, starting with the project design.

According to the Construction Industry Institute, construction firms spend an estimated $15 billion annually performing rework on projects due to inaccuracies in the initial drawings, failure to distribute new versions of drawings to subcontractors, and discrepancies between builders and architects. When a complex project is drafted by an architect who is inexperienced in multifamily construction, and it is done without assistance from contractors or input from stakeholders, the results can be disastrous to budgets and timelines.

If contractors receive incorrect or incomplete drawings, owners can expect incorrect or incomplete bids from the start. That will be followed by a steady

New & Noteworthy

13,400 sq. ft.

DMG Interiors recently finished a multi-office **corporate rebranding and redesign project** with **Arthritis and Rheumatism Associates (ARA)**, a three-year project that began at the height of the COVID-19 pandemic and eventually spanned eight office locations in **Maryland, Virginia** and **Washington, D.C.** One COVID-related design request was to adopt an improved flow for patients checking in and out. In response, DMG designed a circular configuration to maintain social distancing.

Matthew Barrick

11,000 sq. ft.

Andrew Franz Architect has completed an extensive **renovation** of the **Washington Houses Community Center** in **New York City**. The 11,00-square-foot **youth and senior center** in East Harlem features modernized classrooms and new offices. It has a new skylight and enlarged windows that draw in natural daylight and create enhanced views of the trees and greenery outdoors. Throughout the building, glass partition hallways provide views between staff members and visitors.

Albert VecerkaEsto courtesy Andrew Franz Architect

4,191 sq. ft.

Meridian Design Build recently wrapped up construction on a **build-to-suit truck-leasing facility** for **XTRA Lease** on a 15-acre site within **Ketone Business Center** in **Joliet, Illinois**. The new facility will serve freight haulers in central and northeastern Illinois. The building includes two service/maintenance bays and 4,191 square feet of finished office space. **Verve Design Studio** provided architectural and structural design services, and **Jacob & Hefner Associates** was responsible for the civil engineering design. ■

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.

stream of requests for information (RFIs) and change orders throughout the project. RFIs and change orders lead to schedule delays, changes in plans and increased risk for the lender.

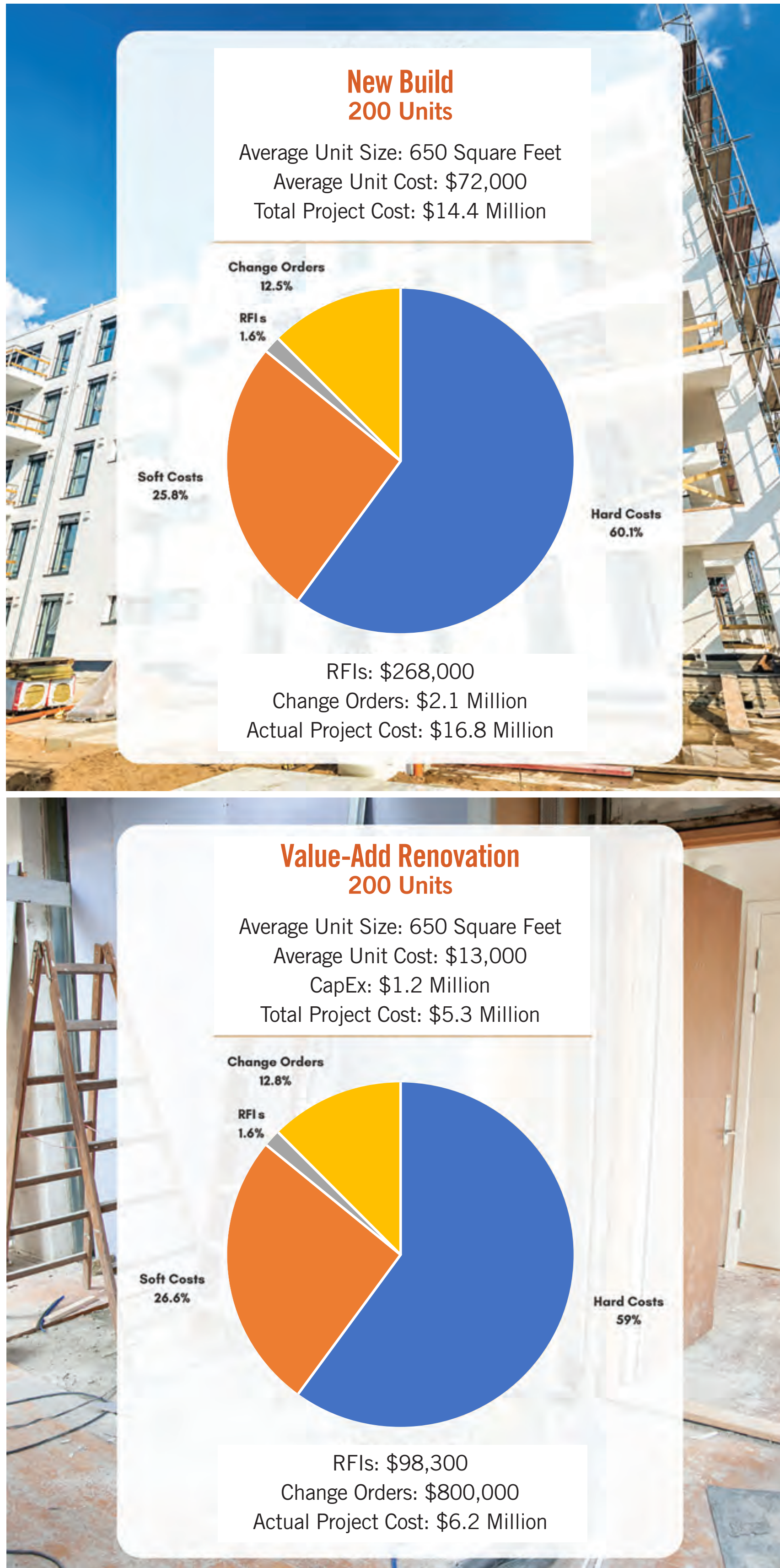
Do the Work Early On

"Spending additional time at the front end of a project can go a long way toward minimizing change orders over the long haul," says **Colin McCarthy**, a principal with Lanak & Hanna PC, a California-based law firm that specializes in construction law. He recommends that owners "use this time to look critically at the work, drawings and details, to ensure that the contractor's bid clearly includes or excludes certain items."

After sampling 1,362 projects of all kinds around the world between 2001 and 2012, Navigant Consulting discovered that reviewing and responding to each individual RFI cost a construction firm an average of $1,080, while the collective cost to the project could set a firm back $859,680. Furthermore, researchers in India have found that change order costs typically amount to 10% to 15% of the contract value on major projects.

The charts on the right illustrate the financial impact of RFIs and change orders on two hypothetical multifamily projects. One is for a new build and another is for a value-add renovation.

Among the top contributing factors to change orders are instructions (or lack of instructions) in the plans and specifications that, if followed by the contractor, would require additional costs for replacement or corrections, or result in a construction failure. These include incomplete designs, poor design coordination and specifications issues, all of which can be avoided at the design stage.



Kapella Group

These charts show how RFIs and change orders affect two examples of multifamily projects — a new build (top) and a value-add renovation.

A research paper published in 2016 by the International Journal of Scientific & Engineering Research found that "the time it takes to produce a quality set of design documents is clearly not enough." The study notes that the major concern "should not be time but rather the quality of the design."

After sampling 1,362 projects of all kinds around the world between 2001 and 2012, Navigant Consulting discovered that reviewing and responding to each individual RFI cost a construction firm an average of $1,080, while the collective cost to the project could set a firm back $859,680. Furthermore, researchers in India have found that change order costs typically amount to 10% to 15% of the contract value on major projects.

What's the Solution?

There's a popular phrase, "measure twice, cut once." Used in the literal sense by contractors, it applies to the entire multifamily development process. A broad range of research confirms that spending more time and money upfront to ensure accurate, comprehensive and complete construction drawings is key to avoiding greater costs, conflicts and delays during the build phase. Including contractors in the design and scope development phase requires more time going over inaccuracies, deficiencies and conflicting information, but in the long run it can pay off in a big way. It also allows all parties to set expectations and guidelines for clear communication before bidding and construction commence.

"Having the builders on board during the early stages of the design will have a positive impact on the project as a whole," said **Aki Merced** with BIM-Smith in a May 2019 blog post on the company's website. "Both architects and contractors can work in identifying the goals of the project, the specifications of the structure, and the subsequent costs. If there are flaws in the plan, the contractor can easily point them out before they can become bigger problems in the future."

Effective communication and a collaborative approach between architects and contractors during the design phase eliminates problems such as infeasible designs, improper material selection or inaccurate cost estimating. It maximizes the expertise and experience of both architects and contractors to determine the best construction methods and project phasing. It can also greatly reduce the amount of RFIs, change orders, schedule delays and budget overrides.

Effective communication and a collaborative approach between architects and contractors during the design phase eliminates problems such as infeasible designs, improper material selection or inaccurate cost estimating.

Erik Good, a senior project manager with Kapella Group, says the best advice he can give any developer is to bring the team in early. A great team that will save money should include the general contractor, architect, property management company and owner.

"You create a team that is working together to maximize quality, efficiency and constructability, while simultaneously accomplishing the developer's budget," he said. "By creating an environment where everyone is working together instead of in isolation, you eliminate inefficiencies and generate clarity. This kind of teamwork between the architects, contractors and owners creates a productive environment and a more profitable outcome." ■

Denis Koval is the CEO of Kapella Group in Centennial, Colorado.

The Unexpected Challenges (and Solutions) of Multilevel Warehouse Design

Experiences in Canada and Asia provide case studies for building these complex properties.

By Russ Hazzard and Jonathan Chang, MG2

Over the past 15 years, multilevel warehouses — particularly those used for retail purposes — have been a growing trend across Asia, and more recently, in the United States. However, some challenges accompany their design and construction that are not encountered in the traditional approach to large-format retail. With operational criteria at the top of the list, these challenges vary heavily based on several factors, including location, footprint, environment, jurisdictional requirements, and even cultural and community influences.

The increase in demand for and construction of multilevel warehouses has unearthed numerous unique considerations not present in traditional warehouse environments. These challenges — each intricate in their own right — have required creative solutions and careful programming to bring each project to life successfully.

© Photo by Raef Grohne

This multilevel Costco in Vancouver, British Columbia, surrounded by residential towers, is part of the city's dense urban fabric.

Parking and Vehicle Flow

One of the most critical design challenges for vertical warehouses is the traffic flow of vehicles and the structure's parking. While the goal is to keep the sales level on a single floor for ease of operations and the consumer's shopping experience, parking for multilevel warehouses can reside either above or below grade. There are pros and cons to both options: Below-grade parking requires excavation, which can increase costs and complications. It does, however, provide a solution for lot coverage or height restrictions in situations where those apply. Above-grade or rooftop parking is preferred as it saves both construction time and money.

Customized resolutions to optimize vehicle traffic flow and increase ease of parking have also been employed, varying not only warehouse to warehouse but also country to country. For example, in Sinjhuang, Taiwan, indication lights for open parking spaces are used to determine capacity at a glance. In Suzhou, China, car ramps at the entrance steer customers directly up to each individual floor, allowing them to bypass full levels. Larger-than-regulation parking spaces — normally very compact in Asia — are also used, granting customers peace of mind. There is no need to worry about maneuvering around tightly packed vehicles in the garage. As an added benefit, oversized spaces also increase vehicle flow; maneuvering in and out

In addition to parking challenges, the flow of customers on their shopping journeys in multilevel warehouses comes with complexities not experienced in traditional large-format retail. Ensuring the ease of navigating traffic flow is one thing, but accounting for the maneuverability of hundreds of oversized shopping carts adds an extra layer of consideration.

of a space is completed in one move vs. two or three.

Customer Journey and Pedestrian Flow

In addition to parking challenges, the flow of customers on their shopping journeys in multilevel warehouses comes with complexities not experienced in traditional large-format retail. Ensuring the ease of navigating traffic flow is one thing, but accounting for the maneuverability of hundreds of oversized shopping carts adds an extra layer of consideration.

Similar to parking, solutions vary with each vertical warehouse project and every environment. Across Asia, MG2 has used both freight-sized elevators and inclined autowalks. Traffic flow varies depending on the time of day, with more customers entering in the morning and more exiting during the afternoon. To accommodate this shift in shopper density, when there are three autowalks, one of them is programmed to change direction midday. In Vancouver, B.C., a dense urban site and multifaceted building structure comprised of street-level frontage, residential towers above and parking below resulted in the design of an elongated atrium housing a fixed ramp to support unique customer flow.

Culture also plays a role in determining multilevel warehouse customer journey solutions. In South Korea, for example, consumers favor elevators significantly more than autowalks, regardless of wait time. The MG2 team adjusted future designs — specifically for South Korea-based vertical warehouses — to accommodate these cultural preferences.

Regional, Operational and Sustainable Considerations

Regionality is almost always a consideration for the design and construction of multilevel warehouses. Particularly challenging are building footprint and site conditions, lot coverage and height restrictions, community involvement and consultation, and sustainable design, build and operational requirements.

For example, in Linda Vista, Mexico, lush landscaping combines with open-air autowalks, parking decks, cafe seating and a porte-cochère-style entry to take advantage of the area's year-round warm weather. With an elevated warehouse sales level, its design also needed to be adjusted to accommodate access from the street. After many outreach sessions with the community, the agreed-upon solution was to move people through a series of outdoor ramps and freight elevators located at the street corner entry.

In the Santa Fe neighborhood of Mexico City, MG2 faced the unique challenge of designing a multilevel warehouse that not only catered to the surrounding metropolis but also was seamlessly integrated — both visually and functionally — into La Parque Mexicana, a bordering urban green space. In addition to the green facades that "hide" the structure, a green roof with custom HVAC housing, a soccer field and a connection to the existing park have been incorporated into the design and operations.

In Manhattan, well-known for its density, a small footprint requiring below-grade construction presented different challenges. Needing to pump the structure's sewage up and out, MG2 worked closely with the city to employ unique solutions that addressed the operational requirements not encountered elsewhere in the country. The developer also sought the opportunity to add residential towers in the future, so concrete structures were incorporated into the design of the warehouse to accommodate both this residential addition and the operational footprint.

Technology Solutions for Multilevel Warehouse Design

To quickly address the unique challenges presented from the varying factors described above and still maintain efficiency in design, construction and speed to market, MG2 employs a number of technologies, strategies and tactics.

Using Revit as a standard for BIM models ensures that construction documentation is complete and precise as it changes hands. In addition, these models allow for the creation of virtual-reality walkthroughs for both staff and stakeholders, giving them the opportunity to see the solutions and designs utilized much more quickly than in-person meetings would.

MG2 has also gained insight into materials optimization and construction techniques by working on multistory warehouses in numerous countries and continents, including more than 60 in Asia alone. Popular solutions in some countries may save time and money when used in others. Moving ramps are one example. While fixed ramps are preferred today in the U.S., in Asia the public is familiar with this solution, and it's one that has the potential to be incorporated stateside in the future.

The Future is Bright

Overall, the trend for multilevel warehouses should continue to rise. Urban centers today want and need warehouse services that have, until recently, only been offered in suburban locations. There are unique factors that make multilevel warehouses successful. Understanding the challenges that impact the speed, repetition and efficiency required to bring these vertical retail warehouses to life is the key. ■

Russ Hazzard, AIA, is president of MG2 in Seattle; **Jonathan Chang**, AIA, is a principal at MG2 in Shanghai.

When Retail and Industrial Merge

Last-mile distribution facilities focused on direct service to customers could be poised for growth.

By Trey Barrineau

The stratospheric growth in e-commerce in recent years, which was accelerated by the COVID-19 pandemic, has led to the convergence of industrial and retail under one roof. While the trend is in its infancy, it could revolutionize how products are delivered to consumers in the future. Whether it's called microfulfillment, retail industrial or last-mile fulfillment, these properties have the potential to become an important part of the investment mix for retail developers.

"It was just a couple of years ago that 10% of all retail sales were online, and we're now creeping up to 20%," **Craig Meyer**, JLL's president of Industrial Services, said during a recent NAIOP webinar. "We expect that over time to go to as much as 40%. There's a lot of runway in our business."

In the past, retail was very much an industry focused on "location, location, location," according to **Kris Bjorson**, head of JLL's Retail Industrial Task Force. Today, that formula is starting to look more like "logistics, labor, location." Logistically, retailers face challenges around the final leg of transporting the products. And in recent months, supply chain issues have forced them to think about their inventory selection.

"If there's a shortage of inventory, where does that inventory go?" Bjorson asked. "Is it at the last-mile fulfillment center or is it at the retail store?"

Bjorson noted that a lot of the microfulfillment trends that are taking off in the U.S. began in the Asia Pacific region more than a decade ago. Over there, many stores in that niche have been converted to 60% retail experiential showroom and 40% microfulfillment.

A last-mile industrial facility in an urban location is typically between 4,000 and 5,000 square feet.

"The evolution of what's happening in the U.S. actually started a couple of continents over," he said. "I think the pandemic has expedited a number of concepts that retailers are trying out in different ways. You see an electronics retailer that converted a percentage of its stores into darkstores for fulfillment with a showroom."

What's the Right Size?

Because of these changes, retailers are having to think about rightsizing their store footprints to accommodate both walk-in customers and those who place orders online, said **Geno Coradini**, executive vice president for national retail tenant representation with JLL.

"The evolution of what's happening in the U.S. actually started a couple of continents over. I think the pandemic has expedited a number of concepts that retailers are trying out in different ways. You see an electronics retailer that converted a percentage of its stores into darkstores for fulfillment with a showroom."

— Kris Bjorson, head of JLL's Retail Industrial Task Force

"For years, people have said that the retailer who gets the right size wins, but truth be told, it's a challenge to understand what the right size means," he said. "How much depth of product do you need? How many different SKUs do you need, for example? And now your customers can have their products shipped to your store, so you've got to make room to store products for that."

Coradini said microfulfillment facilities can range in size from about 1,500 square feet to 10,000 square feet, though the average is between 4,000 and 5,000 square feet. They're generally located in densely populated urban areas, and they operate like small-scale distribution centers. Because these facilities are so new, retailers will have to react to consumer demand by changing store layouts as well as the expectations for the labor force.

Some retail anchors use their existing premises as a fulfillment space. Coradini said the dynamic of right-sizing those spaces has changed because retailers are straddling two boxes.

"One is that traditional retail sales floor, the other is a stock room or receiving room that's actually acting like a distribution center in some respects," he said.

Coradini likened these new processes for storing products and getting them to consumers to trying to figure out "a complex jigsaw puzzle."

Landlords in urban areas are seeing an influx of grocery microfulfillment operators such as GoPuff, JOKR, Fridge and others. That's because investors are pouring money into these operations: As of October 2021, PitchBook reported that fast-delivery grocery companies had raised more than $10 billion from venture capitalists.

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— Geno Coradini, executive vice president for national retail tenant representation with JLL

However, Commercial Observer reported in February that some of these companies in places such as New York could face a difficult financial future. According to the report, many of the products they deliver have low margins, and running a service such as this in Manhattan can have high overhead.

"There's going to be consolidation in the industry," **Kunal Lunawat**, co-founder and managing partner of real estate-focused venture capital firm Agya Ventures, told the publication. "We're going to see some of these businesses fail."

Zoning Concerns

Coradini said the COVID-19 pandemic forced landlords and investors to diversify their retail portfolios so they have a broader mix of uses in their properties. Because some of these microfulfillment centers are open to the public and others are not, it has created confusion for local municipalities, many of which aren't sure whether these concepts can be permitted in shopping centers zoned for retail. Learning what's accepted by local municipalities in a particular shopping center can be a challenge.

"I think local municipalities are starting to listen to what's being driven by the consumer," he said. "These businesses bring dollars to the community, and we've got to figure out a way to work together. We can't just say microfulfillment belongs in an industrial park, for example."

Because of that, Bjorson said it's crucial for developers who are interested in building microfulfillment centers to be fully prepared when they talk to municipalities.

"We're not showing up in a given neighborhood without having all the math completed, meaning we understand what the e-commerce potential for that retailer will be," he said. "We understand the underlying transportation costs savings to [locate] there. We understand the population density and the labor opportunity for them to properly automate and set up that facility. Real estate is the smallest bucket of the things we're trying to solve for when we're trying to get any type of fulfillment deal done."

> **"I think local municipalities are starting to listen to what's being driven by the consumer. These businesses bring dollars to the community, and we've got to figure out a way to work together. We can't just say microfulfillment belongs in an industrial park, for example."**
>
> *— Geno Coradini, executive vice president for national retail tenant representation with JLL*

Movement at the Malls

The conversion of shuttered retail facilities at shopping malls into distribution centers has received a fair amount of attention in recent years. For example, CBRE research shows that around two dozen retail-to-industrial projects that have broken ground since 2016, mostly involving former malls or big-box stores. (See "Retail to Warehouse Conversions Gain Momentum" in the Fall 2019 issue of Development magazine.) However, converting these "darkstores" can present another set of challenges for owners. Bjorson said it's important for developers to figure out what hurdles they must overcome to repurpose these properties.

"You have to know if there are any reciprocal easement agreements or other type of tenant restrictions in place with a complex," he said. "It's also vital to know the zoning, the traffic patterns, and whether, for example, you have the opportunity to have separate ingress or egress for trucks. We're digging back into that model to almost reverse-engineer how we're doing our site selection for our clients. We're looking at how the density of e-commerce sales may impact future transportation patterns and costs. There are several different hurdles that must be addressed on the front end before you even start underwriting the rent."

Bjorson said a major advantage of many of these larger, vacated retail big box facilities is their large land-to-building ratios. These can provide ample areas for parking as well as outside storage capabilities. Some of the limitations include a lack of loading dock doors and inadequate clear heights. However, clear heights may be less of an issue at microfulfillment centers than at traditional distribution facilities because the products will only stay there one to two days.

"Often straight trucks or vans are being loaded through drive-in doors, which are easier to put in than traditional loading docks," Bjorson said. "From an operational perspective, there's not as many limitations as you think in these conversions."

Final Thoughts

Coradini said microfulfillment users are putting a lot of thought into how they transport products to consumers, particularly those focused on delivering the kind of goods that might be found at a local convenience store. Many of these have a goal of getting products to customers within 20 minutes of an order being placed.

Meyer said rents for last-mile facilities can be fairly aggressive, but he added that it's more about a high street location vs. a warehouse location, because it's all about the costs to get those products to the end customer.

According to Bjorson, real estate typically only makes up 5% to 7% of that total cost.

"Whether you're paying $20 a square foot in rent or you're paying $35 a square foot in rent, that goes from 5% to 7% of the total costs," he said. "Clients are still looking at the total landed delivered costs, and it's still predominantly driven by transportation, inventory carry and labor before you get to the real estate. That's been one of the opportunities that property owners have been able to take advantage of in understanding that these locations are unique, and unique locations can command a premium rent." ■

Trey Barrineau is the managing editor of publications for NAIOP.

Relevant Research

The NAIOP Research Foundation recently published a report titled "New Places and New Spaces for E-Commerce Distribution," by **Dustin C. Read**, Ph.D., a NAIOP Research Foundation Distinguished Fellow. It provides an in-depth examination of the topics discussed in this article.

To download the full report, visit naiop.org/Research-and-Publications ■

Reducing Financial Risks for the Lender on Projects

Construction loan monitoring identifies problems early in the process before they become costly headaches.

By Aled Jenkins, Rider Levett Bucknall

Financing construction projects can be a risky business. Major threats to schedules and budgets are common, and they can be costly for developers.

These in turn pose risks for construction lenders. Add problems stemming from the COVID-19 pandemic, supply chain interruptions and staff shortages, and it is more important than ever to do rigorous financial, legal and construction-related commercial due diligence to ensure that lenders know about all risks relating to a project so they can properly underwrite it.

Once the decision is made to finance a project, the focus for lenders then shifts to the construction phase, which includes the lender's third-party construction consultant monitoring the project's progress. One of the key purposes of construction loan monitoring (CLM) is to identify potential problems at an early stage so they can be resolved before they become major issues. CLM helps mitigate the risks inherent in construction lending such as poor contract language, insufficient contingencies, poor cost estimates, unrealistic schedules, and insufficient insurance and bonding by the contractor.

CLM also monitors construction phase risks such as quality issues, schedule issues, overfunding for incomplete work and timing of funding, to name a few. The CLM consultant will also review the timely payment of general contractors and subcontractors to avoid contractual disputes and liens being placed on the property for unpaid work.

In the past, the role of the CLM consultant has been performed by quantity surveyors, project managers and project controllers, who are typically deemed third-party independent consultants with much less at stake than developers, general contractors and subcontractors. However, the role has developed into its own unique set of services. It's not just about selecting a quantity surveyor or project manager; it's about choosing a CLM specialist who understands and can explain the construction-related risks to a lender on a project. Identifying risks to lenders and raising red flags early is critical. This can only be achieved by a strong monitoring role, which includes physical site visits, correspondence analysis such as schedule and budget reviews, and payment application reviews. It is important to have the experience to understand what raises a red flag on a construction site.

Construction loan monitoring (CLM) aims to root out problems on a project at the early stages before they can get bigger and costlier.

A skilled CLM consultant starts with a strict set of due-diligence tasks while the loan agreement is being drafted. A CLM consultant will require certain markers to be met before the loan agreement is executed. All these requirements are presented to the lender team in the form of a detailed due-diligence report. This usually happens just before the preconstruction process. Within the due-diligence report, the CLM consultant uses their expertise to analyze and comment on items that include but are not limited to: a developer's project team, consultants, general contractor and major subcontractors; budget and estimates (including contingencies and allowances) from the developer and general contractor; the form of the construction contract; insurances applied on the project; proposed construction

Identifying risks to lenders and raising red flags early is critical. This can only be achieved by a strong monitoring role, which includes physical site visits, correspondence analysis such as schedule and budget reviews, and payment application reviews. It is important to have the experience to understand what raises a red flag on a construction site.

schedule; development permit status; and any subcontractor work that has already been procured. All this information then translates into a project risk section in which the CLM consultant will identify risks associated with schedule, budget, the construction team, environmental considerations, permits and any other general risks that may pose a threat to the project.

Once the lender team is satisfied that all due-diligence checks have been made and the loan agreement executed, the role of the CLM runs through the preconstruction phase (design and procurement) to the construction phase and close-out. It typically ends when the loan is paid back in full. During preconstruction, constructability checks are made once each of the design stages has been achieved. Budgets and estimates are reviewed, and any major scope increases and overruns can be identified to the lender through the issuance of an updated due-diligence report. In many cases, the loan agreement is executed midway or near the end of the design phase, so most of the preconstruction analysis gets identified during the due-diligence reporting stage of the loan agreement drafting. Each project is different, however.

Construction-phase CLM is equally as important for lenders, because as the project moves through the cycles of trade-specific payouts, budgets and schedules are tested against actual progress. The construction-phase CLM role is identified by two integrated activities:

CLM inspection. This involves a review of the monthly payment application to verify that all costs are in line with the draw requirements and that the work is progressing. It also ensures that they are in line with draw requests, change order reviews and requests that have been met. Technology now plays a bigger role than ever during the CLM inspections; this includes drones and handheld software on iPads.

CLM reporting. This involves the submission of a monthly report after the CLM inspection for a particular month has been completed. The report includes, but is not limited to, cost checks, schedule reviews, risk analysis for any critical issues, contingency reviews, change order review, and developer and contractor documents.

In summary, it's imperative that lenders find CLM partners with the appropriate expertise, such as having knowledge of national architectural and engineering firms and contractors. Sector experience is also critical. For example, an airport has different requirements, specifications and project risks than an office or residential tower.

A CLM partner must have a proven track record of seeing projects through until loan closing. A national footprint is another advantage because it can centralize the CLM work. This eliminates the need to interview new partners in new locations for every project. ■

Aled Jenkins is a principal in the Los Angeles office of Rider Levett Bucknall.

“Worth Repeating”

Sound bites from NAIOP’s I.CON West, held March 23-24 in Long Beach, California (for more insights, see page 104):

“What’s happening in the economy overall is complex. Fourth-quarter 2021 GDP [gross domestic product] was 6.9% and February unemployment was 3.8%. Beware of the narrative.” — **Christopher Thornberg**, *Ph.D., founding partner of Beacon Economics*

“There’s a reduction in labor demand, but also a great demand in labor supply. This leaves us with a profound problem, and we are seeing a decline in the number of people in their prime working years. It took the pandemic to speed it up.” — **Christopher Thornberg**, *Ph.D., founding partner of Beacon Economics*

“I think looking forward, there is a risk to not including capital for solar in your project. It’s much more expensive to add solar to a building retroactively.” — **Alexander Hancock**, *vice president, clean energy finance, Nuveen Green Capital*

“Four things have always controlled construction in my view: the cost of labor, cost of dirt, cost of money and the cost of goods. One of the four can be out of control, but not all four. I’m watching for the line where rent increases and the cost of construction collide. This is where the problem will emerge. As long as rents can keep up with the cost to build, it’s solid.” — **Guy Martin**, *president, Martin-Harris Construction*

“We think there is a significant opportunity here. There is a huge intersection between energy and buildings, but we need an integrated solution. Prologis is thinking about how to add value to their buildings, and I think integrated EV solutions are a big part of that moving forward.” — **Dan Loflin**, *commercial head of EV charging, Prologis*

“Their first question when vetting a location is, ‘Will anybody come there to work? How do we know the labor market exists?’ ” — **Seth Martindale**, *senior managing director, CBRE*

“It’s important to remember that you can’t change to a glulam beam roof without thinking about all of the other elements it changes, like sprinkler systems. This type of change has to be considered in early pricing and design so you can see the whole picture.” — **Teresa Goodwin**, *AIA, regional director, HPA Inc.*

“A study by Cushman & Wakefield said that Southern California ports need to do two things: track consumer demand and move forward with a new operational way. Explosive growth in consumer demand has contributed to this situation, and we need to work toward a 24/7 supply chain, including warehouse operations, because the cargo has to move.” — **Mario Cordero**, *executive director, Port of Long Beach*

I.CON West keynote speaker Christopher Thornberg, Ph.D., discussed how the COVID-19 pandemic has impacted the U.S. economy.

“For companies that are located here in Southern California, we suggest they lease a chassis pool to help their trucks get into the port. This impacts 24/7 operations. If suppliers can’t get into the ports to get containers out 24/7, it’s almost pointless for the port to be open around the clock. A lot of things have to click for 24/7 to work. They call it a bottleneck for a reason.” — **Brian Fish**, *senior project manager, St. Onge Company* ■

CEO on Leadership: Meg Epstein

The CEO of CA South, which develops office, industrial and residential properties in the Nashville area, discusses her vision of leadership in commercial real estate.

By Ron Derven

Meg Epstein

"I worked on the construction side of the business for many years, learning how to manage various trades on the jobsite. I'm a licensed commercial contractor, which is surprising to people. They often assume that I must have been a real estate agent or interior designer to start with."

— *Meg Epstein, CEO, CA South*

Development: *What attracted you to a career in real estate?*

Meg Epstein: I originally started building high-end homes for celebrities in Los Angeles, San Francisco, Napa and the Bay Area. I entered the industry through working for a homebuilder, which is not the usual path for a woman or developer. I worked on the construction side of the business for many years, learning how to manage various trades on the jobsite. I'm a licensed commercial contractor, which is surprising to people. They often assume that I must have been a real estate agent or interior designer to start with. I'm passionate about design and architecture, and I feel strongly that people should live in spaces that inspire them and facilitate an efficient and minimalist lifestyle.

Development: *When and how did you start CA South?*

Epstein: I started CA South in its present form in 2016 because I wanted to build condominiums in Nashville. I saw that condos weren't being supplied to new incoming urbanites who were moving from California, New York or Illinois. These people wanted the urban walkable lifestyle experience and weren't getting it. So, I decided I would fill an important gap. Prior to that, I built several high-end homes here, similar to what I had done in California, but the high-end home market in Nashville was nothing like California and didn't have the margins I was looking for. I moved to commercial real estate and have never looked back. Building large-scale condo and multifamily buildings and even industrial projects is far easier from a construction standpoint than what I was doing prior.

We are currently doing over $1 billion worth of projects, so we are a fully institutional middle-market developer.

Development: *How did you — a relative newcomer to the commercial real estate business and to Nashville — put the financing together for your first deal?*

Epstein: I literally cold-called a list of private equity investors that I purchased from **Richard Wilson**'s Family Office Club, an association of more than 2,000 wealthy families and their family offices. I pitched my first condo deal at least 100 times before I found the right person. I convinced him and his fund to back the project by promising them a 30% preferred return, so long as the developer (us) got to keep 100% of the upside. He loved it because it was a lower-risk deal for them. I loved it because we hit a 70%-plus internal rate of return and got paid as much as the investors did. It was a home run deal! The money we made here was reinvested into hiring and growing our company, and the rest is history. This investment group has done three additional projects with us since.

Development: *Tell us about your favorite project that you have developed to date?*

Epstein: My favorite project is Eve. The Nashville waterfront is an underutilized amenity for the city. Building Eve, which was the first condo project

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FUTURELAB

LEADER OF THE LOGISTICS RENAISSANCE

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on the river in decades, set a standard for design that I'm proud of, and I showed everyone that riverfront real estate can indeed command a premium.

Development: *What do you attribute your strong growth and success to?*

Epstein: Hard work, persistence, ambition, and more hard work and persistence.

Development: *You obviously have strong leadership skills to have achieved your level of success. What does leadership mean to you?*

Epstein: Leadership means setting a very strong vision for the company, hiring the best people you possibly can, and being uncompromising with your goals and demands for excellence.

Development: *What is your primary role as CEO of CA South today?*

Epstein: I prefer to spend my time sourcing new projects, raising capital and working with organizations like Nashville Civic Design Center.

Development: *Speaking of hiring, what qualities do you look for when hiring senior leadership?*

Epstein: Intelligence, hard work, a good attitude and tenacity. If you have these things, you can be successful at anything, including working for me.

Development: *How do you resolve internal conflict or mistakes at the company?*

Epstein: Hire people who are willing to take responsibly for their mistakes. When problems come up, solve them and move on. However, if someone is a repeat offender, let them go.

Development: *What are your greatest challenges in the years ahead?*

Epstein: Land prices and construction costs are escalating very quickly. Marginal projects won't be getting built soon. Inflation concerns me, but we expect Nashville to continue to be the darling market for investors.

Development: *What has been your greatest challenge as a woman in the commercial real estate business?*

Epstein: Being a woman in this business has been a positive experience for me. Sometimes people underestimate me because I don't have a traditional finance or legal background, but that can work to my advantage. I'd say that this industry is wide open to women who are persistent, assertive and work hard.

Development: *What is the best advice you have been given over the course of your career in real estate?*

Epstein: Pay attention to the data. You need to dig deep and look at trends. Just because a market or neighborhood isn't proven, doesn't mean people won't want to live or work there. You must be on the cutting edge to make superstar returns for your investors. We've done that by always being a step ahead of the market. That comes with deep local insight into Nashville and the surrounding areas that we've been focused on for seven years before any of our competitors even came to town.

"Land prices and construction costs are escalating very quickly. Marginal projects won't be getting built soon. Inflation concerns me, but we expect Nashville to continue to be the darling market for investors."

— Meg Epstein, CEO, CA South

"Leadership means setting a very strong vision for the company, hiring the best people you possibly can, and being uncompromising with your goals and demands for excellence."

— Meg Epstein, CEO, CA South

Development: *What crucial lessons have you learned during your time in the business?*

Epstein: Never give up on a project, even when things seem hopeless. There's always a way out if you work hard enough and are determined enough to solve problems. I've also learned that being first into a new area is a major advantage. It allows you to visualize the potential of an underdeveloped area and play a role in its transformation.

Development: *How do you like to relax during your off hours?*

Epstein: Spa days, reading and cooking. I love being a wife and spending time with my husband **Stephen**. We like to sail and travel. ■

Ron Derven is a contributing editor for Development magazine.


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Hybrid Goals? Reinventing the Office, Faster and Better Than Before

The pandemic ushers in a new era for workspace design and development.

By Albert De Plazaola and Hannah Hackathorn, Unispace

Workplace changes resulting from the COVID-19 pandemic are sweeping workers forward into an era of hybrid work, giving businesses a historic opportunity to rewrite the rulebook.

Amid the lessons of mass remote work, organizational leaders adapted their processes, tools and resources to support new ways of working — and in turn, employees found new ways to be productive and thrive.

Yet the shared experience of day-in and day-out work-from-home life also revealed that the office was not dead. Far from becoming obsolete, its vital role as a hub for social and collaborative interaction intensified in the wake of Zoom burnout. The monotony of even the best-appointed home offices, and the recurring "can you hear me now" technology dilemmas, have gotten on workers' last nerves.

The post-pandemic hybrid office will provide social and collaborative interaction that incorporates the best of remote and in-person working.

> **To shape what is fast becoming a new hybrid normal, global firms from Coca-Cola to Deloitte are retooling workplace roadmaps. In a series of interviews with Unispace, business leaders said they want to normalize flexible working.**

Enter: the hybrid workplace. According to a recent Blue Skyre IBE survey of workplace leaders, 58% of respondents said they'll allow employees to choose how many days to work remotely, while 48% plan to let employees work remotely anywhere they choose.

The rest of the time, organizations must deliver a healthy, vibrant and experiential workplace where prize talent actually wants to show up.

Achieving the Right Hybrid Workplace

To shape what is fast becoming a new hybrid normal, global firms from Coca-Cola to Deloitte are retooling workplace roadmaps. In a series of interviews with Unispace, business leaders said they want to normalize flexible working.

Most are going beyond offering flexible schedules by rethinking how real estate can strategically fuel organizational performance. Should they relocate, expand or renovate to give employees the new experiences they need, while supporting business goals? Whatever the answer, the pressure is on to reinvent the workplace — and the sooner the better.

To achieve a hybrid workplace fit for a unique workforce, and at the speed and scale that's needed, it's time to leave behind old ways of managing workplace change.

Conventional methods disperse workplace strategy and design initiatives across multiple management teams and companies. In a world of

continued on page 40

continued from page 38

compressed timelines, that disjointed approach has become clunky, expensive and time-consuming. Instead, organizations can use an integrated approach to seamlessly blend these functions, driving process consistency, higher-quality outcomes and shortened project timelines.

Shape an Experiential Workplace Strategy

A thriving hybrid workplace is one where teams can connect, problem-solve, brainstorm and catch up with colleagues. It offers a space where staff feel supported both as professionals and as people.

So, what do employees value in their professional environments? What inspires them most in a workspace, and what do they like most about working remotely? What ratio of in-person to remote work makes sense for different roles, in different departments? How can technology create equity between in-person and offsite colleagues?

Answering these questions is specific to a company; there is no one-size-fits-all answer. Collecting and distilling data is an important step as companies begin the journey to achieving the strategy, design and ultimately construction of a thriving hybrid workplace.

COVID-19 has transformed the workplace landscape and the way people work. Flexibility is here to stay — and so are agile workplace strategies that give people a sense of connection and fulfillment.

"Our research indicates that the work environment will exist to satisfy our social and collaborative needs, as well as providing more private space for deep-thinking or 'flow' work — supporting the growing need for work environments that enable neurodiversity," says **Albert De Plazaola**, Unispace's global director of strategy. "Employees are far more likely to use their home office for more individual work, such as emails, online learning, spreadsheets, everyday administrative tasks and more. This kind of hybrid work model repositions the work environment as an organizational asset as well as an idea and revenue generator, while providing employees much-desired flexibility and choice."

Now is the time to apply the hard-won lessons of the pandemic to workplace design. An experiential, collaborative space incorporating the best of remote and in-person work can help meet employee needs and support different workstyles. In a post-pandemic world, knowledge workers will shine brighter in social, inclusive environments purposefully designed to help them feel authentic, connected and healthy.

Embracing a New World of Work

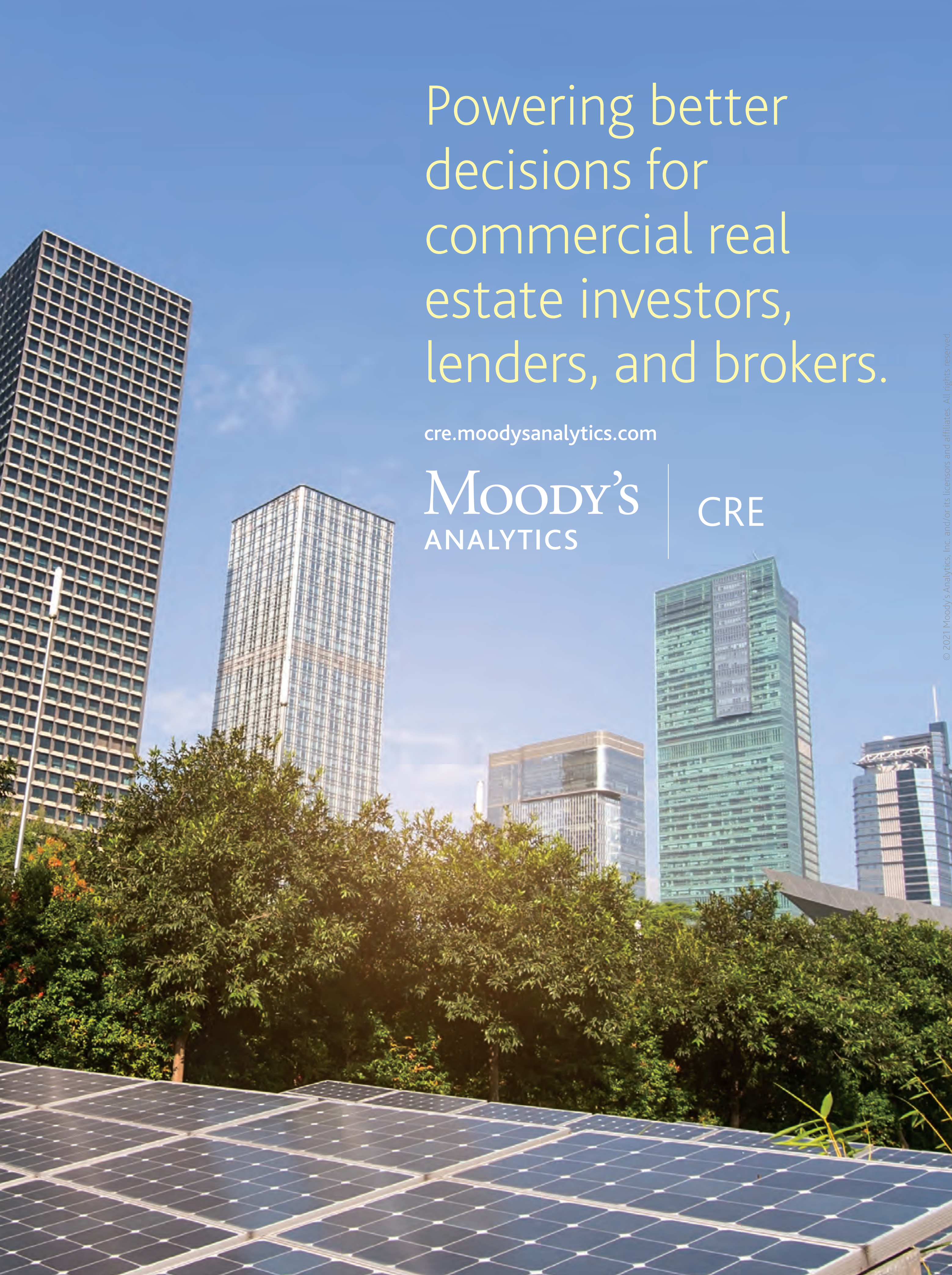
COVID-19's impact on the workplace didn't happen by design — but there is an extraordinary chance to create something good out of a challenging time. As leaders across the world rethink the workplace, the role of office design is moving far beyond aesthetics, becoming a key component of organizational success. ■

Albert De Plazaola is global principal of strategy at Unispace. **Hannah Hackathorn** is senior principal, head of design for the Americas at Unispace.

Five Considerations for a Healthier, More Human Workplace

Every organization defines their optimal workplace environment differently. But the following principles will help decision-makers in the effort to achieve a more experiential workplace.

1. **Understand how design affects business outcomes.** Reinventing a workplace is a big job, but it is a smoother process when organizational leaders recognize the critical ways design can impact the larger business goals.
2. **Think beyond 9-5 with physical and digital features.** Amid the rise of hybrid work, it is important to create spaces where people can connect wherever, and whenever, makes the most sense. This includes integrating connective technology in design, like sophisticated videoconferencing rooms where teams can ideate alongside their remote-working colleagues.
3. **Empower employee choice with an interior neighborhood of curated experiences.** Instead of asking teams to shuffle between office and conference rooms according to task, give them a variety of space types to choose from depending on their work styles and needs. Picture, for starters, a quiet reading room, just down the hall from a huddle area, which sits next to a large conference room with retractable doors that open for larger events. Meanwhile, a large town hall or café area offers opportunity for both work and play. Even stairwells and corridors can be configured for casual interaction and easy flow.
4. **Think human.** People aren't cookie cutters, so why are so many offices exactly that? As social, playful beings, humans thrive in unique environments. Cultivate environments where fundamental human activities — people watching, having fun, experimenting, learning and playing — can all take place.
5. **Infuse the brand throughout the workplace.** In this time of intense transformation, a brand-focused environment gives teams that invaluable sense of "we're all in this together," contributing to a more cohesive culture and focused productivity. Plus, memorable branding resonates with clients and guests visiting the space. ■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Industrial Market Analysis: Measuring Where to Invest

How data delivers insights that guide investment decisions.

By Trey Barrineau

Data-driven approaches are frequently used to identify core growth markets for industrial development and acquisitions. These combine top-down demographic and macroeconomic data with bottom-up information from specific submarkets. A recent webinar for NAIOP members provided insights into how commercial real estate professionals can turn data into actionable information for investors.

According to **James Freeman**, managing director at Bridge Investment Group, market analysis aims to ground assumptions made in investment management on real-world dynamics, which Bridge believes leads to a higher probability of success.

Investors who want to enter the booming North American industrial segment must do a significant amount of research about their chosen market before committing to a project. This involves studying demographics, economics, geography and more.

"For the industrial segment, that revolves around understanding local dynamics in terms of the drivers and constraints around each submarket, but also understanding what the overall global supply chain looks like, both from a consumption and production standpoint," he said. "Understanding both of those is critically important."

Jack Robinson, Ph.D., managing director and head of research at Bridge Investment Group, said there are multiple use cases for industrial properties that cover many different product types and strategies.

"The first step is determining the right altitude for your analysis," he said. "Are you taking the 30,000-foot view or are you drilling down to submarkets?"

Next, Robinson said it's important to create an objective framework that reduces bias.

"You want to model it after the drivers that you think are going to be informing your investment decisions, but you want it to be a check against previous experience or things you've seen in the market," he said.

This may require different approaches for different strategies, or an emphasis on some elements over others.

"In particular, there's always that tension between the characteristics of these markets you have these opportunities in," Robinson said. "They could be those high-barrier-to-entry markets, or they could be those infrastructure markets that are critical to the supply chain."

What Goes Into Market Analysis?

At a macro level, the major factors in market analysis include population, employment and consumer behavior.

For population, Robinson said signs of growth are critical, both in the past and in forecasts for the future.

Sources to track population changes range from publicly available resources, such as the U.S. Census Bureau and the U.S. Bureau of Economic Analysis, to private-sector organizations such as Moody's Analytics, Oxford Economics or Capital Economics, said Robinson. Decisions about selecting data providers are informed by the granularity of the analysis as well as the desired frequency of updates.

Another crucial measure is the relative economic health of a metro area that is under consideration for investment. One way analysts do this is by comparing the gross domestic product (GDP) of the United States to the gross metropolitan product (GMP) of a market that an industrial investor is looking to enter. Questions to consider include: Is the region more or less productive than the U.S. trend? How does it compare to similar markets? How does it compare to the nation as a whole?

Employment growth is another key data point. Employment should be growing in potential industrial investment markets, not only overall, but also by key industries. Location quotients, which measure how "saturated" an industry is in a local area compared to the U.S. as a whole, can also play a vital role in this assessment.

Another area to examine is the labor pool. For example, with new development, a question to consider is "are there enough workers to support the proposed facility?" Sources of data on employment include the U.S. Bureau of Labor Statistics, ADP payroll statistics and Internal Revenue Service records.

Next, consumer behavior is an integral factor to examine. Questions to consider include: What are consumers buying? Where are they buying it? How are they buying it? Are they favoring bricks and mortar or e-commerce? Sources for information on consumer behavior include the U.S. Bureau of Labor Statistics' Consumer Spending Patterns or private-sector firms such as Esri Demographics, as well as companies that track credit card transactions.

Digging Deeper

Freeman then discussed submarkets and sector-specific operating inputs.

"What we're talking about is submarket-level information and feet-on-the-street resources," he said.

Employment growth is another key data point. Employment should be growing in potential industrial investment markets, not only overall, but also by key industries.

Demand is typically boiled down to its lowest common denominator, which is consumption, Freeman said. The objective then is to identify those metrics and inputs that have a high correlation to demand. These include factors such as rent growth, aggregate demand growth, and the ratio of net absorption to delivery.

"On the supply side, we look at total inventory and market scale," Freeman said. "We like to look at a submarket's historical trends related to new deliveries, its pipeline of facilities under construction, as well as vacancy trends."

As for capital markets, Freeman said it's important to understand cap rate movements in a particular submarket. Also critical is understanding returns

— including total returns, historical compound annual growth rate (CAGR), and internal rate of return (IRR) partitioning using established industry benchmarks such as the National Council of Real Estate Investment Fiduciaries (NCREIF).

"We also look at liquidity," Freeman said. "What are the annual and cumulative transaction volumes in submarkets?"

Freeman added that Bridge focuses on absolute growth as well as compound annual growth in markets where it's interested in investing.

"Seeing 1% growth in a large population area can be more compelling than 2%-3% growth in a smaller area," he said. "We want to see two to three cycles. We want to get as much available data as possible. It's about mitigating the risk on the downside rather than trying to squeeze every last basis point of return on an investment."

Market Tier Rankings

Finally, Freeman noted that it's crucial to avoid a one-size-fits-all mentality when it comes to locating favorable markets for industrial investment. Commercial real estate firms, industry groups and academics have developed a number of methods for ranking and categorizing markets. (For more, see the NAIOP Research Foundation's recent reports, "A Two-Dimensional Approach to Evaluating Commercial Real Estate Markets" and "A New Look at Market Tier and Ranking Systems.")

At Bridge, they've broken down every U.S. logistics market into three broad-based buckets. The largest are the Global Gateway Markets, which represent approximately 40% of U.S. inventory and 30% of the U.S. population. Examples include Los Angeles and Atlanta. Next are the Regional Prime Growth Markets, which are up-and-coming areas with diversified economies. Boston is an example of this type of market. Finally, there are the Logistics Infrastructure Markets. These areas are crucial links in the supply chain because they have strong intermodal connections. Many are located in the Midwest; Indianapolis is a prime example.

"This analysis creates an actionable framework to drive your investment strategy," Freeman said. ■

Trey Barrineau is the managing editor of publications for NAIOP.

NOT ALL PLACES ARE CREATED EQUAL

The fortunate few thrive throughout economic changes, population migrations, and cultural evolutions. With more than $3.7 billion underway in total development investment, downtown continues its momentum of progress. Creative Village builds on the success of Orlando's technology and innovation economy by transforming 68-acres of city-owned land into a mixed-use, transit-oriented, Innovation District anchored by Electronic Arts, Inc.

DOWNTOWN ORLANDO BY THE NUMBERS

$3.7 BILLION
IN TOTAL DEVELOPMENT INVESTMENT

93.4%
APARTMENT OCCUPANCY RATE

87,200
TOTAL JOBS IN DOWNTOWN ORLANDO

NEARLY A
70% RESIDENTIAL POPULATION INCREASE
SINCE 2000

DOWNTOWN HOSTS MORE THAN
1,500 EVENTS A YEAR

12,015
RESIDENTIAL UNITS

ORLANDO NAMED
BEST MARKET FOR REAL ESTATE INVESTMENT
(FORBES 2019)

SOLD

12,200,000
RENTABLE OFFICE SQ. FT.

8,000
PLUS HIGHER ED STUDENTS

To learn more about available investment opportunities, contact David Barilla at David.Barilla@downtownorlando.com.

Operation Zero Waste: A Greener Way to Take Out the Trash

The TRUE Zero Waste Certification aims to divert the vast majority of garbage generated at commercial buildings away from landfills and incinerators.

By Alice Devine

The Atlanta Hawks have recently been talking trash — the lack of it.

The NBA team, which plays at State Farm Arena, has committed to zero-waste events at its venue. By adopting compostable practices for food and reducing paper, State Farm Arena is on track to become TRUE (Total Resource Use and Energy) certified.

This reduce-reuse-recycle mindset includes minimizing upstream production along with traditional recycling. Whether voluntary or compelled by legislation, however, a change to zero waste requires a property's vendors, tenants and users to be trained and educated. Property owners are realizing expense savings and meeting environmental, social and governance (ESG) goals through zero-waste policies, which demonstrates a change in building operations.

Courtesy the Atlanta Hawks

State Farm Arena, home of the NBA's Atlanta Hawks, has established a zero-waste goal for the roughly 160 events it hosts each year.

Zero-Waste Certification

The TRUE Zero Waste certification complements LEED accreditation, with both overseen by the United States Green Building Council (USGBC). Using a year of documented data, TRUE verifies that facilities have diverted 90% of their waste from landfills and incineration plants. To maintain certification, facilities must present ongoing evidence of such policies. TRUE offers accreditation for buildings that are tenant-leased such as offices and industrial buildings, as well as event venues. And like the LEED structure, TRUE trains professionals — known as TRUE advisors — to help property owners navigate zero-waste implementation as well as the certification process.

The adage that it's difficult to change that which you cannot measure applies to waste, which owners accomplish through trash audits. Consultancies such as Los Angeles-based All About Waste say, "We would love to dig through your trash!" This quantitative measurement, typically over a 24-hour period, provides insight into site performance. In addition, platforms such as the ENERGY STAR Portfolio Manager® track cost savings and report summary metrics of waste management.

This reduce-reuse-recycle mindset includes minimizing upstream production along with traditional recycling. Whether voluntary or compelled by legislation, however, a change to zero waste requires a property's vendors, tenants and users to be trained and educated.

Reduce, Reuse and Recycle

Susan Westrup, director of client solutions at the USGBC, advocates a focus on upstream efforts. Westrup says that two major culprits — food and paper — account for nearly 50% of all municipal waste. While food can be composted, eliminating (or reducing) its source results in less downstream effort. At its Mountain View, California, employee café, for instance, Google uses bowls that are less than one inch

The TRUE Zero Waste certification complements LEED accreditation, with both overseen by the United States Green Building Council (USGBC). Using a year of documented data, TRUE verifies that facilities have diverted 90% of their waste from landfills and incineration plants.

deep, encouraging employees to take smaller helpings (they can always return for another serving).

Emily Ma, head of Google's Food for Good program, estimates that the change has led to employees taking 30% to 50% less food. Water filling stations have replaced plastic bottled water, and coffee machines dispense milk or milk alternatives rather than trash-generating single-use creamers. While such items may seem inconsequential on an individual basis, Google serves thousands of meals per day worldwide.

Venues such as State Farm Arena that cater to thousands of attendees illustrate the scale of zero-waste results. At last year's Hawks NBA playoff game, with over 16,000 fans in attendance, the arena used compostable serviceware, cutlery and packaging that allowed an impressive 7,756 pounds to be recycled. In addition, the 600 pounds of plastic zip ties used to delineate social distancing between seats were collected and recycled. Finally, electronic tickets replaced approximately 165 pounds of paper. These large-scale events also enjoy the additional benefit of intensive training of on-site employees and visitors, which expedites the transition from policy into practice.

Although large-scale events make an immediate impact, day-to-day building-operation practices matter, too. For instance, San Francisco-based Salesforce offers its employees ceramic mugs for coffee. The cups are then collected and washed for reuse.

High-rise office buildings such as 333 Bush Street, also in San Francisco, achieve landfill diversion rates by excluding used computers, cellphones, light fixture ballasts and batteries from regular collection and diverting them for reuse and recycling. These diversions result in fewer refuse bins and smaller trash-compacting equipment, which leads to lower waste removal expenses.

Operating Expenses

The line item for waste removal usually consists of aggregated expenses for containers, collection, transfer and landfill, all part of a property's operating budget. While recent industry expenses for waste-removal costs decreased due to reduced building occupancies during COVID-19, that number will likely increase again as tenants return to the workplace.

Reduced trash expenses often occur in concert with local haulers whose pricing encourages zero-waste policies. 333 Bush Street's owners report that, because of "waste hauler Recology's rate structure in San Francisco, they are able to save thousands of dollars every month from greater waste diversion discounts." Recology calculates charges based upon service configurations, frequency of collection and site-specific diversion rates. Using both a base and variable amount, the variable rate is discounted in proportion to the percent of service volume that is diverted from the landfill, up to a 75% discount. To some extent, such zero-waste-friendly prices result from the emphasis on laws mandating sorting to reduce trash volumes.

Legislation and Ordinances

To date, eight states have adopted zero-waste laws, with expectations of meeting those goals ranging from 2030 to 2040. Notably, six of the eight states have adopted such legislation in the past three years, indicating an accelerating trend. Early municipal adopters, such as the city of San Francisco, with its Mandatory Recycling & Composting Ordinance, require residents and businesses to separate trash into three bins: recycling, landfill and compost. And while the city has achieved just 80% of its 100% diversion goal, its leadership has given the 25 million tourists that visit each year — pre-COVID — an impromptu education in putting the remnants of that sourdough sandwich into the correct bin (it's the one for composting).

Education and Communication

Beyond bin labels, property owners can amplify a zero-waste mission with messaging. The University of California, Berkeley's Chou Hall displays an enthusiasm for zero waste more typically shown for collegiate football games. Its Think café displays a full-wall screen that rotates landscape photographs of orange aspen groves and green meadows. Another dynamic electronic sign in Chou's lobby blinks, "How can you be more sustainable today?" The imagery reinforces a culture of reduce, reuse and recycle.

Such linguistics play a significant — and yet sometimes confounding — role in zero-waste endeavors. As an example, consider standard plastic sorting bins. Containers usually have a textual message: paper, composting, non-recyclables and so on. In urban areas with diverse populations, the text might be repeated in multiple languages. Then, bins may use a symbol like a banana to represent compost. The issue, Westrup notes, is that symbols do not necessarily translate from community to community. Complicate text and symbols with a variety of colors — blue, green, black, brown — and a user may pause, unsure of how to dispose of an item. Without a universal textual, symbolic and coded language, the waste-management process remains challenged by interpretation.

To date, eight states have adopted zero-waste laws, with expectations of meeting those goals ranging from 2030 to 2040. Notably, six of the eight states have adopted such legislation in the past three years, indicating an accelerating trend.

Environmental, Social and Governance

While training challenges for zero-waste plans exist, TRUE and other zero-waste certifications help companies achieve environmental, social and governance goals. TRUE is recognized by the Global Real Estate Sustainability Benchmark, whose reporting is a metric for measuring and formally reporting ESG performance.

In addition, employees increasingly want to work with companies that value environmental awareness. Westrup relates an anecdotal comment from a young employee: “Can you believe they (her summer internship company) didn’t even have composting?”

Companies without environmentally conscious workplace policies have the potential to be perceived as behind the times, which can negatively impact attracting talent or tenants. ■

Alice Devine is the author of the award-winning “Suite Deal, the Smart Landlord’s Guide to Leasing Real Estate,” and a lecturer at UC Berkeley’s Haas School of Business.





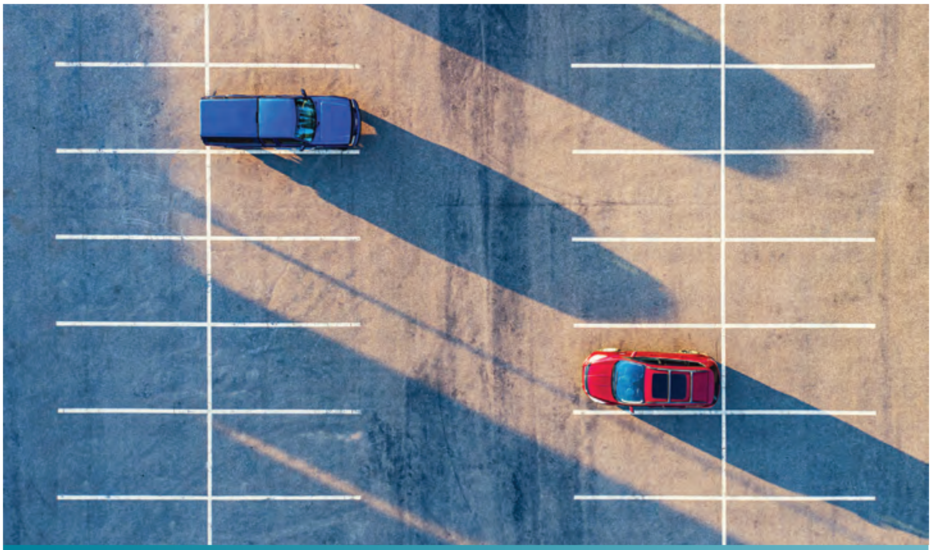
Parking in a Post-Pandemic Economy

As workers return to offices and shoppers return to stores, new parking strategies may emerge.

By Robert Dunphy

The COVID-19 restrictions that began in March 2020 led to business closures and a sharp cutback in personal travel that caused demand for parking to plummet. Except for curbside pickup of retail purchases and carry-out meals, most travelers stayed home and avoided commercial and private parking lots and on-street spaces.

In April 2020, passenger travel on roads declined by 60%, while public transit usage fell by 81%, and air travel slumped by 96%, according to the U.S. Department of Transportation's Bureau of Transportation Statistics. It was not until the spring of 2021 that passenger car travel returned to 2019 levels on average, but with wide variations across the country.



Across the country, demand for parking plummeted during the COVID-19 pandemic, falling by 92% in early 2020 from 2019 levels.

A Range of Responses

The recovery of parking demand is tied to the return of employees to offices and shoppers to retail centers. According to data provided in a January video discussion by the International Parking and Mobility Institute (IPMI), municipal parking facilities supported by ParkMobile, a parking app, experienced a 92% decline in early 2020, and slowly recovered to 2019 levels by the summer of 2021. Most municipalities surveyed responded to demand declines by suspending parking enforcement and parking fees.

For example, Greenville, South Carolina, returned to a pre-pandemic level of parking transactions in 2021, but with a larger mix of daily vs. longer-term customers, according to the January IPMI discussion. This led to more customers paying with a parking app. Parking in Pasadena, California, peaked at about 85% of normal usage by the end of 2021, hinting that the parking demand — and revenue — may remain below pre-COVID levels.

In February, the Chicago Loop Alliance reported that downtown Chicago saw garage parking shrink to a mere 20% of normal usage in 2021. Garage rates were gradually lowered to match demand. By the end of 2021, parking in city garages rebounded to 37% of normal. That was slightly higher than office occupancies, once again reflecting the slow recovery of business. Parking meter revenues in 2020 were reported at 67% of 2019 levels, substantially higher than garage parking, reflecting higher levels of auto commuting than transit. (Street meters in Chicago are operated by a private contractor.) City transit ridership was at 49%, ahead of other cities.

San Francisco has operated a market-based pricing program for downtown parking since a pilot program in 2011. Rates are adjusted to assure that blocks do not fill up, which encourages wasteful "cruising" to find a space. Instead, price-sensitive drivers can settle for cheaper, lower-demand parking spaces farther away, or use another means of transportation. The demand-responsive parking program was expanded to all meters in the city in 2018.

When the pandemic hit, San Francisco experienced similar shutdowns as elsewhere. By April 2020, parking in city-owned garages, with 14,500 spaces, was down 93% in utilization and 94% in revenue from pre-pandemic levels, according to data from the San Francisco Municipal Transportation Agency. In response, rates were lowered to

Some of the parking changes during the pandemic were made on the fly to adapt to a crisis and will be dropped as the recovery continues, but some might be here to stay.

50 cents an hour and enforcement ceased, resulting in revenue declines of 90% or more. This made it hard to measure utilization, since most people probably weren't paying the meters.

In July 2020, rates returned to pre-pandemic levels minus 50 cents an hour across the city, an approximately 20% discount off pre-pandemic rates, and enforcement was reinstated. Revenue jumped to 50% of pre-pandemic levels. Since July 2020, utilization and revenue have tracked with COVID-19 surges and business reopenings, peaking briefly at 100% of pre-pandemic revenue before the omicron surge, and now at about 85%-90% of pre-pandemic revenue. On-street parking for the 26,000 metered spaces followed a similar pattern. Transit revenue on city buses, streetcars and cable cars, in contrast, declined by 92% in 2020, and by December 2021 it had only recovered to 35% of normal.

Pandemic Changes Worth Considering

Some of the parking changes during the pandemic were made on the fly to adapt to a crisis and will be dropped as the recovery continues, but some might be here to stay. This includes several innovative ideas, such as the conversion of streets to outdoor dining to expand restaurant capacities. "Streeteries" have proved popular even in colder climates, and they helped create a neighborhood feel and safer streets for residents. The downside for retailers is the removal of parking spaces. San Francisco lost about 1,000 spaces for dining or parklets. Many cities are considering an assessment for the use of these spaces. **Rachel Yoka**, IPMI vice president, suggests "parking should be friendly, not free."

Another innovation is a greater focus on curb management to facilitate curbside pickup, shared ride vehicles, and an explosion of bikes, scooters and other micromobility options.

Changing code requirements to adapt to new levels of parking demand, and a recognition of the growing role of automated vehicles, is another pandemic-related change that could have a long future.

Finally, charging market prices for parking, such as the demand-responsive pricing programs implemented in San Francisco and Chicago, could also continue after the pandemic. The parking pricing in San Francisco is the most ambitious such program in the U.S., and it may become standard for other cities. Private-sector garage owners could be encouraged to follow, yielding additional revenue and creating a financial incentive for users to consider transportation alternatives. Improved collection technology can help facilitate these changes.

Key Indicators for Future Parking

The nature of the return to work. When most employers bring people back to the office, the nature of new work schedules will make a critical difference. Do all employees return on a five-day-a-week basis? It seems unlikely, as workers have gotten used to the convenience of more time at home. A staggered three- to four-day week seems more probable, but if employers decide that all hands must be present on the same day, there could be the same peak parking demand as seen before the pandemic.

The role of transit. Transit use continues to be down substantially in major cities, as people are not comfortable being in crowded public conveyances.

The appeal of the mall. Retail suffered during the pandemic as consumers stayed home, but online shopping stepped up, including BOPIS (buying online and picking up in store). According to the National Retail Federation, holiday sales rose 8.2% in 2020 and 14.1% in 2021. Surprisingly, in-store sales outpaced online sales. Because of that, retailers need to establish parking for a "normal" year, since the traditional parking ratios are based on a few days of concentrated shopping over the holiday season, a pattern that may relax with more options. On the other hand, malls looking to expand their entertainment and dining options will need to add parking, because those uses have higher parking ratios than retail.

Vehicle ownership and use. The much touted (and premature) promise of automated vehicles (AVs) could drastically change parking needs, especially if people are willing to give up their second or third cars for affordable AV car services.

> **The much touted (and premature) promise of automated vehicles (AVs) could drastically change parking needs, especially if people are willing to give up their second or third cars for affordable AV car services.**

There are many questions that remain to be answered, but this pandemic-fueled pause in the pace of normal life may open up new and better opportunities for transportation, which will drastically impact parking. ■

Robert Dunphy is a transportation consultant, an Emeritus Fellow of the Transportation Research Board, and an adjunct professor in Georgetown University's Real Estate Program in the School of Continuing Studies.


1673

Office-to-Industrial Conversions: A Niche Market Worth Exploring

EverWest Real Estate Investors and Woodmont Properties recently purchased 400 and 600 Atrium Drive in Somerset, New Jersey, with plans to convert a 351,782-square-foot office building and adjacent land site into two Class A warehouse/distribution buildings totaling more than 426,000 square feet.

There's a lot of potential, but the economic and regulatory challenges can be daunting.

Ron Derven

At a Glance

- Due to demand outpacing supply, there is a nationwide shortage of industrial space.
- Converting old office space to industrial uses is a small but potentially lucrative trend.
- Class B and C offices in land-constrained major markets are the best candidates for conversion.

By Ron Derven

When the conditions are right, converting an old office building to an industrial use could be a home run for owners, investors and warehouse tenants who are desperate for more space close to their customers.

Surging demand and rising barriers to new development have collided to create an extreme scarcity of logistics real estate across the country, said **Melinda McLaughlin**, senior vice president and global head of research at Prologis.

But according to two recent studies, a report by the Newmark Group, Inc., "Space to Replace: Divergent Market Fundamentals Drive Office-to-Industrial Conversions," and another by Prologis, Inc., "Sizing Up Office-to-Logistics Conversions," this type of conversion is niche but may continue to grow in land- and warehouse-constrained major markets around the country.

"Challenging economics add hurdles to the land availability, regulatory and competitive fronts,"

Ron Derven

Onyx Equities and Russo Development recently bought a vacant Novartis office building in Morris County, New Jersey, with the intent to replace the 900,000-square-foot facility with an 826,800-square-foot modern industrial space. The site is part of the 202-acre Novartis campus.

Russo/Onyx

An artist's rendering shows what the former Novartis office building in Morris County, New Jersey, will look like once it's converted into an industrial facility.

McLaughlin said. "New supply from office-to-logistics conversions will take time to come online because resolving existing agreements, demolition, rezoning, entitlement, permitting and approvals take much longer than a typical greenfield logistics development."

Newmark's **Elizabeth Berthelette**, director of research, concurred.

"Office-to-industrial conversions are a niche trend, although we are continuing to see more older, functionally obsolete office projects being earmarked for redevelopment," she said.

A critical element whetting the appetite for these types of conversions is the widening gap between office and industrial vacancy rates, according to third-quarter 2021 statistics detailed in the Newmark report. On a national level, office vacancy rates were 16.6%, while industrial vacancy rates were a mere 4.6%. In key major markets, the results were equally dramatic (see Figure 1).

According to Newmark research, there have been about 45 office-to-industrial conversions since 2018. (Office-to-industrial conversions typically require the demolition of the office building, not the retrofit of the building into a warehouse, which needs high ceilings, vast

Figure 1

Comparison of Office and Industrial Vacancy Rates in Major Markets for Third Quarter 2021

Major Market	Office Vacancy Rates	Industrial Vacancy Rate
Atlanta	22.2%	5.0%
Chicago	20.6%	5.7%
Northern New Jersey	20.2 %	3.4%
Los Angeles	19.2 %	1.2 %
District of Columbia	18.3 %	4.8 %
Philadelphia	17.4 %	4.4 %
Orange County, California	16.1 %	2.3 %
Portland	15.6 %	4.0 %
Boston	14.6 %	4.5 %
Sacramento	11.8 %	2.1 %

Source: Newmark Research

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parking space and additional power.) That amounts to roughly 11.3 million square feet of space redeveloped or in the process of redevelopment into industrial use, Berthelette said. These conversions are mostly taking place in markets where density and land constraints are the driving force.

Berthelette noted that an office-to-industrial conversion could work in many markets as long as the property meets some basic criteria for an industrial redevelopment play.

"Based on our research, Atlanta, Chicago, Northern New Jersey, Los Angeles and Philadelphia have exhibited the most redevelopment activity," she said. "They are prime logistics hubs with very strong industrial fundamentals."

She said Boston, where her office is located, is different from these markets because it is not a logistics hub — it is more of a tertiary industrial market. But it has other qualities that could make it an ideal area for office-to-industrial conversions: population density and limited developable land. Further, many municipalities in the Boston market have strict zoning regulations, which is a powerful barrier to entry for new greenfield development.

Key Takeaways on Office-to-Industrial Conversions

- Focus on land- and warehouse-constrained major markets
- Class B and C office buildings are the best candidates for such conversions
- The old office project should have between eight and 35 acres
- The project needs to be near a major highway — typically less than five miles away
- Empty or single-tenant buildings are the best candidates for conversion; multitenant buildings can present problems
- Regulatory and zoning issues can be a big stumbling block ■

Newmark's Proprietary Modeling

Berthelette's research team began tracking office-to-industrial repositionings in the Boston area as they were gaining traction.

"We had seen a handful of these conversions already completed," she said. "Reaching out to our research counterparts in other markets, we realized that there was more to this trend than one-off instances, so we created a model to identify potential office buildings ideal for industrial redevelopment."

Her team analyzed about 50 projects — those already converted from office to industrial, as well as office buildings purchased for future conversion projects. They determined that office assets that fell within a specific acreage range and were close to highways were ideal for industrial redevelopment.

In the Boston region, however, the Newmark team had to look beyond the typical suburban locations for these potential conversions.

"We examined all office buildings in the outer suburban ring around Boston, because most office repositionings in markets close to Boston's urban core are focused on life science users as opposed to warehouse/distribution," Berthelette said. "In reviewing outer suburban markets, we found a number of 1980s-vintage campus-style office parks with high vacancies. We asked ourselves: out of the hundreds of buildings examined, which have the most similar characteristics to our sample set?"

Berthelette's group also used a second methodology — a binomial regression model — to identify potential office-to-industrial conversions. This model examined all the industrial buildings in Boston's Route 495 submarkets and compared the characteristics to all the office buildings in the same geography. The model was able to predict within 97% accuracy which buildings were office and which were industrial. The buildings that were mischaracterized as industrial were potential targets for industrial redevelopment.

According to **Mike Laccavole**, a senior research analyst at Newmark, many office buildings that were mischaracterized as industrial had larger-than-average floorplates and higher vacancy rates than a typical office building and were class B or C. These factors made the properties more likely for industrial conversion.

Allstate

Allstate has sold its Northbrook, Illinois, campus to warehouse developer Dermody Properties, based in Reno, Nevada. Dermody plans to build 3.2 million square feet of logistics space. Allstate's Northbrook campus, which opened in 1967, currently has two million square feet of office space.

Key Criteria for Office-to-Industrial Conversions

For an owner or buyer of an old office building interested in converting it to warehouse space, what are some of the criteria that the project must have to make it a viable candidate? Here are some tips from Newmark and Prologis.

The project needs acreage for industrial use. It must have considerable land to be viable as a new industrial project. The Prologis report recommends at least eight acres of land to turn an old office into a modern logistics space. Newmark goes further, suggesting between eight and 35 acres, depending on the plan for the warehouse. According to Prologis, approximately 27,000 office buildings in the U.S., or 2.2 billion square feet in total office stock and 1.2 billion square feet in ground floor real estate, meet this criterion.

The Prologis analysis focused on the top 25 markets where it does business. The company narrowed down the potential number of opportunities even further by eliminating all Class A office buildings from consideration. According to Prologis, given the wide spread between rents and values for Class A office

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and logistics space, it focused only on Class B and below for conversion from office to industrial use, which encompasses roughly 65% of the square footage in its markets. Prologis projects that between 40 million square feet and 80 million square feet of office space will be converted to logistics space over the next decade.

Properties are typically located near major highways. Newmark recommends that the potential office conversion be located within four miles of a major highway. As can be seen in Figure 2, Newmark found that in major markets, the closest highway ranged from only one mile to 4.2 miles for office-to-industrial conversions.

The best bet for office-to-industrial conversions is land- and warehouse-space-constrained markets. Although the office-to-industrial conversion can probably be done in any region, both Prologis and Newmark note that the focus needs to be on large, coastal markets with high land values and limited warehouse supply. Prologis notes in its report that the likely targets for conversions include the suburbs of New York (northern New Jersey), Southern California, San Francisco and Washington, D.C. Newmark adds Chicago to this list.

"Even though class B/C office rents generally exceed logistics rents in these locations, lower cap rates and tenant improvements costs for logistics properties add to the conversion rationale," noted the Prologis report.

Empty buildings make good office-to-industrial conversions. The best prospect for an office-to-industrial conversion is an empty building. The next-best prospect is a building with a single tenant whose lease is coming up for renewal. Buying out all the tenants in a multitenant office building can be a big, expensive headache.

Figure 2

Office-to-Industrial Conversion Metrics, Select Markets

Volume of Office Product Converted/Proposed for Conversion since 2018, and Key Property Details

Market	Office-to-Industrial Conversion Volume (Total Office SF)	Average Land Area (AC)	Closest Major Highway (Average Miles)	Average Year Built
Chicago	3.0 MSF	24.8	2.5	1980
Los Angeles	2.1 MSF	22.7	1.0	1980
Boston	1.7 MSF	30.1	4.2	1985
Northern New Jersey	1.5 MSF	14.2	2.1	1983
Orange County, Calif.	1.5 MSF	24.3	1.3	1989
Washington, D.C.	0.7 MSF	14.8	2.3	1998

Source: Newmark Research, CoStar, November 2021

"There are potential office-to-industrial conversion projects that may be attractive on many levels," said Newmark's **Lisa DeNight**. "However, tenant relocation may be a challenge. Those buildings with single tenants are better than multitenant buildings, and the best option is a vacant building."

Obsolete office buildings in need of major overhauls. The best-case scenario would be an office project that is so obsolete it is no longer useful as an office rental.

"If there is a functionally obsolete office property that's been vacant for many years and is not viable for office use anymore, it could be considered a covered land play," said Berthelette. "In our analysis, however, we did not come across a building that was completely uninhabitable. While there is still value in the original structure, the proposed industrial use garners a higher value."

The problem with numerous old office buildings in the post-pandemic world is that they might require costly upgrades to get them to the point where health-conscious tenants will rent. Those renovations need to be compared against tearing down the building and starting fresh with a new warehouse structure.

"There will continue to be a need for more industrial space, especially in last-mile locations around logistic hubs and dense populations," said Berthelette. "The office market is facing likely changes, as there is still uncertainty around the work-from-home scenario and how much office space users will

Selected Office-to-Industrial Conversions

The **Allstate Corporation** has reached an agreement to sell its Northbrook, Illinois, campus to warehouse developer **Dermody Properties** of Reno, Nevada, for approximately $232 million, according to an Allstate press release. The sale is expected to close in 2022. Allstate is selling the property as employees have more choice about where they work and many are choosing to work from home. Dermody's early plans call for 3.2 million square feet of logistics space. Allstate moved into the Northbrook site in 1967, and the campus currently includes two million square feet of office space.

Prologis recently acquired 112 West Park Drive in Mt. Laurel, New Jersey, from **Veritas Real Estate**, which it plans to develop as an 184,500-square-foot logistics facility, according to a CBRE press release. 112 West Park Drive is currently a 114,676-square-foot office building situated on 16.82 acres of land. The property is adjacent to the New Jersey Turnpike (I-95) and I-295 and is just 20 minutes to PhilaPort (Port of Philadelphia) and Philadelphia International Airport.

Amazon purchased an aging 230,000-square-foot office building on 25 acres in King of Prussia, Pennsylvania, from investor **Eli Kahn** and is expected to redevelop the structure into a warehouse, according to The Philadelphia Inquirer. Virtually every office-to-industrial conversion requires the teardown of the old office, but the building that Amazon purchased actually started out as a warehouse, then was converted to an office building, and now will be converted back into a warehouse.

EverWest Real Estate Investors, in joint venture with **Woodmont Properties**, has purchased 400 and 600 Atrium Drive in Somerset, New Jersey. Currently, there is a 351,782-square-foot office building and adjacent land site. The partnership plans to vacate and demolish the building and develop two Class A warehouse/distribution buildings totaling more than 426,000 square feet.

Russo Development and **Onyx Equities** have purchased a vacant Novartis property in Morris County, New Jersey. The partnership plans to eliminate an existing 900,000-square-foot building and replace it with an 826,800-square-foot modern industrial space. The site is part of the 202-acre Novartis campus.

Brookfield has purchased a two-story office building, located on 5.2 acres, near the Port of Los Angeles called The H. It is a 125,000-square-foot office building, and the company is planning to explore a logistics-based redevelopment project, according to the Commercial Observer. The property is located in Torrance, California.

An undisclosed buyer has purchased Party City's headquarters offices in Rockaway, New Jersey, for $19.6 million to convert it to a 121,038-square-foot industrial building, according to Real Estate NJ. The structure started out as a warehouse, was converted to a 106,000-square-foot corporate office and now will return to its roots as a warehouse in the prime northern New Jersey marketplace. ■

Although the office-to-industrial conversion can probably be done in any market, both Prologis and Newmark note that the focus needs to be on large, coastal markets with high land values and limited warehouse supply. Prologis notes in its report that the likely targets for conversions include the suburbs of New York (northern New Jersey), Southern California, San Francisco and Washington, D.C. Newmark adds Chicago to this list.

Ron Derven

Party City's headquarters in Rockaway, New Jersey, will be transformed from an office into a 121,038-square-foot industrial building. Ironically, it began life as a warehouse before being converted to an office, and now it will return to its original use.

need in the future. There is also ongoing discussion around ESG (environmental, social and governance), LEED certification and bringing older office buildings up to more modern standards. Industrial developers and investors may look at older office buildings that need significant upgrades for redevelopment plays."

Regulatory and zoning issues. Regulatory issue and community opposition represent issues that could make or break a conversion deal, although both Prologis and Newmark admit that converting the office into industrial space is usually far easier than converting retail to industrial space. That is because when a municipality loses retail, it loses sales tax revenues. Further, retail is typically located near its customers, while an office park is often off in its own area. Community opposition could well develop over big trucks, pollution and noise coming into the neighborhood. While the municipality will not lose sales tax with the conversion of office to industrial, there is an implied loss of white-collar jobs, according to Prologis. This might complicate the already lengthy rezoning/permitting/approval process in these high-cost areas, adding time and cost to the project.

Berthelette said zoning issues are not easily quantifiable when considering a project for conversions.

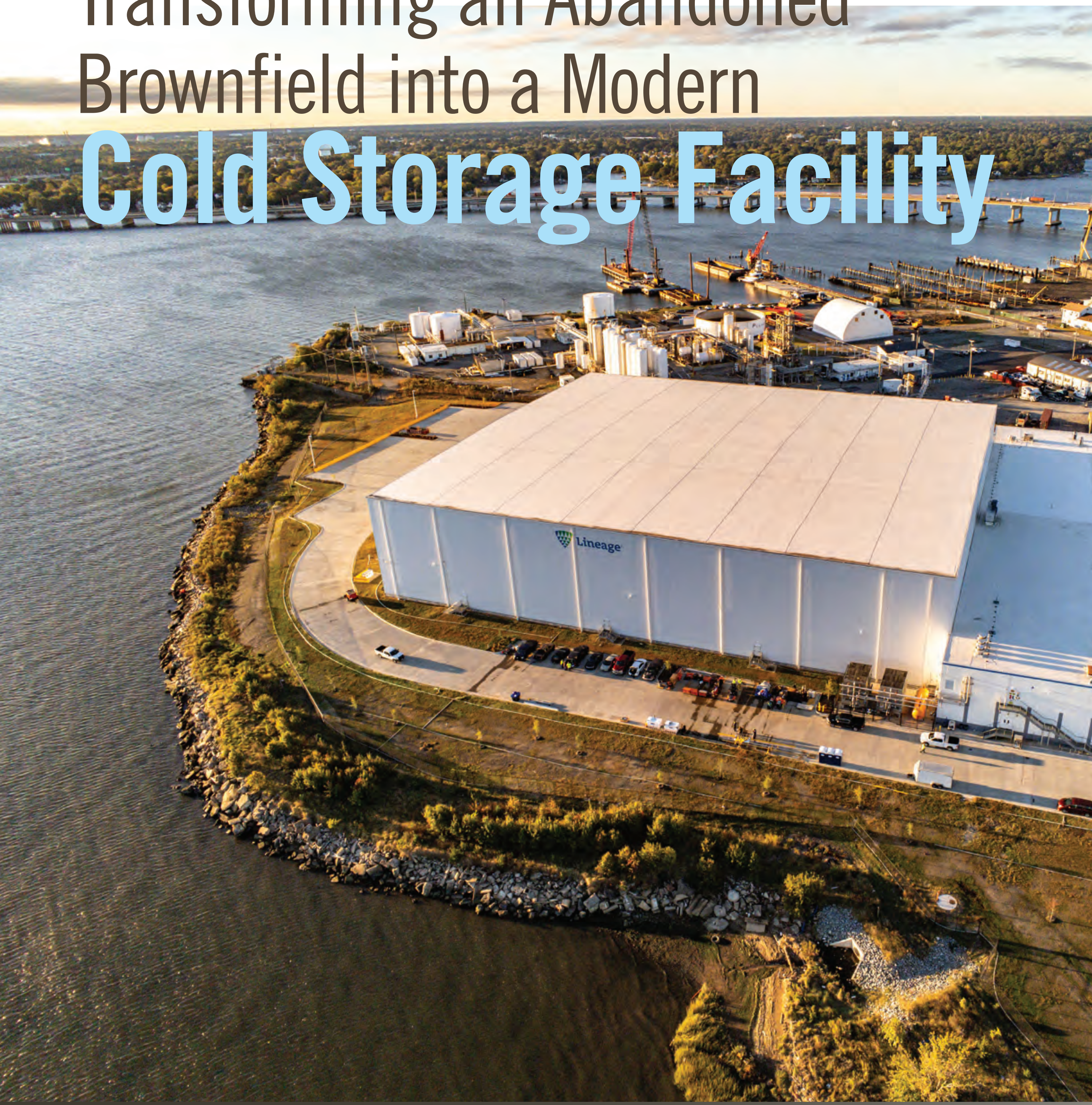
"Some types of development might face more resistance than others," she said. "When a project is being considered for conversion, questions will arise regarding highest and best uses. Depending on the usage, developers may run into some regulatory challenges — which we have seen in several markets throughout the U.S."

Materials and labor cost increases plague all projects. Finally, rising construction costs must be carefully considered in any office-to-industrial conversion.

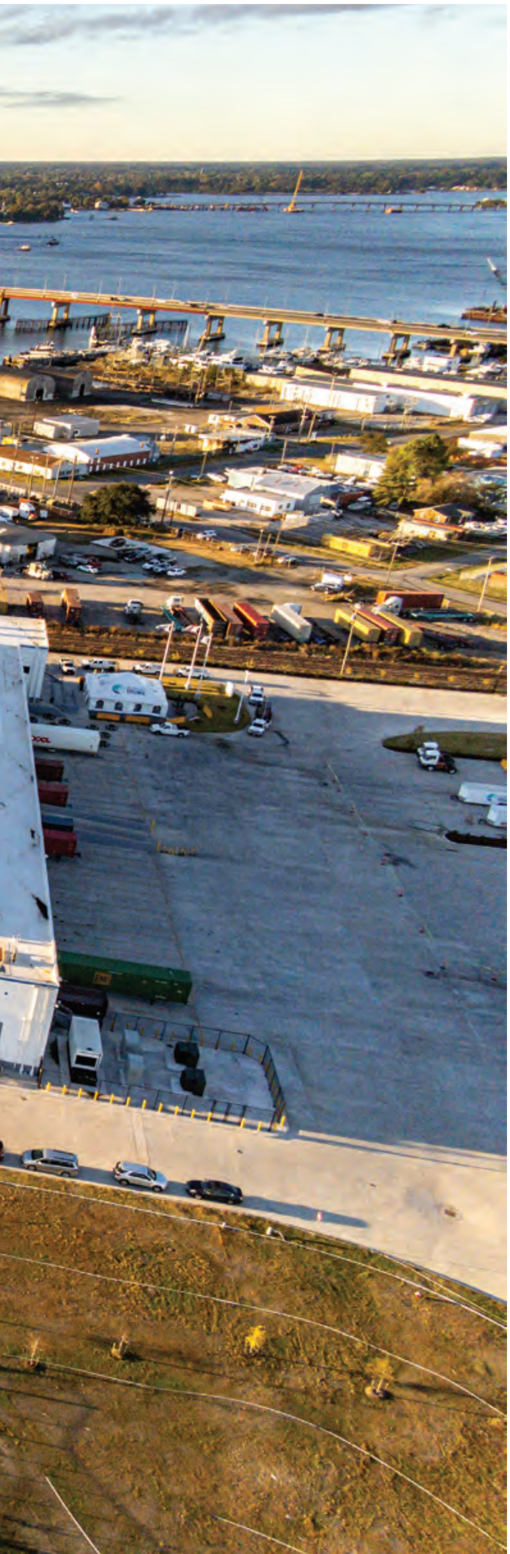
"Razing an office building and constructing an industrial building, in this environment, results in significant construction costs — a trend in the industry for the last few years," said Berthelette. "Now, with the current inflationary conditions and rising interest rates as well as major supply chain issues, the construction cost piece of the development puzzle gets increasingly more complicated." ■

Ron Derven is a contributing editor to Development magazine.

Transforming an Abandoned Brownfield into a Modern Cold Storage Facility



The Lineage Logistics cold storage facility in Portsmouth, Virginia, opened in October 2021. The 167,264-square-foot plant stores and processes a variety of food products for distribution.



Lineage Logistics

At a Glance

- Demand for cold storage has skyrocketed in recent years.
- Lineage Logistics developed its facility in Portsmouth, Virginia, on the former site of a BASF plant.
- State and local economic incentives played a significant role in this project.

A public-private collaboration results in an $84 million investment and more than 80 new jobs in Portsmouth, Virginia.

By Kenneth E. Rodman, Jr., VHB

In October 2021, Lineage Logistics, LLC opened a new cold storage facility in Portsmouth, Virginia, for importing, exporting, processing and distributing a variety of food products across the region. The new facility is helping meet the surge in demand for cold storage space and strengthening the Port of Virginia's supply chain and logistics infrastructure.

Situated on the Elizabeth River on a former BASF manufacturing site, the cold storage facility's strategic location gives Lineage access to global markets via the Virginia International Gateway Terminal, which is about 1.5 miles away. The repositioning of this property resulted in an $84 million investment, more than 80 new high-paying jobs and significant economic benefits to the community.

The Cold Storage Industry

Investments in cold storage, warehouse, distribution and delivery facilities are on the rise to meet the demand generated by companies engaged in e-commerce, third-party logistics, packaging supply and the food industry. As consumers across the nation have become more conscious of what they eat, the demand for healthy, fresh food has escalated. As a result, the industry has seen increased demand for cold chain facilities. Refrigerated storage has become an integral part of the transportation and storage of temperature-sensitive products.

The pandemic further accelerated the need for high-quality space. According to Global Trade, North America's cold chain market reached a value of $88.5 billion in 2019 and is expected to grow to over $142 billion by 2025.

The Hampton Roads area of Virginia was experiencing extremely low industrial vacancy rates, and Marathon recognized the need for additional space. **VHB prepared multiple development scenarios, test-fitting several different industrial use types for the property so Marathon could gain a full understanding of its development potential.**

Access to ports and connected transportation networks are critical strategy components for cold storage operators, and businesses are seeking sites that give them access to global markets. Asset repositioning is taking center stage as communities across the nation identify underutilized sites that can be returned to productive use to fulfill the need for high-quality industrial real estate.

Repositioning the BASF Site

For more than a century, manufacturing facilities occupied the Portsmouth waterfront. BASF, a German-based multinational chemical company, established its Portsmouth factory in 1999, where it produced and exported more than five million diapers a year.

In 2007, BASF shuttered the Portsmouth plant and moved its operation to Texas as part of a larger corporate strategy to increase productivity and efficiency by concentrating production at fewer U.S. sites. Once the plant was closed, the chemical giant focused on remediating extensive environmental issues resulting from its work with superabsorbent polymers to return the 44-acre Portsmouth site to productive use. However, volunteer remediation efforts moved slowly, and the site sat dormant for many years.

In 2016, a ship repair and fabrication services company purchased the 44-acre waterfront parcel to support the company's growth and its ability to efficiently service the shipping industry. Expansion plans included extra capacity for ship repairs for both the U.S. Navy and the private sector, as well as for the construction of new ships. The BASF site seemed ideal with its waterfront access, potential for berthing space, and lift capacity that could accommodate vessels up to 250 feet long, 56 feet wide and 15 feet deep.

VHB, a civil engineering firm, became involved in 2016 when the site's new owner engaged the firm to prepare the due diligence, which helped the owner understand the value of the land and the infrastructure investments necessary to support landside and waterside uses. Plans included the development of shipping repair facilities and a new deep-water marine terminal. VHB analyzed the site's capacity and prepared master development plans that included programming for several new facilities. After investigations, VHB determined that a deep-water marine facility was cost prohibitive. An excessive amount of dredging would be needed, and its subaqueous impacts would make permitting challenging.

In 2018, the site was sold to Marathon Development Group. With its previous site knowledge, VHB was engaged to continue to work on plans for the new owner.

The Hampton Roads area of Virginia was experiencing extremely low industrial vacancy rates, and Marathon recognized the need for additional space. VHB prepared multiple development scenarios, test-fitting several different industrial use types for the property so Marathon could gain a full understanding of its development potential. Site and concept plans were prepared for multiple warehouses, cold storage and cross-dock facilities.

In early 2019, Virginia was competing with Georgia and South Carolina for a large investment from a major cold storage operator. The Virginia Economic Development Partnership began working closely with the city and regional agencies to identify sites that would be suitable for a new cold storage facility.

The city of Portsmouth had long viewed the BASF site as an economic development opportunity. Calls were placed to Marathon Development and VHB, and they began collaborating on test fits and layouts, producing multiple options that would strategically position a new cold storage facility on the Elizabeth River. Just three months later, the former BASF site in Portsmouth was chosen for Lineage Logistics' (formerly Preferred Freezer) new facility. Lineage is the world's largest temperature-controlled industrial REIT, and it maintains a network of fully automated cold storage facilities worldwide.

Public–Private Collaboration

Portsmouth Economic Development worked closely with the Virginia Economic Development Partnership (VEDP), the City of Portsmouth, the Hampton Roads Economic Development Alliance and the Virginia Port Authority to attract Lineage to the Portsmouth region and secure the $84 million investment. The public agencies and the site's owner and engineering firm closed the deal in April 2019, just three months after the initial call.

The city of Portsmouth had laid the groundwork for future industrial activity by creating and adopting a new comprehensive plan in 2018, Build One Portsmouth, which

Lineage Logistics

The Lineage Logistics facility in Portsmouth, Virginia, has more than 26,000 rack locations and 50 refrigerator container plugs on site.

established a long-range plan and vision for development, revitalization and preservation of the city. The plan set the framework and guiding principles for the city's future, which included economic development through the strategic assembly of vacant and underutilized land to make it available for redevelopment and return it to private ownership.

"The repositioning of the BASF brownfield site demonstrates the power of public-private collaboration," said **Robert Moore**, director of economic development with the Portsmouth Economic Development Agency. "City, state and regional agencies collaborated with the site's owners and the engineering team to present Lineage Logistics with the benefits of developing this new cold storage facility on Portsmouth's waterfront in an extremely short timeframe."

In addition, the Port of Virginia has made significant investments in the port's capacity. Between 2015 and 2025, it will have invested $1.5 billion in infrastructure, creating a network of six terminals that can handle any type of cargo.

The Port of Virginia is centrally located in the Mid-Atlantic, a two-day drive from 75% of the U.S. population. It has direct interstate highway access from all terminals. It is also the largest intermodal rail port on the East Coast, with service to 19 inland destinations. Currently, it is the third-largest container port on the East Coast. The network of terminals can process more than four million containers annually and supports ultra-large container vessels arriving from across the Atlantic.

In 2024, the Port of Virginia aims to be the deepest port on the East Coast with 55-foot channels and two-way traffic for the largest vessels.

State Incentives

Lineage received incentives from the state of Virginia, including a grant from the Commonwealth's Development Opportunity Fund (COF). The COF is a "deal-closing" fund that can be employed at the governor's discretion to secure a company location or expansion in Virginia. The COF is administered by the VEDP and serves as a final resource for Virginia in the face of serious competition from other states or countries. COF grants are negotiated amounts determined by the Secretary of Commerce and Trade, based on the recommendation of VEDP, and subject to approval by the governor.

Lineage received $180,000 that was tied to the creation of 60 new jobs over the course of three years. The COF funds were designated for distribution at the end of each year of operation and were earned based on every 20 new jobs created. Lineage exceeded the city of Portsmouth's goals and created 80 new jobs within the first year of operation, so the project will receive the full amount of funding in the first year.

The Portsmouth Port and Industrial Commission (PPIC) matched this amount with an additional $180,000. In addition, VHB assisted the city of Portsmouth in securing a $600,000 Economic

Lineage Cold Storage Facility - Project Summary

Project Location	Portsmouth, Virginia
Project Name	Lineage Cold Storage Facility
Type of Site	Urban – Brownfield
Development Type	Ground Up, Scrape and Rebuild
Transportation Modes	Car, Truck
Division of Uses	Cold Storage Facility
Parking	Surface Only
Tenants	Lineage VA Portsmouth RE, LLC
Project Dimensions	167,264 Square Feet on 13.49 Acres
Development Team	
Owner	Lineage VA Portsmouth RE, LLC
Developer/Contractor	Victory Unlimited Construction, LLC
Site/Civil, Master Planner & Landscape Architect	VHB, Inc.
Architect	RKB Architects, Inc.
Timeline	
Land Acquisition	October 2019
Planning Started	January 2019
Initial plans Submitted	March 2020
Approvals Obtained	September 2020
Construction Started	October 2020
Construction Complete	October 2021
Development Cost	
Total Project Cost	$84 Million ■

Development Access Program Grant from the Virginia Department of Transportation to convert a paper street — a road that only existed on a map — to a public right-of-way that helped improve access to the site and the new cold storage facility. The former "Chemical Way" was converted to "Lineage Way."

The Real Work Starts

Once Lineage confirmed that Portsmouth would be the home of its new facility, it purchased a portion of the BASF parcel from property owners, Marathon Development. The design team — Victory Unlimited Construction, RKB Architects and VHB — then set to work to deliver the new facility by mid-2019.

Lineage's new cold storage facility was delivered using alternative delivery or design-build, which focuses on collaboration and innovation to deliver projects in a timely and cost-effective manner.

According to the Design-Build Institute of America, in design-build, "the owner manages only one contract with a single point of responsibility. The designer and contractor work together from the beginning, as a team, providing unified project recommendations to fit the owner's schedule and budget. Any changes are addressed by the entire team, leading to collaborative problem-solving and innovation."

Victory has a strong track record delivering cold storage facilities across the nation and a long history with Lineage, and it worked with the team to deliver this new facility under an accelerated schedule. By utilizing design-build, the team was able to mitigate the risks throughout the design and construction process and meet critical timelines as well as the opening-day schedule.

To facilitate an accelerated construction schedule, VHB prepared a plan to handle earthwork, erosion and sediment control, as well as demolition and stormwater containment. This allowed the contractor to start the massive amount of demolition while the final design documents were being prepared.

Also, with the building's location on the edge of the Elizabeth River, depressed loading docks were not feasible, and the facility had to be constructed four feet higher than existing grade to prevent the loading docks from flooding during major rainfall events, which could stall the distribution of goods. Having the engineer and contractor collaborate from the beginning benefitted the project by reducing risks and improving speed of design and construction.

VHB designed and developed the site using Autodesk Civil 3-D software, a civil engineering tool that saved the team time and money. Because Civil 3-D software is dynamic, a change made in one section of the design affects the entire project, modifies plans in real time and connects the design to the production drawings. Therefore, the team was able to walk through what-if scenarios and make certain that there were no utility conflicts with the domestic water, fire suppression, sanitary sewer, irrigation, gas and storm drainage on a complex site.

Challenges and Hurdles

Although there was strong support for this project, the overall development faced potential regula-

Lineage Logistics

Lineage Logistics received several financial incentives from state and local authorities. These included $180,000 for the creation of 60 new jobs and a $600,000 Economic Development Access Program Grant from the Virginia Department of Transportation.

tory hurdles. VHB worked with the U.S. Army Corps of Engineers to coordinate the stormwater outfall locations that needed to be constructed to support this new facility. The outfalls were designed so they drained above the median high-water elevation of the Elizabeth River, avoiding a lengthy permitting process.

In addition, the site went through the Virginia Department of Environmental Quality's Volunteer Remediation Program. As a result, the project needed to be monitored throughout construction by a third-party inspector. The previous owners of the site had demolished the buildings down to slabs and foundations, and prior to construction there were health and safety concerns about potential groundwater contamination. In the event groundwater was encountered during construction of the new foundations and/or utilities, a health and safety program with defined protocols was put into place.

In the late stages of the design process, the project design team determined that the project would need to use an existing above-ground 100,000-gallon water tank adjacent to the site to meet the new facility's fire-protection demands. This meant a complete redesign of the fire protection system on site. VHB completed the advanced water modeling necessary to support the use of the water tank and submitted the plans to the city of Portsmouth for approval. A consultant worked with the team to determine and vet the design of how the tank would function with the overall fire system. VHB and Victory Unlimited Construction prepared an easement exhibit for the use of the tank with the landowner, Marathon Development Group.

A Regional Asset Reclaimed

With more than 26,000 rack locations and 50 refrigerator container plugs on site, Lineage's new facility will help meet the surge in demand for cold storage space and strengthen the Port of Virginia's supply chain and logistics infrastructure. The 167,264-square-foot facility increases storage density, maximizes capacity, provides real-time inventory management and keeps food safe while reducing energy consumption. It is an important regional asset that will help increase the volume of cold cargo moving through the Port of Virginia.

As demand soars for high-quality industrial real estate, communities are looking to repurpose underutilized assets for productive use to fulfill the needs of the market. Economic development agencies are busy partnering with communities to identify strategically located sites in key markets and forming coalitions to promote shovel-ready sites that are available for development. Major industrial investments like Lineage Cold Storage generate tax revenue and new jobs and result in economic benefits to residents. In addition, many sites are undergoing extensive remediation to mitigate contaminants, and these cleanup efforts result in healthier, sustainable and resilient communities. ■

Kenneth E. Rodman, Jr., is the Mid-Atlantic real estate director for VHB.

Last Mile:

The Most Challenging Piece of the Logistics Puzzle

The 226,000-square-foot Cedar Creek Distribution Center in Lebanon, Tennessee, was built with CarbonCure concrete. This technology introduces recycled carbon dioxide into fresh concrete to reduce its carbon footprint.

At a Glance

- The rise of e-commerce is driving demand for "last-mile" facilities to handle the final stage of delivery.
- These infill facilities are smaller than distribution warehouses, and are located close to population centers.
- Many of these infill facilities aren't actually being used for last-mile logistics.

Courtesy of MDH Partners

Infill development in high-value locations can be a complex process.

By Jeffrey Small, MDH Partners

By any metric, 2021 was a record year for the industrial sector, as pressure to move goods with short delivery times led to aggressive leasing activity among e-commerce companies and third-party logistics providers. According to JLL, the national industrial vacancy rate dropped to 3.8% in 2022 — the first time in history it has ever fallen below the 4% threshold. This declining vacancy rate was even more impressive because prior to 2021, industrial developers had delivered more new speculative buildings than at any time in history.

Courtesy of MDH Partners

An Amazon Fresh last-mile facility in Phoenix. This 62,880-square-foot warehouse was built in 2015.

One of the drivers of this sharp rise in demand is "last-mile" delivery, the most challenging aspect of e-commerce logistics. Last mile (or what Prologis calls "last touch") refers to the final transportation leg of goods from warehouses to their final delivery destinations.

For most of the history of industrial real estate, the logistics model consisted of moving goods in bulk in tractor trailers, rail cars and shipping containers from factories or ports to distribution centers, where the goods would remain until retail stores needed to be restocked. The dawn of e-commerce 20 years ago radically shifted this model. Today, the challenge is how to get small shipments from a warehouse directly to a consumer in a cost-effective manner. E-commerce logistics providers began to realize they needed to place goods, not just in a few large regional distribution centers, but also in smaller facilities close to the population centers that must be served in a short delivery window.

For decades, the cost of warehouse rent in the overall supply chain economics has been relatively small, hovering around 4% to 5%. On the other hand, labor and trucking expenses have far greater impacts on logistics costs. Therefore, companies deciding where to locate warehouse operations focus more on reducing their transportation costs rather than minimizing rent. These dynamics then lead logistics providers to structure their supply chains so that goods travel the shortest routes possible.

E-commerce giants that promise one-day or same-day delivery windows have only intensified expecta-

For most of the history of industrial real estate, the logistics model consisted of moving goods in bulk in tractor trailers, rail cars and shipping containers from factories or ports to distribution centers, where the goods would remain until retail stores needed to be restocked. **The dawn of e-commerce 20 years ago radically shifted this model.**

tions for quick and free delivery, a trend Amazon launched with its two-day-delivery Prime membership in 2005. With stay-at-home orders amid the pandemic fueled by government stimulus payments, consumers accelerated consumption while easy fulfillment brought purchases directly to their doorsteps almost instantly.

What is Last Mile, Exactly?

While demand for last-mile warehouses and facilities has dramatically increased, real estate professionals must consider several factors when navigating this most challenging piece of the logistics puzzle. First, what is last mile and how close does a distribution center have to be to a population center to be considered last mile? Can a building be last mile in the distribution chain if it is 20 or 40 miles away from the intended destination?

The answer is complex and may differ city by city depending on traffic patterns, population densities, and the availability and distance of industrial buildings and zoned land. In many cases, buildings located farther from a city's core are still reachable within two hours, yet such buildings contain more modern logistics features such as higher clear heights, deeper truck courts and excess trailer parking and staging compared to older, closer-in facilities.

Other Uses Vying for Proximity

Because of the recent press generated by last-mile e-commerce logistics, institutional investors have flocked to this sector with billions of dollars of capital to deploy. The result has been dramatically increasing values for these facilities. Savvy owners selling portfolios with older Class-B assets have taken advantage of investor appetite by rebranding any older (and often functionally challenged) portfolio of buildings as "last mile," and the term is often used as more of a marketing tool than reality. This has resulted in a compression of capitalization rates to the point that a 30-year-old warehouse in a desirable market often sells at similar capitalization rates as a three-year-old facility.

Examining the tenant base of many infill industrial markets, however, often yields results different from the breathless hype that last-mile e-commerce has generated: Only a small number of the tenants of these facilities are involved in last-mile e-commerce fulfillment. This is based on internal examination of MDH's multitenant portfolio of over 35 million square feet across 30 cities, as well as anecdotal experience from working in these markets on a daily basis. Instead, infill industrial tenants include such uses as crossfit gyms, cheerleading and gymnastics academies, breweries, HVAC and plumbing supply companies, furniture showrooms and other users who need to be close to population centers. Many of these tenants could have utilized traditional retail spaces, but the infill industrial buildings with large, open interiors offer better layouts for their uses at lower price points. Before the term "last-mile" came

Today, the challenge is how to get small shipments from a warehouse directly to a consumer in a cost-effective manner. E-commerce logistics providers began to realize they needed to place goods, not just in a few large regional distribution centers, but also in smaller facilities close to the population centers that must be served in a short delivery window.

Courtesy of MDH Partners

The "Warehouse Row" area of Atlanta's Historic West End neighborhood features a number of warehouses that date from the 1950s. Many of these, such as Lee + White, are being repurposed into mixed-use destinations that feature food halls, retail, creative office space, breweries and more.

into vogue around five years ago, these buildings were simply referred to as "infill products."

The reality is that many tenants in so-called "last-mile" warehouses have nothing to do with last-mile e-commerce. However, that is not to say that these buildings do not have significant value. The true story is more nuanced. Investors purchase these facilities because they are difficult to replace due to land and development constraints. Over time, those factors yield solid rent growth. Many businesses also require their facilities to be near population centers and housing, while other tenants need the immediate accessibility to labor an infill environment provides. On top of these leasing dynamics, the real and growing need of last-mile e-commerce adds a new dimension to the more traditional demand drivers of infill real estate.

While investors, developers and logistics companies debate over the term "last mile," other challenges also exist within this space. Here's what the industrial and logistics sectors should be watching in the year ahead:

Site selection and competition. For a tenant who must be near a city's urban core, whether providing services for locals or delivery, site selection often proves more difficult the closer one gets to population centers. The available industrial real estate in true infill locations is older and usually less functional for modern distribution, land for new development is scarce, traffic congestion can be problematic, and most importantly, not enough of these facilities exist today to meet the various demands.

In many markets, the available urban warehouse stock has been shrinking as older buildings are transformed into higher and better uses such as multifamily, retail and creative office. Adaptive reuse of industrial buildings is a popular choice due to its potential for higher returns, less expensive construction costs and the ability to provide a more sustainable development. When done well, the resulting new uses within older structures

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can also be more aesthetically appealing than new construction. In addition, these locations often offer prime opportunities for densification with vertical development replacing single-story industrial.

Consider Atlanta's West Midtown, the oldest industrial area in Atlanta. It once had warehouses on every corner. This submarket has now become a millennial hotspot with breweries, creative offices, trendy restaurants, retail spaces and more occupying 60-year-old former warehouses. Many other warehouses in the submarket were simply bulldozed to make way for new multifamily developments and an always-crowded Top Golf facility.

A little farther south in Atlanta's Historic West End neighborhood, Ackerman & Co. and MDH Partners' mixed-use project Lee + White is an ongoing redevelopment of the community's former "Warehouse Row." At close to 500,000 square feet, these 1950s warehouses will showcase a mix of cutting-edge breweries, restaurants, a food hall, retailers, food manufacturers and creative loft offices.

Physical configuration of buildings. Most buildings located in infill locations from the 1950s to the 1990s have shallower truck courts, limiting the maneuverability of tractor trailers. While last-mile distribution often relies on smaller vans or cars to deliver the goods from the warehouse to the consumers' homes, the challenge lies with getting the goods into warehouses in the first place, which most efficiently occurs with bulk deliveries on large tractor trailers.

In some markets, developers have been redeveloping older sites into more modern facilities, but doing so at significant scale has its own issues. Most older sites are simply not large enough to rebuild modern facilities with the needed space for truck maneuvering and trailer storage required by large e-commerce operations. Assembling adjacent sites and combining them may be feasible, but will be time-consuming, expensive and better suited for entrepreneurial local developers rather than large institutional investors. Environmental cleanup and remediation can be another challenge in these locations.

Transportation and labor. Last-mile distribution relies heavily on a workforce delivering smaller goods to individual consumer homes in a widely dispersed city. However, the U.S. is experiencing a massive labor shortage. According to the Bureau of Labor Statistics, in March 2022 the nation had 11.3 million jobs to fill. While large cargo ships can transport thousands of pounds of goods across the globe in an efficient manner, delivery drivers must make multiple round trips a day, slowing the process of the final link in the logistics chain. The existing labor shortage further compounds these challenges. Other businesses, especially technology and medical companies, are located in infill industrial real estate because of access to nearby educated and skilled labor bases. These users can afford the higher rents of the infill markets and then crowd out the e-commerce logistics providers who use low-cost labor for their distribution services.

Instead, infill industrial tenants include such uses as crossfit gyms, cheerleading and gymnastics academies, breweries, HVAC and plumbing supply companies, furniture showrooms and other users who need to be close to population centers. Many of these tenants could have utilized traditional retail spaces, but the infill industrial buildings with large, open interiors offer better layouts for their uses at lower price points.

Courtesy of MDH Partners

In Olive Branch, Mississippi, MDH Partners converted a warehouse built in 1994 into a modern, energy-efficient facility. Among the measures the company took was installing a roof with greater insulation and reflectivity and the addition of LED fixtures.

Resistance from residents. The closer a distribution center is to population centers, the closer it is to residential neighborhoods. Theoretically, the best last-mile locations would be built concurrently with the expansion of neighborhoods and suburbs. However, while consumers want their packages dropped at their doorsteps as quickly as possible, they are not as keen on the idea of having tractor trailers and warehouses on the streets by their homes and schools.

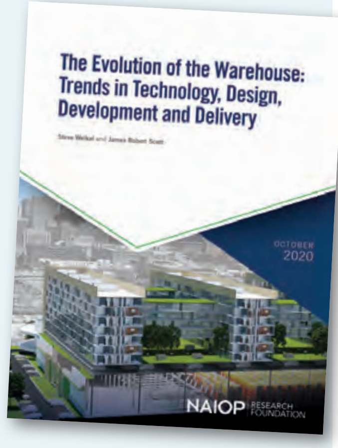
In place of infill sites that could accommodate last-mile industrial, residents would rather have walkable retail. Trucks can also be unsightly, loud, increase traffic and place an additional burden on local infrastructure.

Investing in sustainability. The industrial sector has been behind the curve when it comes to advancing environmental, societal and governance (ESG) policies, but in recent years developers and investors are making new efforts. While last-mile industrial has its fair share of challenges, it can also provide many sustainability benefits. Refurbishing an older infill building and extending its useful life provides the ultimate sustainability story — rather than razing and rebuilding an older warehouse, which produces waste and significant carbon emissions, refurbishing it can breathe new purpose and extend its useful life by decades. Additionally, the closer a distribution facility is to the urban core, the less time delivery trucks are on the roads, which reduces carbon emissions.

Owners have numerous options to invest in sustainability by improving outdated buildings. Steps include swapping out older lighting for more efficient LED fixtures, replacing roofs with reflective and more insulated materials, upgrading HVAC equipment to reduce energy consumption and utility bills, and more

Most buildings located in infill locations from the 1950s to the 1990s have shallower truck courts, limiting the maneuverability of tractor trailers. **While last-mile distribution often relies on smaller vans or cars to deliver the goods from the warehouse to the consumers' homes, the challenge lies with getting the goods into warehouses in the first place, which most efficiently occurs with bulk deliveries on large tractor trailers.**

Relevant Research



In October 2020, the NAIOP Research Foundation published a report titled "The Evolution of the Warehouse: Trends in Technology, Design, Development and Delivery," by **Steve Weikal** and **James Robert Scott**, researchers at the MIT Real Estate Innovation Lab. Weikal and Scott reviewed recent publications on emerging logistics and building technologies and interviewed industry practitioners to evaluate how these technologies will influence the future of logistics real estate. Continued advances in automation, data analytics and artificial intelligence promise to make industrial assets more productive and profitable, create new opportunities in building design, and blur traditional boundaries between property types.

To download the report, visit naiop.org/Research-and-Publications ■

generally, cleaning up the buildings for a new generation of users.

When developing facilities from the ground up, innovative technologies provide other opportunities for sustainability. One of the most powerful new technologies that MDH Partners has employed in its speculative construction is CarbonCure, a manufactured technology for the concrete industry that introduces recycled CO_2 into fresh concrete to reduce its carbon footprint without compromising performance. The cost for this added technology ranges from negligible to no cost increase. Additional environmental measures for ground-up development include adding clerestory windows, skylights, low-flow plumbing fixtures, carbon-neutral tiles and carpets in office spaces, and graywater treatment for irrigation.

Looking Toward the Future of Last Mile

Demand for last-mile facilities will continue to increase throughout 2022. EMarketer forecasts e-commerce sales to exceed $5 trillion for the first time this year, accounting for more than a fifth of overall retail sales. Demand for warehouse space from e-commerce-related tenants, who have fueled historic industrial demand across all segments of the market, should remain robust. The non-e-commerce tenants, like gyms and local service providers, should also see more growth over the next year as businesses keep reopening and growing from their pandemic lows.

Although online shopping sales will continue to trend upward, a note of caution is also warranted against using the record absorption figures of the past two years as the "new normal" going forward. The industry is unlikely to see the same rapid rate of growth witnessed within the e-commerce sector in 2020 and 2021, but should instead revert toward the pre-pandemic mean in 2022 and 2023. As traditional bricks-and-mortar businesses reopen and consumers have grown weary of isolation, demand for in-person shopping will likely increase again and moderate the rate of e-commerce growth.

If the past two years taught us anything, it's that the world is unpredictable. However, for the foreseeable future, last-mile industrial real estate should remain a favorite of retailers, logistics providers, consumers and investors. ■

Jeffrey Small is the CEO of MDH Partners.

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A 'Calming Presence' at the Helm

NAIOP President and CEO Thomas J. Bisacquino, who is retiring this summer, was always an entertaining and engaging presence at the podium during the association's events. Here, he addresses a gathering during CRE. Converge 2018 in Washington, D.C., at the Hay-Adams Hotel near the White House.

Thomas J. Bisacquino, NAIOP's long-serving president and CEO, retires after three decades with the association.

By Trey Barrineau

It has been said that adversity doesn't build a person's character, it reveals it. If so, then **Thomas J. Bisacquino**, who is retiring this summer as NAIOP's president and CEO after 33 years with the association, revealed his strength of character right from the start of his tenure — and continuously thereafter.

"NAIOP members live in a volatile industry, with many ups and downs, and Tom's level head and consistency were a calming presence to all of us as we rode out the cycles that are a part of our world," said **Phil Stevenson**, NAIOP's 1999 chair and a partner with the Clear Creek Group in Jackson Hole, Wyoming.

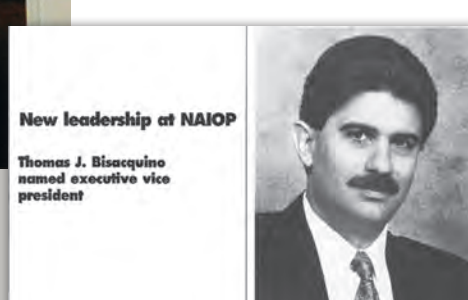
Indeed, Bisacquino's career with NAIOP could be seen as a series of proactive responses to the crises and radical transformations that shook up the commercial real estate industry during the past four decades.

"The industry changed dramatically during Tom's tenure, and he adapted the organization to meet and exceed the demands of those changes," said **Jim Neyer**, former executive vice president with Al. Neyer in Cincinnati and NAIOP's 2018 chair.

Baptism by Fire

After serving as assistant executive director for the Association for Systems Management in Cleveland, Ohio, Bisacquino arrived at NAIOP in 1988 as senior vice president and chief operations officer. He made an immediate positive impression.

"He walked in the door good at everything," said **Shirley Maloney**, who was the association's vice president of marketing at the time. "He had an excellent understanding of government affairs, education,


New leadership at NAIOP

Thomas J. Bisacquino named executive vice president

Bisacquino was elevated to the role of NAIOP's executive vice president (the equivalent of president and CEO) in 1991.

> “NAIOP members live in a volatile industry, with many ups and downs, and **Tom’s level head and consistency were a calming presence to all of us as we rode out the cycles that are a part of our world.**”
>
> *— Phil Stevenson, NAIOP’s 1999 chair and a partner with the Clear Creek Group in Jackson Hole, Wyoming*

Bisacquino with Sen. Roy Blount, R-Missouri, center, and 2018 NAIOP Chair Jim Neyer of Cincinnati-based Al. Neyer during the February 2018 Chapter Leadership & Legislative Retreat in Washington, D.C.

finance, all the different areas of the organization.”

A year later, a natural disaster during the association’s most important event forced him to take control of a chaotic situation.

In October 1989, NAIOP was scheduled to hold its annual conference in San Francisco. Maloney recalled that October 17 was NAIOP’s move-in day at the Fairmont San Francisco hotel.

“We had our exhibitors setting up in the exhibition hall, we were preparing to go to the board dinner that night, and most of the attendees were due to come in the next morning,” she said.

And then, at 5:04 p.m. local time, a magnitude 6.9 earthquake struck Northern California, causing 63 fatalities and more than $6 billion in damages.

“The whole place just shook,” Maloney recalls. “And then all the power went out at the hotel.”

After a tense night in the dark, NAIOP’s leadership had to make difficult decisions the next morning. Bisacquino gathered with the executive committee, and they agreed to cancel the conference. (It was eventually rescheduled for Palm Desert, California, in February 1990.)

“The airport was closed,” Maloney said. “The hotel had no power or water. We couldn’t continue with the conference. It was a huge decision to make. Then he had to get the people who were on-site home safely, and he had to undo everything that had been done.”

According to Maloney, it was a moment that demonstrated Bisacquino’s leadership skills.

“I think Tom showed his mettle at that conference,” she said. “He didn’t shirk from having to sort this whole thing out. It really was a wild start to his career at NAIOP. But it showed right from the very beginning that whatever it took, he’d take care of it.”

CRE Turbulence in the Early ‘90s

Bisacquino was promoted to NAIOP CEO in 1991, but his early years leading the association were difficult for commercial real estate.

Political strategist and CNN contributor Donna Brazile, who has twice served as chair of the Democratic National Committee, has been a frequent speaker at NAIOP events during Bisacquino’s tenure.

> "**The industry changed dramatically during Tom's tenure**, and he adapted the organization to meet and exceed the demands of those changes."
>
> *— Jim Neyer, NAIOP's 2018 chair and former executive vice president with Al. Neyer in Cincinnati*

Bisacquino shares a moment with Fox News Chief Political Correspondent Bret Baier during the Chapter Leadership & Legislative Retreat in Washington, D.C., in February 2020.

"In the mid- to late-1980s, records were broken with 15,000 new shopping centers and $300 billion in office space — more than doubling available space in both sectors," according to an article in the January-February 1991 issue of Development magazine. "The cash flow was fueled by tax incentives for virtually every conceivable property type, investment tax credits and the sharp reduction in depreciation life on most types of holdings."

That frenetic activity had a downside, however.

"While the commercial real estate market was in hyperdrive during most of 1980s, by 1989 properties eventually were overbuilt in almost every city," said **Ron Rayevich**, president of RayMar Associates, Inc., in Sarasota, Florida, who served as NAIOP's chair in 1997.

Awash in overvalued properties and with changes to tax laws that made commercial real estate a less attractive investment, the industry entered a steep decline. Within a few years, credit for development projects virtually disappeared, and there were few buyers for overpriced buildings. At the same time, a third of all savings and loan associations, which were major suppliers of commercial mortgages in the U.S., failed between 1986 to 1995.

"Many of the more volatile U.S. markets saw office property values decline by as much as 50%, with no real bottom in sight," Rayevich said. "It took until the mid-1990s for real estate values to even approach what they were in 1989."

The crash had a profound effect on NAIOP's membership numbers. In 1988, the association had roughly 7,500 members. By 1993, there were just 4,449 members.

In a 1991 Development magazine article, Bisacquino described traveling across the U.S. to assess how NAIOP's members were coping with the crisis.

"It's one thing to read about some of the difficulties our members are experiencing, but it's really another to see it face to face," he said. "When you see creditworthy members who have very solid product having serious problems — a lender calls a loan, and no one is willing to refinance — it's a real eye-opener."

That experience clearly affected Bisacquino, who said he would do everything he could to ensure that NAIOP evolved "to meet the changing needs of our membership, and to be proactive rather than reactive in all of our services." That credo guided his leadership of the association for the next three decades.

Creative Solutions to Complex Problems

Paul Novak, the executive director for lodging at Whitman Peterson in Key Biscayne, Florida, joined NAIOP in the 1980s. While conditions slowly improved as the 1990s progressed, it was still a difficult time to be in commercial real estate. To address the ongoing crisis, Novak said he and Bisacquino crafted an innovative solution that helped both the association and the industry.

"I came up with an idea to have an auction of distressed real estate or properties that members were trying to dispose of," he said. "Tom and I worked very closely together, and we ended up sponsoring two auctions."

The first auction was held during NAIOP's annual conference in Dallas in 1993. According to the Fall 1994 issue of Development magazine, it produced more than $400 million in sales. Another one took place at the 1994 annual conference in Boston. Collectively, the auctions generated approximately $600,000 in commissions for the association.

> "He walked in the door good at everything. **He had an excellent understanding of government affairs, education, finance, all the different areas of the organization.**"
>
> *— Shirley Maloney, NAIOP senior vice president from 1988 to 2013*

Bisacquino greets Gen. Michael Hayden, a former director of the Central Intelligence Agency and the National Security Agency, during the February 2017 Chapter Leadership & Legislative Retreat in Washington, D.C.

When Novak became NAIOP's chair in 1995, both the industry and the association were on much better financial footing.

"I think everybody would say that those auctions probably saved NAIOP," he said. "If it had not been for Tom's ability to envision the concept and his willingness to hold NAIOP-sponsored auctions to generate commissions, it never would have happened. It allowed the association to retain its staffing during that downturn, and because of that, NAIOP flourished."

Maloney said Bisacquino's efforts in the early years of his NAIOP career proved his savvy as a fiscal manager.

"Despite what we had thrown at us, he always managed to keep a solid bottom line for the organization, and he did his best not to have it impact member services," she said.

National Forums and the NAIOP Research Foundation

The mid- to late 1990s were much better times for the commercial real estate industry. NAIOP was also picking up speed under Bisacquino's leadership.

In 1995, Bisacquino approved the launch of NAIOP's National Forums, one of the association's flagship programs. The Forums provide exclusive networking and experience exchange among NAIOP members in a confidential small-group setting. The program, which debuted at the October 1995 annual conference in Las Vegas, began with 100 members in four Forums. As of the spring of 2022, there are more than 900 members in 57 Forums groups.

And in 2000, Bisacquino was a founding member of the NAIOP Research Foundation. Established as a 501(c)(3) and supported by a board of governors, the Foundation produces research on industry trends and provides it free of charge.

Advocacy Efforts

The association hired its first full-time lobbyist in 1988. In 1989, Bisacquino played a key role in the establishment of NAIOP's political action committee (PAC), which

Bisacquino chats with Dwight Taylor of Pikesville, Maryland-based Stonegate Partners during a social hour at CRE.Converge 2017 in Chicago.

"We all witnessed Tom's passion for legislative issues facing our industry. **As Tom always says, 'if you're not at the table, then you are on the menu.'** "

— Bill Hunt, NAIOP's 2012 chair CEO of the Elmhurst Group in Pittsburgh

In March 2012, Bisacquino escorted 20 NAIOP members and staff to tour the Panama Canal, where a huge construction project was underway to widen the locks in order to accommodate larger container ships.

is still active. Funded by personal contributions from NAIOP members who are U.S. citizens, its aim is to help NAIOP's lobbying team build critical relationships so that policymakers understand the commercial real estate industry.

"Tom advocates for the industry and understands the real issues for the members on Capitol Hill and state legislatures," said Neyer. "I had the pleasure of being with Tom at many events where notable politicians sought him out to assure him that NAIOP's issues were top of mind."

During Bisacquino's tenure, NAIOP's government-affairs efforts scored numerous legislative wins for the commercial real estate industry in areas including brownfields revitalization, tax policy and terrorism risk insurance in the wake of 9/11.

"We all witnessed Tom's passion for legislative issues facing our industry," said **Bill Hunt**, CEO of the Elmhurst Group and NAIOP's 2012 chair. "As Tom always says, 'if you're not at the table, then you are on the menu.' "

Chapters Expand Across North America

Another hallmark of Bisacquino's time has been steady growth of the association, both in the number of members and in the geographic scope of NAIOP's reach. The chapter network has played a critical role in that growth.

The first NAIOP chapter was founded in 1970 in New Jersey, just three years after the association itself. By 1977, there were 30 chapters across the U.S. Today, there are 52 chapters across North America that provide networking, education and advocacy for commercial real estate professionals at the local level.

According to local chapter leaders, Bisacquino's strong support of the chapter network played a key role in their expansion.

"I have been working with state, national and international associations since 1980," said **Kathie A. Barstnar**, executive director of NAIOP Colorado. "Never have I experienced a leader of Tom's integrity, influence, gratitude and empathy. His willingness to do whatever he could to help chapters succeed is unsurpassed."

Martha Marks, president of NAIOP Northern Virginia and a colleague of Bisacquino's since 1990, remarked, "Tom's steady leadership charted our course, steered our ship and created a successful fleet of chapters throughout the United States and Canada."

In 1994, NAIOP launched its first Canadian chapter, in Vancouver, British Columbia. A year later, Greater Toronto joined the fold. NAIOP expanded to Calgary in 2002 and Edmonton in 2012. Today, NAIOP's Canadian membership is nearly 2,000.

NAIOP's relationships south of the border also expanded during Bisacquino's tenure. In January 2006, the association signed a letter of cooperation with AMPIP, the Mexican Association of Office Parks.

A Helping Hand

Despite the dot-com bubble bursting and the shock of the 9/11 terror attacks in the early 2000s, NAIOP held strong. In the Winter 2001 issue of Development magazine, 2001 NAIOP Chair **Anne Evans Estabrook**, owner and chair of Elberson Development Group in New Jersey, noted that the association

"I have been working with state, national and international associations since 1980. **Never have I experienced a leader of Tom's integrity, influence, gratitude and empathy.** His willingness to do whatever he could to help chapters succeed is unsurpassed."

— Kathie A. Barstnar, executive director of NAIOP Colorado

Tom Biscacquino takes a micromobility device for a spin around the ballroom during the 2017 Chapter Leadership & Legislative Retreat in Washington, D.C. The event marked NAIOP's 50th anniversary.

had built a reserve fund of more than 50% of its annual budget and had grown to 9,700 members, 500 more than in 2000.

Bisacquino's next challenge was to push NAIOP — and the industry — to expand opportunities to groups that had long been under-represented in commercial real estate.

In 2002, NAIOP formed a partnership with Project REAP (Real Estate Associate Program), a market-driven, industry-backed organization that recruits and develops minorities for roles in commercial real estate through education, networking and on-the-job training. Bisacquino was on Project REAP's corporate board from 2002 to 2018, and he served on its executive committee for eight years.

In 2017, NAIOP formalized a relationship with the Real Estate Executive Council (REEC), a trade association that promotes the interests of executives of color in commercial real estate. In July 2017, NAIOP and its Georgia chapter worked with REEC and Georgia State University to launch the first commercial real estate summer immersion program for minority high school students. To date, hundreds of these students have been introduced to CRE through this program, with many choosing it as their ultimate career path.

And in 2006, NAIOP launched the Developing Leaders program geared toward commercial real estate professionals age 35 and under.

"One of our big initiatives of that time came about when we realized that a lot of young people were not choosing real estate as a career," said **Douglas Howe**, founder and CEO of Touchstone in Seattle and 2009 NAIOP chair. "Tom encouraged a big push to get them into the industry."

Membership growth continued, and by 2008 there were 18,000 members. But that year, another shock hit commercial real estate — the Global Financial Crisis. U.S. GDP fell 3.8% in the fourth quarter of that year, and unemployment reached 7.6% early in 2009. Vacancies in commercial properties skyrocketed.

"We realized we had a loss of revenue from our programs," Howe said. "We lost a lot of members, and it was financially devastating for many of them. It was a terrible year."

Howe said Bisacquino decided that helping NAIOP's members would become the defining theme for 2009.

"Under Tom's leadership, we decided that NAIOP should offer more, not less," Howe said. "We had to reinvent ourselves in 2009 to make ourselves more accessible to our members."

To that end, Bisacquino announced NAIOP's Four-Point Promise to members in February 2009.

First, NAIOP responded to the credit and capital crisis by establishing a member-driven Commercial Credit and Capital Advisory

"Tom was never satisfied with the status quo. NAIOP radically changed over his tenure. Be it various recessions, changes in technology, COVID-19 or whatever came up, he navigated those choppy waters with calm and determination to be better on the other side."

— Greg Fuller, NAIOP's 2019 chair and president and COO of Granite Properties in Dallas

Bisacquino with David M. Jellison, NAIOP's 2002 chair, at the association's headquarters in Herndon, Virginia. Jellison served for many years as vice president with Liberty Property Trust in Minnesota.

Board. Second, the association launched a new audio series entitled "Economic Insights." These were timely, Web-based economic reports from industry veterans on how to survive in difficult markets. Third, the NAIOP Research Foundation produced new studies on commercial real estate's economic contributions to the nation and the macroeconomic indicators that drive new development. And fourth, NAIOP promised to allow members to stay with the association even if they had lost their jobs and couldn't afford to pay dues.

A Swift Response to COVID-19

In December 2019, NAIOP reached a remarkable milestone — its 20,000th member. But soon thereafter, the COVID-19 pandemic rapidly rattled the global economy and the businesses of the association's members.

The pandemic "abruptly plunged the U.S. economy into a deep downturn as entire states mandated business closures and social distancing to control the spread of COVID-19," according to an article in the Summer 2020 issue of Development magazine. "Those shutdowns and unprecedented job losses, in turn, threaten the commercial real estate industry, which depends on thriving businesses that can pay rent for the space they occupy."

Once again, Bisacquino led NAIOP through a crisis.

He urged NAIOP's education department, which had embraced digital learning tools way before many others in the association space, to launch a series of in-depth webinars. From late March to early June 2020, NAIOP offered 22 free, members-only webinars on topics related to COVID-19's impact on commercial real estate. Instead of cancelling conferences, NAIOP turned them into well-attended, profitable virtual events.

He asked the staff of Development magazine to completely revamp the Summer issue of the magazine and create an issue entirely focused on the pandemic in just a few weeks.

And from April 2020 to February 2021, the NAIOP Research Foundation conducted seven surveys of members on the impacts of COVID-19 on their businesses.

The result was that NAIOP came through the crisis in outstanding financial condition and with only a slight dip in membership.

It was a fitting penultimate career chapter for a man who had done so much for the association and the commercial real estate industry.

"Tom was never satisfied with the status quo," said **Greg Fuller**, president and COO of Granite Properties and NAIOP's 2019 chair. "NAIOP radically changed over his tenure. Be it various recessions, changes in technology, COVID-19 or whatever came up, he navigated those choppy waters with calm and determination to be better on the other side. Tom was always protective of the NAIOP brand and his staff. We are all better off personally and in our businesses because of this association and what Tom created over the past 33 years. He has left this organization in great shape, and for that we should all be very grateful." ■

Trey Barrineau is the managing editor of publications for NAIOP.

Biden Wetlands Regulation May Be Upended by Supreme Court

Waters of the United States case could resolve a long-running dispute.

By Aquiles Suarez

For the commercial real estate development industry, few issues have been fraught with as much regulatory uncertainty and confusion over the past two decades than the scope of federal jurisdiction of the Clean Water Act (CWA). Determining whether a parcel of land is a wetland for CWA purposes and subject to federal permitting requirements, with the additional time and costs that process entails, is a major consideration for any project developer and a principal factor in deciding whether a project is worth undertaking.

The Biden administration, like the Obama and Trump administrations before it, recently proposed a regulation aiming to address the matter. But that rule may be short-lived, as the United States Supreme Court has accepted a case for consideration in its next term that may set forth a more durable legal test to determine federal jurisdiction over particular bodies of water and adjacent wetlands.

The definition of a body of water such as a lake or pond is at the heart of disputes over what constitutes the "waters of the United States."

Unclear From the Beginning

The lack of a controlling legal standard that can be easily and consistently applied is a major source of frustration for both the development community and environmental advocates. The problem has its origins in the vague terminology Congress used when it passed the amendments to the CWA in 1972. The CWA is intended to cover "navigable waters," which is defined in the statute as "waters of the United States." The broad term "waters of the United States" (or "WOTUS" as it is commonly referred to) was not further defined in the law, and the task of explaining it was left to the federal agencies responsible for ensuring compliance with the law — the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE).

As a result, the EPA and USACE have attempted to give meaning to the phrase through regulations, supplemented with agency guidance. However, in many instances, EPA and USACE employees and administrators were accused of overreaching either in their regulations or in their application. Ambiguity is an invitation to litigation, and eventually landowners who sued to stop the EPA and USACE from asserting jurisdiction over their property made their way to the Supreme Court.

In two cases, the Supreme Court interpreted the scope of the CWA more narrowly than had the EPA and USACE in their regulations. In the first case, Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC), decided in 2001, the court rejected a claim of federal jurisdiction over isolated ponds that lacked a connection to traditional navigable waters.

However, the ruling in the second case, Rapanos v. United States, decided in 2006, did not clarify or refine an emerging jurisdictional standard, but rather created even more confusion and uncertainty for the public because it did not yield a controlling majority opinion that lower courts would be bound to follow. Instead, Rapanos yielded three different opinions. Justice **Antonin Scalia**, joined by three other justices and writing for a plurality of the court, set forth a standard that "waters" in "waters of the United States" meant "permanent, standing, or continuously flowing bodies of water" (such as streams, rivers and lakes) and wetlands with a "continuous surface connection" to such waters.

Concurring with Scalia and the three justices, but differing as to the stan-

The lack of a controlling legal standard that can be easily and consistently applied is a major source of frustration for both the development community and environmental advocates.

dard to use, Justice **Anthony Kennedy** offered a different test, reasoning that existence of a "significant nexus" between the water or wetland in question and traditional navigable waters would be sufficient to establish federal jurisdiction.

Because of the 4-1-4 split in the Supreme Court's Rapanos ruling, federal district and appellate courts have relied on distinct aspects of the opinion, leading to inconsistent application of the CWA depending on which jurisdiction the property was located. EPA and USACE guidance aimed to align their jurisdictional determinations with the Supreme Court opinions but admitted that they had not succeeded in developing guidance that provided the transparency, consistency and predictability in decision-making that the public deserved.

New Administrations, New Regulations

In 2015, the Obama administration, responding to the uncertainty surrounding the WOTUS definition, issued a regulation that relied on Kennedy's "significant nexus" test and which many claimed broadly expanded the scope of federal jurisdiction far beyond the original intent of the CWA. The Obama administration's "Clean Water Rule" faced fierce opposition, particularly from agricultural interests, and immediate legal challenges, with some courts upholding the rule and other courts staying its application. The result was a legal patchwork across the country, with some areas subject to the rule and other areas where it was not in effect.

Upon assuming power, the Trump administration promptly moved to repeal the Obama regulation, and subsequently issued its "Navigable Waters Protection Rule" (NWPR). The Trump NWPR, relying primarily on Scalia's "relatively permanent" test, narrowed the areas subject to the CWA's jurisdiction. It also faced vocal opposition and legal challenges from environmental advocacy groups and others objecting to its narrower scope.

In June 2021, the Biden administration indicated its intent to replace the Trump NWPR with its own WOTUS regulation, leaving the Trump rule in place until then. But their planned timetable was upset when federal court decisions in Arizona and New Mexico in the early fall of 2021 immediately vacated the Trump rule, upending the legal status of EPA and USACE jurisdictional determinations that were pending or had been reached under that rule. As a result, the Biden administration was forced to issue a draft rule for comment in November 2021.

Toward a Legal Standard

As could be expected in such a long-running policy dispute that remained unresolved by the courts, the issue has become a political and rhetorical football in Congress. Early this year, before the public comment period for the newly issued Biden WOTUS regulation had concluded, the Supreme Court agreed to consider Sackett v. EPA, and the issues surrounding WOTUS and the extent of federal jurisdiction. Despite the clear impact the decision could have on the legality of its regulation, the Biden administration chose to move forward with its own proposed regulation.

As could be expected in such a long-running policy dispute that remained unresolved by the courts, the issue has become a political and rhetorical football in Congress.

NAIOP, as it has done on the prior WOTUS regulations, submitted comments on the Biden proposed rule on behalf of the commercial real estate industry, focusing primarily on the need for a regulatory framework that increases predictability and consistency in the decision-making process of EPA and USACE regarding jurisdictional determinations. Depending on the outcome of the 2022 midterm congressional elections, if Republicans assume the majority in the House of Representatives or the Senate, the issue may become the subject of disputes over language in EPA or USACE appropriations measures aiming to prohibit enforcement of the Biden WOTUS regulation. But ultimately, it is more likely that the Supreme Court's decision this fall would finally establish a clear legal standard for WOTUS, possibly upending the Biden administration's proposal, but at the same time putting an end to the decades-long regulatory back-and-forth that has characterized wetlands regulation in the U.S. ■

Aquiles Suarez is the senior vice president for government affairs for NAIOP.

Chapter Profile: NAIOP Raleigh-Durham

Life science properties are hot in this market, which is experiencing explosive population growth.

By Trey Barrineau

According to the 2020 U.S. Census, the Raleigh-Durham area of North Carolina (also known as the Triangle for the three cities of Raleigh, Durham and Chapel Hill) ranks as the second-fastest-growing large metro area in the country. From 2010 to 2020, the region's population grew by 23% to roughly 1.42 million people.

Along with that skyrocketing growth comes surging demand for all classes of commercial real estate. The 291 members of NAIOP Raleigh-Durham play a key role in meeting that demand. The chapter was recently named a Chapter of the Year in NAIOP's Chapter Merit Awards. Chapter President **Michael Blount** of Wilson | Blount Development spoke to Development magazine about CRE trends in the Raleigh-Durham region.

> "We are experiencing dramatic inbound migration, and our area is consistently ranked at the top for quality-of-life metrics. The Triangle region is well-educated, affordable, has great health care, excellent weather, and we have the luxury of being able to quickly drive to the beach or the mountains to get away."
>
> *— Michael Blount, Wilson | Blount Development, President, NAIOP Raleigh-Durham*

***Development:** How are the market conditions for member companies in your area?*

Blount: Market conditions are exceptional across the board for the Research Triangle area. Bolstered by three major research universities (the University of North Carolina, N.C. State University and Duke University), a state capital and the world-renowned Research Triangle Park, our area is thriving. We are experiencing dramatic inbound migration, and our area is consistently ranked at the top for quality-of-life metrics. The Triangle region is well-educated, affordable, has great health care, excellent weather, and we have the luxury of being able to quickly drive to the beach or the mountains to get away.

Companies are taking notice across the country. A multitude of large employers, including Apple (3,000 jobs), Google (1,000 jobs), FujiFilm Diosynth (725 jobs) and Amgen (350 jobs) are opening facilities in the area. The Research Triangle Park and surrounding areas are currently ranked No. 4 nationally by JLL for potential growth in the life sciences industry. There is insatiable demand for biomanufacturing and R&D space, which has spurred inbound capital seeking investment opportunities at an unprecedented rate.

Our development community is actively working to construct new supply across all product types. Industrial product is increasingly preleased before buildings are completed. Office supply is healthy and being absorbed steadily while new construction projects are delivered. Multifamily product is being delivered at a previously unseen rate while rental rates continue to rise. Even new retail product is succeeding. Contractors, designers, brokers and other CRE-related professionals are very busy with new project activity. We are all working to help build on the fantastic growth currently driving our market.

***Development:** What are the challenges you're facing in either the business or regulatory climate in your area?*

Blount: Our primary challenges are a symptom of our own success. We're currently experiencing a severe lack of housing, partially because of increased population growth, but also because we are slow to create new supply. Home values are increasing quickly and could erode the relatively inexpensive cost of living we enjoy. Developers complain about the slow path to project approval, but that slow review is often attributed to the sheer number of projects in the review process. Our municipalities are searching for trained labor to fill vacancies to help relieve this load.

The highly educated labor pool that is a major draw for high-tech firms entering our market can also present a big challenge. We have had so many announcements from large employers that it's hard to imagine our universities producing enough talent to meet the demand over the long term. We are lucky to have a strong community college system that is making big investments to help fill this gap.

***Development:** What are the big opportunities in commercial real estate in your area right now?*

Raleigh, North Carolina, is the second-fastest-growing large metro area in the country according to the U.S. Census Bureau. The area's population grew by 23% from 2010 to 2020. Today, about 1.42 million people live in the region.

Blount: The momentum in life science development is obviously a focus for developers and investors in our region. We are leading technological innovation but seem to be in the early stages of our maturation as a life science market. Our state has long pursued a large auto manufacturer, and our penchant for innovation may be our means for landing one. Toyota recently announced a major EV battery plant to be built just west of the Triangle near Greensboro. We all hope that we'll have the opportunity to build the cars of the future in our area. North Carolina has a proud history of manufacturing that largely disappeared when textile and furniture jobs went overseas. We have an attractive business climate that could allow us to lead in manufacturing again.

We can also address issues that could foster even more growth ahead. We have struggled to properly invest in a regional transit system. We are in the process of widening and expanding major roadways but always seem to be playing catch-up to new growth. Our leaders recognize the need to think toward the future.

Development: *What are some of your chapter's legislative priorities?*

Blount: We want to continue policies, particularly economic development initiatives, that have allowed us to compete for major employers. CNBC recently ranked North Carolina No. 2 in their Best States for Business in part because of our legislature's prioritization of pro-business policies. Our local chapter is currently focused on House Bill 291, which seeks to speed up the development-review process noted above. It will establish minimum timelines for approval by allowing municipalities to utilize private industry for plan review. A similar bill was recently passed in Georgia and is currently in review in Florida. We must accelerate plan review times to have a chance of keeping up with this exceptional growth.

Chapter Check-In

Development: *Education is an important part of NAIOP's mission. Have there been recent educational sessions specific to your chapter recently?*

Blount: Our chapter focuses on education as a central part of our programming. We have held several programs for members specific to innovative projects and important issues. Our Developing Leaders group is especially active in providing mentoring programs throughout the year where veterans of our development community provide insights for those ready to learn. We're currently sponsoring several educational programs for the UNC Kenan-Flagler MBA Real Estate Club.

We've also invested in an important educational initiative for our region.

"Our chapter has pledged a $125,000 commitment to North Carolina Central University's new MBA program. The MBA concentration in real estate is the first of its kind offered by a historically black college or university among the 101 HBCUs in the U.S."

— Michael Blount, Wilson | Blount Development, President, NAIOP Raleigh-Durham

Our chapter has pledged a $125,000 commitment to North Carolina Central University's new MBA program. The MBA concentration in real estate is the first of its kind offered by a historically black college or university among the 101 HBCUs in the U.S. Objectives of the program include: graduating 20-plus MBAs specializing in real estate each year, graduating business students who have real estate coursework and real-life experience, execute impactful community service projects involving faculty and students through the Real Estate Center, and establish strong relationships with state, national and international commercial real estate programs. ■

Trey Barrineau is the managing editor of publications for NAIOP.

A Fresh Look at Office Conversions

Old office buildings find a new lease on life as labs, medical offices and apartments.

By Shawn Moura, Ph.D.

The COVID-19 pandemic has led to the steepest decline in demand for office space since the Great Recession. Offices largely went unused in the first months of the pandemic, and office utilization rates have yet to fully recover. The long-expected return to the office was delayed by subsequent waves of coronavirus variants. Although the decline in infections from the Omicron variant has led many employers to announce a return to the office, many employers plan to offer employees a hybrid work schedule for the foreseeable future, dampening demand for office space.

The pain in the office sector has not been evenly shared. A tight labor market has supported demand for Class A buildings with attractive layouts and amenities that employers can use to lure workers back to the office. By contrast, older office buildings that offer few amenities to compete with the comforts of home have suffered the most from the decline in demand. And while demand for traditional office space is down, demand for flex and specialized office space for life science and medical office uses has grown in many markets.

Favorable demand trends for life science, medical office and multifamily properties have led some developers to look at traditional office buildings that are approaching functional obsolescence as potentially attractive targets for conversion to new uses. The NAIOP Research Foundation has published a report titled "New Uses for Office Buildings: Life Science, Medical and Multifamily Conversions," by **Emil Malizia**, Ph.D., research professor at University of North Carolina at Chapel Hill. Malizia interviewed commercial real estate practitioners, examined market data and reviewed secondary sources to evaluate the trends driving developer interest in office conversions and describe the risks and opportunities associated with these projects.

Evaluating Suitability for Conversion

The report provides an overview of the factors that affect whether a given office building will be a good candidate for conversion. As in any project, location is a critical factor. Most life science conversions occur near existing clusters of research facilities operated by pharmaceutical companies, universities, hospitals and government agencies, which are not present in every market. While markets like Boston, San Diego and San Francisco have historically hosted a large share of life science conversions, they also occur in growing life science markets like Austin, Seattle and the Maryland suburbs of Washington, D.C.

Office-to-multifamily conversions occur in a larger number of markets, but they tend to be concentrated in denser urban areas where multifamily units are in short supply. A traditional office building may be a good candidate for conversion to medical office if it is easily accessible from a nearby highway, located near hospitals and other specialized medical facilities, and in an area with a growing population.

> **As in any project, location is a critical factor. Most life science conversions occur near existing clusters of research facilities operated by pharmaceutical companies, universities, hospitals and government agencies, which are not present in every market.**

Get the Report

To view and download "New Uses for Office Buildings: Life Science, Medical and Multifamily Conversions," visit **naiop.org/Research-and-Publications/Research-Reports.**

A building's structural elements can also affect whether a conversion would be viable. For example, to be a candidate for a life science conversion, a multistory building should have a floor-to-ceiling clearance of at least 14 feet, and buildings with large floor plates and wide column spacing are usually better-suited to laboratory space. Nor can every office building accommodate optimal apartment layouts. Narrow, low-rise buildings and mid- or high-rise buildings with a centralized interior core may be suitable for multifamily conversion, but it is harder to divide the floors of wider buildings that lack a central core into apartments with comfortable layouts and adequate daylight.

The pain in the office sector has not been evenly shared. A tight labor market has supported demand for Class A buildings with attractive layouts and amenities that employers can use to lure workers back to the office. By contrast, older office buildings that offer few amenities to compete with the comforts of home have suffered the most from the decline in demand.

Advantages of Conversion

When a conversion is feasible, it offers several advantages over demolition and new construction. It is often easier to obtain permits for a conversion, which usually causes less disturbance to surrounding buildings. Conversion also tends to be quicker than new construction, and material and labor costs are usually lower. Faster project completion is a particular advantage in the life science sector, where firms often seek to lease space shortly after obtaining FDA approval for a new product.

When converting a multistory building, it may also be feasible to lease floors that are not currently undergoing conversion, providing the owner with a source of income during construction. Another significant advantage is that conversion can be more sustainable than new construction. It requires less energy and building materials and preserves much of the existing building's embodied carbon.

Current market conditions make conversion of older office buildings more attractive than before the pandemic. However, not all office buildings are viable candidates for conversion, and relative demand for traditional office, life science, medical office and multifamily space will continue to shift in response to economic conditions. Nonetheless, the report demonstrates that conversion will remain a viable strategy for underperforming office buildings when adjacent uses are more profitable. ■

Shawn Moura, Ph.D., is research director at NAIOP.

The Growing Demand for Supplier Diversity in the Commercial Real Estate Industry

A new organization aims to simplify the process of procuring real estate suppliers from historically under-represented groups.

By Jenna Glick, CRESDA

The lack of diversity in the commercial real estate industry has been under increased scrutiny for the past few years. Some of the largest companies in global real estate made it a priority, such as Blackstone appointing a global head of diversity, equity and inclusion (DEI) in June 2021 and CBRE hiring a chief responsibility officer in 2020. Cushman & Wakefield named its first chief DEI officer in December 2020, and JLL expanded its internal team dedicated to DEI initiatives.

Inclusion initiatives focused on sourcing and fostering diverse talent are widely recognized, but they are only part of the equation. Another component involves supplier diversity and inclusion programs that leverage corporate purchasing power.

In a 2011 survey conducted by the Institute for Supply Management and JAGGAER, just 35% of North American respondents indicated that they had a supplier diversity program in place. By 2021, that figure increased to just under 60% according to a similar 2021 JAGGAER and Tealbook report. Additionally, about 61% of North American respondents in the 2021 report said they are actively pursuing a more diverse supplier base and supplier diversity program within the next two years.

Identifying suppliers from diverse backgrounds has long been a challenge for the commercial real estate industry.

What Constitutes Supplier Diversity?

As defined by a 2020 Harvard Business Review study on the topic, a diverse supplier is "a business that is at least 51% owned and operated by an individual or a group that is part of a traditionally underrepresented or underserved group." This includes minority-owned, woman-owned, LGBTQ-owned and veteran-owned businesses, as well as proprietors who are differently abled. Common classifications include small-business enterprises (SBEs), minority-owned enterprises (MBEs) and woman-owned enterprises (WBEs).

The benefits of supplier diversity go beyond ethical responsibility. Inclusive procurement provides more sourcing options, promoting competitive pricing and creating more resilience and agility within the supply chain. In addition, according to a 2021 study by the Institute for Supply Management, more than 70% of participants with an annual revenue of $25 billion or more report supplier diversity brought innovation to their companies. Another vital benefit is improved brand perception, as diversity efforts are increasingly significant to clients and customers of all demographics.

Growing Impact

The recent global momentum toward supplier diversity has been equally reflected in the commercial real estate industry. In October 2020, CBRE pledged to spend $1 billion with diverse suppliers in 2021 and grow this amount to $3 billion within five

continued on page 98

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continued from page 96

years. Prior to this initiative, only 4% of its suppliers were considered diverse. CBRE, Walmart, Verizon, IBM and 27 other companies joined together to form the Billion Dollar Roundtable (BDR), pledging to spend at least $1 billion annually with diverse suppliers.

Similarly, Cushman & Wakefield spent more than $536 million with diverse suppliers in North America in 2021 and has continued to bolster its supplier diversity program. In a 2022 Commercial Property Executive article, **Nadine Augusta**, Cushman & Wakefield's chief DEI officer, urged others in the CRE industry to "look creatively at how diversity, equity and inclusion can be applied to each area of their business."

Perhaps even more impactful to the commercial real estate industry is the upsurge of Fortune 500 companies, such as the BDR members, using real estate service companies as a place to increase their diversity spend. To date, the reach of these companies' supplier diversity programs has been minimal to diverse suppliers in the commercial real estate space. In part, these programs have historically overlooked the professional services category, such as real estate brokerage. However, more large corporations are suggesting and sometimes requiring diversity participation in their real estate spends, such as with large-scale commercial real estate brokerage mandates.

Overcoming Obstacles

One challenge is that it can be cumbersome to find and vet diverse real estate service providers, particularly for projects with multimarket requirements. In the 2021 JAGGAER and Tealbook study on supplier diversity, close to 45% of North American participants considered "difficulty identifying diverse suppliers that meet procurement criteria" as their organization's biggest challenge in increasing their spend with diverse suppliers, proving that this issue exists across the board.

The benefits of supplier diversity go beyond ethical responsibility. Inclusive procurement provides more sourcing options, promoting competitive pricing and creating more resilience and agility within the supply chain.

Nancy Glick, chief operating officer of Newmark Associates, the longest-running women-owned-and-operated commercial real estate firm in New Jersey, and cofounder and chief executive officer of CRESDA (Commercial Real Estate Supplier Diversity Alliance), has dedicated more than 10 years to building Newmark Associates' supplier diversity program and advancing diversity in the commercial real estate industry.

"As a certified woman-owned commercial real estate services provider and a former committee member for WBENC (Women's Business Enterprise National Council), I have witnessed firsthand the challenges faced by diverse companies interested in working with Fortune 100 companies," she said. "While these initiatives and mandates have been at the forefront of corporate awareness for some time, it is only in recent years that we are seeing a shift to include professional services, and even then, these intentions are not always translated into action. The greatest obstacle for Fortune 100 companies is sourcing and vetting qualified and certified diverse firms, particularly for mandates requiring multimarket participation."

CRESDA aims to tackle this issue with a business model that simplifies the process of sourcing diverse real estate providers on a national scale.

"CRESDA was born out of the desire to share our experience in the DEI arena with CRE brokerage firms across the country to assist them in gaining visibility and access to Fortune 100 companies," said Glick.

CRESDA has garnered a large member base of certified woman-, minority- or veteran-owned commercial real estate firms across the country to partner on cross-market initiatives. All members are vetted for capability and guaranteed certified diverse, with principal oversight on every transaction.

"We hope through this business model we can enact real change," Glick said.

CRESDA member firm Granite Commercial Real Estate, LLC (GCRE), a woman- and minority-owned commercial real estate firm based in New Hampshire and Massachusetts, provides commercial real estate brokerage and advisory services for large corporations.

"Often times, these companies have national footprints and state that it's difficult to find other woman- and minority-owned commercial real estate firms," said GRCE President **Megan Prieto Giokas**. "CRESDA created a solution to overcome that obstacle. It offers large corporations and organizations a national network of vetted and experienced diverse commercial real estate professionals. It also provides a national platform for its members to leverage and provide additional services to existing clients." ■

Jenna Glick is the COO and head of business development for CRESDA.

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Key Takeaways from I.CON West

I.CON West speakers and attendees shared the common outlook that the industrial sector is ripe with opportunities. E-commerce continues to explode to meet same-day delivery expectations, and significant supply chain challenges caused by an unimaginable pandemic have also accelerated both industrial demand and investment.

Around the time this column is published, close to 1,000 industrial real estate colleagues will be gathering at I.CON East in my home state of New Jersey. This is NAIOP's second industrial-focused conference this year; another 1,000 attendees came together in California in March for I.CON West. These two conferences are among NAIOP's flagship events, firmly solidifying the organization's position as the leader in industrial real estate.

Jeff Milanaik

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These are some of my biggest takeaways from the event:

Changes to port operations could ease supply chain challenges. Mario Cordero, executive director, Port of Long Beach, said one of the port's biggest issues is the volume of empty containers waiting to return to Asia — at one point equaling 50% of containers at the port. There is an opportunity to focus on changes to the supply chain, including greater availability of rail cars or truck chassis, or permanent 24-7 operations.

American savings accounts were supercharged during the pandemic. Beacon Advisors economist and keynote speaker **Christopher Thornberg**, Ph.D., shared that while Americans collectively lost $800 billion in income during the past two years, the stimulus packages created by the federal government directly gave Americans more than $2 trillion. As a result, collective household net worth increased $30 trillion — a 25% increase in average household net worth in just two years.

There are industrial opportunities in the markets you might not expect. Brian Fish, senior project manager with St. Onge Company, shared that if a supplier wants to be within two days of service to 95% of U.S. population, there are three markets that get them there: Salt Lake City; Jackson, Mississippi; and Louisville, Kentucky. If they want to be within one day: Seattle; Fresno, California; Albuquerque, New Mexico; Waco, Texas; Bloomington, Illinois; Huntington, West Virginia; Newark, New Jersey; and Jacksonville, Florida.

Solar has room to grow — and can pay off. According to McKinsey & Company, approximately 70% of commercial real estate has the capability to go solar, but there's only a 3% penetration rate. A solar array on an owner-occupied light industrial building in Ronkonkoma, New York, resulted in first-year savings of over $700,000, and the anticipated savings over the project's life is more than $5.6 million.

Dimensions of industrial buildings are growing. Over the past two decades, an increasing number of distribution centers have exceeded one million square feet in size, and clear heights have expanded to a new standard of 40 feet, up from the previous 26 feet. **Kim Snyder**, president of the West Region with Prologis, shared that their conversations with tenants are increasingly shifting from square feet to cubic feet and increased racking capacities.

New talent is bringing fresh ideas to industrial real estate. It was my honor to meet more than 20 recipients of the annual NAIOP and Prologis Inclusion in CRE scholarship, industry professionals from underrepresented demographics in commercial real estate who are rising industry leaders. I was so impressed by this group and their enthusiasm for NAIOP and the industry, and I want to recognize Prologis for their support of this program that has prepared more than 60 bright minds for development and operations careers during the past five years.

I hope you can join us in Jersey City for I.CON East, and CRE.Converge 2022 this fall in Chicago. Connecting and learning at a NAIOP conference is a worthwhile investment of your time, and I look forward to meeting you there. ■

Jeff Milanaik, Partner, Northeast Region –
Bridge Industrial
2022 NAIOP Chair