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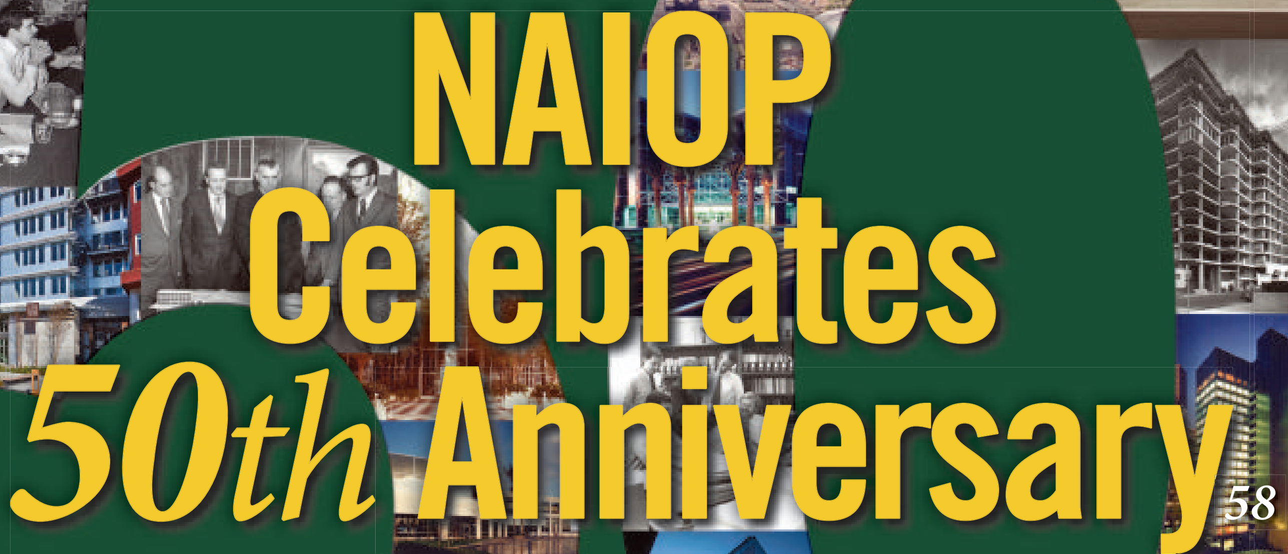

NAIOP Celebrates 50th Anniversary 58

Innovative Financing for Roads and Highways 70

Developing Museums 92

Keys to Attracting Institutional Capital 30

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Contents

Development® Summer 2017

Volume XLVIII No. 2

Cover Story 58

NAIOP's 50th Anniversary

NAIOP celebrates 50 years of advocacy, education and professional excellence.

FEATURES

Infrastructure Development 70

Innovative Financing for Roads and Highways

New approaches are needed to fix an old problem.

Office Development 78

Beyond 72 Degrees and Sunny: Optimizing the Indoor Work Environment

The conversation about indoor environments is changing as tenants leverage new technologies to support employee productivity.

Business Ownership 86

The Future of Family-owned CRE Businesses

How can family-owned businesses stay competitive in the commercial real estate industry?

Museum Development 92

The Challenges of Bringing a Museum to Market

Museum development requires collaboration among designers, contractors, developers and museum operators.

70

78

86

92

Development on the Web

Read Development® magazine anywhere, anytime at www.naiop.org!

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http://twitter.com/naiop

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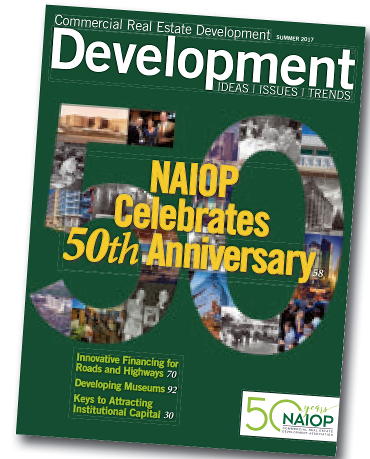
Contents

Development® Summer 2017



People and places from NAIOP's first 50 years.

COLUMNS

By the Numbers 8
Canadian and U.S. National Industrial Trends

A Look Ahead 10
How Retail Flagships Lead the Fleet
Urban Food Halls
Co-working Spaces for Health and Beauty Professionals
New & Noteworthy Projects

The Entrepreneur 20
CEO on Leadership: J. Dwight Bell, Cannon Equities
Five Tips to Avoid Stormwater Headaches

In Touch with Tenants 26
Potential Pitfalls With Letters of Intent
The Benefits and Risks of Triple Net Leases

Special Section **102**
NAIOP's 2017 Guide to Architects, Contractors and Engineers
Looking for an architect, contractor or engineer for your next project? This guide lists dozens of firms throughout North America.

Inside Investment + Finance 30
How to Attract Institutional Capital
A More Relevant Measure of Risk

Strategically Green 38
Bringing the Outdoors In With Living Walls

Transportation + Mobility 44
Cranes and Lanes: The Link Between Transportation Infrastructure and Commercial Real Estate
Funding Transit to Industrial Properties
Displaying Real-time Transit Information: An Update
Building a Transit Army

New Voices 54
Colliers International's Advisor Development Program

Government Affairs 108
A Regulatory Framework for a New Administration

Resources 110

People + Companies 111

At Closing 112
Is the Glass Half Empty or Half Full?

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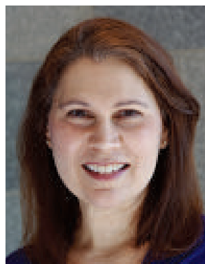
A Note From the Editor

Crazy Busy

DO YOU HAVE TIME to read this or any other magazine from cover to cover? I didn't think so. That's why we've changed the format of this page, to summarize many of the articles in each issue. Look here for key takeaways from each piece, then go deeper by reading the articles of interest to you, or pass the magazine on to a colleague. ■

All the best,
Margarita Foster
Editor-in-Chief


Margarita Foster

NAIOP has thrived for five decades by drawing on trusted leaders and focusing on industry best practices, even in the face of business-altering occurrences like tax code changes, stock market crashes and other world events (page 58).

Creating or expanding regional toll authorities, charging fees linked to the number of "vehicle miles traveled," using new forms of software and other innovations are all potential ways to fund much-needed transportation infrastructure (page 70).

Tenants are becoming more interested in well-lit, properly ventilated workspaces that support employees' cognitive functions (page 78).

Future NAIOP Events

- I.CON '17: Trends and Forecasts, June 8-9, Long Beach, California
- CRE.Converge 2017, Oct. 10-12, Chicago
- CRE.Insights: The Office Evolution 2017, Nov. 9-10, Brooklyn, New York
- Chapter Leadership and Legislative Retreat 2018, Feb. 5-7, Washington, D.C.
- National Forums Symposium 2018, May 1-3, New York

Ensuring generational overlap, requiring family members to get "real world" experience and making them develop skills in at least one area of commercial real estate are some of the strategies helping family-owned CRE companies remain competitive (page 86).

Four museums of varying themes, size, cost, complexity and location offer examples for developers and communities throughout North America (page 92).

Flagship stores allow retailers to experiment with merchandise, store layouts and new technology that may someday be rolled out to their other stores (page 10).

Smaller spaces and flexible leases in urban food halls enable chefs to test new concepts and gain experience before opening more costly establishments (page 14).

Entrepreneurs have customized the co-working model, providing fully built-out suites and business training for health and beauty professionals (page 18).

In many jurisdictions, property owners are liable for stormwater runoff on a neighboring property, even if that condition came with the property or is the result of professional negligence (page 22).

Letters of intent, although considered "nonbinding" agreements, may contain legally enforceable provisions regarding assignments and subleasing, maintenance and repair obligations, ADA responsibilities, common area costs and more (page 26).

Most Popular From Spring 2017

1) **E-commerce 2.0: Last-mile Delivery and the Rise of the Urban Warehouse** (naiop.org/lastmiledelivery, page 50)
2) **The Third Place in the Modern Office** (naiop.org/thirdplace, page 26)
3) **Plantscaping and the Value of Biophilic Design** (naiop.org/plantscaping, page 36)
4) **Creative Industrial Workspaces** (naiop.org/creativeindustrial, page 10)
5) **Bulfinch Crossing: The Next Phase of Urban Revitalization in Boston** (naiop.org/BulfinchCrossing, page 72)

Regional developers aiming to attract institutional investors must produce GAAP-basis, audited financial statements; quarterly reporting; internal valuations; external appraisals; clearly documented operating practices; and more (page 30).

Comparing the spread between cap rates and U.S. Treasurys may be an "apples-to-oranges" comparison. A more appropriate measure of risk compares property cap rates to long-term Baa bond rates (page 34).

Planted, "living" walls are becoming less costly as well as easier to install and maintain (page 38).

Lack of public transit to industrial properties can be a barrier to attracting and retaining labor, so businesses in Plainfield, Indiana, formed a public-private partnership to fund bus service to the town's industrial parks (page 46).

Transit advocacy doesn't always have to move slowly through multiple layers of bureaucracy. By using "tactical urbanism," members of an Atlanta group are making low-cost improvements to enrich bus stops in their own neighborhoods (page 52). ■

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Canadian and U.S. National Industrial Trends

A comparison of these two North American industrial markets offers some interesting insights.

By David Egan, CBRE Global Research

THE TABLES AT RIGHT offer a quick comparison of the U.S. and Canadian industrial markets. Some observations:

1) The U.S. industrial market is nearly 10 times larger than the Canadian industrial market.

2) The largest U.S. industrial market, Los Angeles/Orange County, is almost the same size as the entire Canadian industrial market.

3) The average sales price per square foot is roughly 30 percent higher in Canada, which could reflect the current exchange rate as well as differences in inventory.

4) Cap rates are slightly higher in Canada, reflecting slightly greater perceived risks.

5) Toronto and Vancouver are expected to remain two of North America's most competitive industrial markets through 2017, and will account for the majority of Canada's industrial sales and leasing activity. Activity in the U.S. markets is less concentrated, with both user and investor demand found across the spectrum, from the largest markets — Chicago, the Inland Empire, etc. — and secondary markets such as Phoenix, Indianapolis, and Columbus, Ohio.

6) E-commerce induced expansion of the distribution and logistics industry will drive industrial leasing and investment activity in both nations. The impacts, however, will differ. Canadian retailers are still in the early stages of building out their e-commerce and omnichannel supply chains, while the U.S.

National Industrial Trends, Canada and U.S.
(As of Year-end 2016)

	U.S.	Canada
Total Inventory (in sq. ft.)	13.481 billion	1.769 billion
Availability Rate	8.2%	5.3%
Vacancy Rate	4.9%	3.9%
2016 Q4 Net Absorption (in sq. ft.)	49.066 million	6.687 million
2016 Total Net Absorption (in sq. ft.)	258.749 million	17.887 million
Average Net Rent (per sq. ft.)	$6.15[1]	$6.60[3]
2016 Total Sales Volume	$59 billion[1,2]	$2 billion[2,3]
Average Sale Price (per sq. ft.)	$83[1,2]	$117[2,3]
Average Class A Cap Rate	5.5%	5.7%
Average Class B Cap Rate	6.6%	6.7%

[1] *In U.S. dollars*
[2] *Source: Real Capital Analytics*
[3] *In Canadian dollars*

Largest U.S. Industrial Markets

Market	Inventory (In millions of sq. ft.)	Vacancy Rate
Los Angeles/Orange County	1,256	1.3%
Chicago	1,234	3.9%
Dallas-Ft.Worth	744	6.0%

Largest Canadian Industrial Markets

Market	Inventory (In millions of sq. ft.)	Vacancy Rate
Toronto	764	1.8%
Montreal	301	7.2%
Vancouver	187	2.4%

"Retailers are increasingly partnering with third-party logistics providers or retrofitting assets to include fulfillment centers for online orders."

David Egan

e-commerce market is more mature. In particular, U.S. occupiers are increasingly focusing on perfecting their "last-mile" delivery systems; retailers are increasingly partnering with third-party logistics providers or retrofitting existing assets to include fulfillment centers for online orders. (See "E-commerce 2.0: Last-mile Delivery and the Rise of the Urban Warehouse," Development, spring 2017.)

7) The amount of industrial space under construction in Canada is at a seven-year low of 9.5 million square feet, which will support record low availability rates throughout 2017, especially in gateway markets. Supply in the U.S. is growing, with nearly 200 million square feet under construction in early 2017, which should meet user demand for the first time in over a decade and relieve some of the pressure brought about by record low vacancy rates across the country. ■

By **David Egan**, Americas head of industrial research, CBRE Global Research

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How Retail Flagships Lead the Fleet

Flagship stores enable retailers to create a physical embodiment of a brand through design and spectacle — and to experiment with new concepts and technologies.

By James Cook, JLL

AS VISITORS stroll down New York's Fifth Avenue or Chicago's Magnificent Mile, they are acutely aware of the big bright stores and lavish window displays that tempt them to enter. When a visitor does enter one of these retail flagships, she'll likely encounter a very different experience than the one she has when she shops at that same store in her mall back home. In fact, shopping in a flagship is a special occasion for most customers, and they often spend more money because of that specialness.

The flagship Restoration Hardware Gallery in Chicago is located in a former museum of natural history, providing a unique experience for shoppers.
Photo courtesy JLL

Flagship stores set an example for the other smaller stores in a chain. Flagships are typically located in prime urban retail corridors and are generally larger in size than the average fleet store. They serve as a showcase for new technology, original artwork, remarkable architecture and dramatic interior design. They often carry exclusive merchandise and offer specialty services. Above all, these stores are an occasion to create a physical embodiment of a brand's story through design and spectacle.

Are there differences in how various categories of retailers choose to make their flagships unique? To answer that question, JLL collected and analyzed features of 145 flagship stores across four U.S. markets: New York, Los Angeles, Chicago and San Francisco. Researchers found that flagships employ special features meant to entice and engage the target demographic of the retailer in question.

An Aura of Exclusivity

For luxury brands, this means that shoppers are drawn in with the aura of exclusivity. In fact, the flagship store itself is a tool most popularly used by luxury brands. Forty percent of the flagships in the four markets JLL studied were in the luxury and "luxury lite" categories. Luxury retailers want their flagships to be more than a store; they want them to be places where shoppers relax and play. They offer in-store restaurants, cafes

> "Shopping in a flagship is a special occasion for most customers, and they often spend more money because of that specialness."
>
> *James Cook*

or coffee bars and VIP rooms with personalized service.

Ralph Lauren, for example, debuted its restaurant concept at its flagship on Michigan Avenue in Chicago, where the brand comes to life through a four-star dining experience, surrounded by artwork from the designer's private collection. In New York, where one finds more than half of the luxury flagships in the JLL study, many designer stores cater to wealthy shoppers with invitation-only VIP suites, private fitting rooms, lounges and salons. When German luxury brand MCM opened its SoHo flagship in 2015 showcasing industrial designs and an art installation, designers topped it off with a VIP lounge for key clients.

Middle-priced retailers often lure shoppers to their flagships with a variety of interactive features and unique experiences, including new technology. Lower-priced retailers attract the masses with a variety of interactive features and unique experiences. They use their flagship spaces to engage customers with new technology and a wider selection of merchandise.

Flagships allow retailers to experiment with merchandise, store layouts and new technology that may someday be rolled out to their full fleet. The Sunglass Hut on Fifth Avenue, for example, features an interactive display called "Social Sun," which allows customers to take and share photos of

New & Noteworthy

1.35 million sq. ft.

The Howard Hughes Corp. has received Chicago Plan Commission approval to build a 51-story office tower at 110 North Wacker Drive, in collaboration with Riverside Investment & Development, Goettsch Partners and CBRE — the development, design and leasing teams behind the recently completed 150 North Riverside Plaza project. The 1.35 million-square-foot aluminum and glass curtain wall building will feature sweeping views of the Chicago River as well as a conference center, fitness facility and retail and dining options. The project is expected to take about two and a half years to build.

1.2 million sq. ft. + 2.66 acres

Stream Realty Partners and J.P. Morgan Asset Management plan to renovate and expand Trammell Crow Center in Dallas. The first major renovation of the 32-year-old, 50-story postmodern office tower is expected to transform it and an adjacent 2.66-acre site into a mixed-use destination that will serve as a cornerstone for the city's Arts District. Redevelopment of the 1.2 million-square-foot office tower will include enhancements to the lobby, lower exterior and plaza. The mixed-use development will be anchored by more than 26,000 square feet of restaurant-driven retail space and a parking facility that will boost the office tower's parking ratio to 3 spaces per 1,000 square feet. Construction began in March 2017 and is expected to be completed in fall 2018.

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.

themselves in the latest sunglasses. Technology can also be used for more practical purposes. At Zara's Los Angeles location, LED screens in each section display brand information.

Flagships Stores Defined

Shoppers might only know flagships as "big stores," but more than size distinguishes these shopping destinations. A flagship retail store is a leader in its fleet. Flagships can be larger, in a highly prominent location and/or carry exclusive merchandise. Typical features include the following:

> **"Flagships allow retailers to experiment with merchandise, store layouts and new technology that may someday be rolled out to their full fleet."**
>
> *James Cook*

Massive stores impress the shopper with their sheer size. They also provide the space needed to extend the merchandise mix beyond the range of an average store and allow room for those unique extras that make flagships special. Sizewise, most flagships just plain dominate.

Traces of a brand's history often can be found throughout a flagship location. Paying homage to the past invites guests into the retailer's culture. Whether through museum-like displays detailing elements of the brand's origins or the presence of an iconic piece of merchandise on which the brand prides itself, the flagship space is a canvas where a retailer can display its heritage.

One-of-a-kind artwork can serve as an added attraction for a store. It also lends an air of authenticity and extravagance. Artwork is most typically found in luxury apparel flagships.

New retail technology, especially tech that would be too expensive to put in every store, is often tested in flagships. Electronics are sometimes used to amuse and entertain, but they can also inform and educate.

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Uniqlo's flagship store in Chicago features dramatic graphic elements, including large LED screen displays, as well as a Starbucks cafe.
Photo courtesy JLL

Historic landmark locations, like Macy's in Herald Square, often distinguish flagships. Some newer retailers have located their flagships within historic buildings, while others have used dramatic architecture to turn their stores into must-see destinations.

VIP spaces like lounges and private fitting rooms are amenities that luxury brands use to woo their best shoppers. For other retailers, community and event spaces attract media and shopper attention. ■

By **James Cook**, director of research, retail, JLL

For more information: See "Flagship Confidential," http://link.jll.com/Flagship-Confidential, which includes itineraries for self-guided flagship tours in New York, San Francisco, Chicago and Los Angeles.

New & Noteworthy

1.2 million sq. ft.

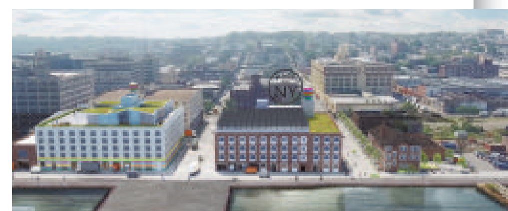
The Opus Group, in a joint venture with AEW Capital Management LP, plans to construct a 1.2 million-square-foot industrial warehouse in Joliet, Illinois. Located in Chicago's Interstate 80 submarket, the development will feature 36-foot clear height ceilings, an ESFR sprinkler system, more than 200 loading docks and parking for up to 450 trailers and 225 cars, with room for expansion. The speculative building, which has been designed to meet the needs of the e-commerce and intermodal logistics industries, will be able to accommodate a single user or two tenants of 500,000 square feet or more. The project is slated for completion in summer 2018.

760,000 sq. ft.

Trammell Crow Company and its partner Allstate have begun construction on phase II of King Mill Distribution Park in Atlanta. The 760,000-square-foot warehouse building will feature 36-foot clear height ceilings, ample trailer storage and employee vehicle parking, and a flexible design that can accommodate multiple tenants with two separate entrances. The project is expected to be completed in the third quarter of 2017. TCC and Allstate completed construction of phase I, which consists of 847,000 square feet fully leased to Wayfair, a Boston-based e-commerce retailer, in April 2016.

300,000 sq. ft.

New York Mayor Bill de Blasio has announced a $136 million transformation of Brooklyn's industrial waterfront. The Made in NY Campus project, conceived by the New York City Economic Development Corp., will create 300,000 square feet of new garment manufacturing and film/television production spaces at Bush Terminal in Sunset Park. WXY architecture + urban design created the project master plan and is providing conceptual design services. Pedestrian-friendly streetscape improvements and new plaza spaces will provide an enhanced sense of place for tenants and community residents.



Urban Food Halls

Food halls offer small-scale opportunities for landlords, operators, chefs and diners.

By Amanda Tran

AMID A CHALLENGING retail landscape dominated by news of brick-and-mortar store closings, the food hall has emerged as a promising opportunity for the commercial real estate industry and food entrepreneurs. Although food halls vary greatly in size and focus — ranging from "mega" halls, such as Mario Batali's Eataly in Boston, Chicago and New York, to much smaller venues in aging strip malls, such as The Block in Annandale, Virginia, a suburb of Washington, D.C. — they all feature a mix of vendors offering high-quality artisanal food in a communal atmosphere.

Garrick Brown, vice president and head of retail research at Cushman & Wakefield, credits food halls' explosive growth to the rise of "foodie culture" over the past 20 years and to the influence of millennial consumers. Brown explains, "For millennials, the emphasis is on authenticity. Processed foods are out; authentic and locally sourced foods are in."

The food hall trend has not gone unnoticed by landlords and developers, who are rushing to add food halls to their properties. Brown has seen the food hall market expand dramatically, from 70 projects at the end of 2015 to 170 and counting as of March 2017. Food halls are popping up "any place where there's a lot of density in a high-rise urban market," says Brown. He notes that "bite-size" food halls (10,000 square feet or less) account for at least half of the new projects he is tracking.

In the Strip District of Pittsburgh, **Tyler Benson** and **Ben Mantica** opened the Smallman Galley food hall and restaurant incubator in 2015, just as the food hall trend was kicking into high gear. Smallman Galley is a 6,000-square foot, 200-seat establishment featuring four aspiring chefs, a carefully curated bar program focused on local ingredients, and a coffee bar. Mantica and Bensons' inspiration for Smallman Galley came from the bustling food halls they visited in Southeast Asia while serving as officers in the U.S. Navy.

Smallman Galley, in Pittsburgh's Strip District, is a 6,000-square-foot, 200-seat food hall and restaurant incubator featuring four aspiring chefs, who experiment with new concepts in this low-risk environment.
Jeff Swenson

Although many food halls are de facto incubators where chefs can try their concepts in a low-risk environment, Mantica and Benson have developed a proprietary training program at Smallman Galley. Benson explains, "We provide mentorship and business resources to the operators while they are with us so that when they leave they have the opportunity to set up their own brick-and-mortar restaurant, hopefully in Pittsburgh."

"We provide mentorship and business resources to the operators … so that when they leave they have the opportunity to set up their own brick-and-mortar restaurant."

Tyler Benson

At the same time, Mantica and Benson are actively looking to expand outside of Pittsburgh. Their requirements for new food hall locations are minimal: a ground floor space of at least 8,000 square feet in an urban market setting. Benson emphasizes that being in an urban marketplace is crucial because the food hall business model relies on volume to be successful. As he elaborates, "The communal style of dining at food halls tends to be more attractive to urban professionals and millennials."

The food hall business model offers landlords, operators and chefs a way to reduce risk when launching a new restaurant. Typically, a landlord leases space to an operator (such as Smallman Galley), which subleases space to a number of vendors. Benson explains that operators shoulder the bulk of the capital investment, "so we end up bearing the risk, but we also mitigate it by spreading it out over different concepts." He adds that Smallman Galley has a raw, industrial aesthetic — essentially a blank canvas that makes replacing vendors simple. Vendor turnover is actually

New & Noteworthy

156,000 sq. ft.

Liberty Property Trust has broken ground on its first industrial development project in Southern California, a 156,000-square-foot structure in Redlands. Located at the intersection of Alabama Street and San Bernardino Avenue, the building will offer access to the Interstate 10, 210 and 215 freeways. The facility will include office and finished mezzanine space, and will feature 32-foot clear height ceilings, 54-by-50-foot column spacing, 26 dock doors and one grade-level door as well as a 164-foot truck court and parking for 93 cars. It is expected to be completed by the end of 2017.

140,000 sq. ft.

Adolfson & Peterson Construction has begun building a new headquarters for WatchGuard Video in Allen, Texas. The two-story, 140,000-square-foot structure will feature office space for approximately 500 employees as well as a first-floor manufacturing facility, where the company's in-car and body cameras will be assembled, and a demonstration room. It will also contain a training center, a high-tech engineering laboratory and a fitness center with an indoor racquetball court. The project, which was designed by GFF and is being managed by Fricks Construction Management, is slated for completion in the first quarter of 2018.

140,000 sq. ft.

Westbridge Partners planned, rezoned and has entered into a joint venture agreement with Federal Capital Partners to develop Stockyards, a 140,000-square-foot adaptive reuse redevelopment of the last remaining historic buildings in the Miller Union Stockyards district of West Midtown Atlanta. The project will consist of roughly 105,000 square feet of office space as well as 10,000 square feet of restaurant space and the 25,000-square-foot Painted Duck, a combination duckpin bowling alley, karaoke lounge and bar. Office tenants include Fitzgerald & CO, Momentum, and Mannington Commercial. Construction began in June 2016; the first tenants are expected to arrive in June 2017 and completion is expected by the end of 2017. ■

beneficial, according to Brown: "It keeps your food hall fresh, as a concept, so people keep coming back."

For food hall vendors (chefs), "Startup costs are radically lower and lease terms a lot more flexible than traditional retail leases. In general, the rent that is passed on is double whatever the operator is paying to the landlord," according to Brown. However, the vendor is leasing only a fraction of the space needed to open a traditional restaurant. Lease terms for food hall vendors are typically one to two years, much shorter than the five- to 10-year terms landlords command for conventional restaurants. Chefs at food halls are thus able to experiment and gain valuable experience before assuming the expense and commitment of opening their own establishments.

> **"The vendor is leasing only a fraction of the space needed to open a traditional restaurant."**
>
> *Garrick Brown*

Benson advises landlords looking to open food halls to "be flexible and really think about the best way to improve their space and how their building is being branded." Brown elaborates, "Creating an atmosphere that goes beyond having just a bunch of plastic chairs rooted into the floor like an old foot court" is crucial. "Your end consumers are that millennial crowd, and sense of place is really important to millennials, but the food concepts need to resonate with them as well." ■

By **Amanda Tran**, a freelance real estate writer and researcher

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Co-working Spaces for Health and Beauty Professionals

A real estate model originally designed to meet the needs of startups and freelancers is customized for the health and beauty industry.

By Ken McAllister, My Salon Suite

THE POPULARITY OF co-working spaces has been on the rise for years. Often viewed as a practical option for startup companies or a temporary solution for business owners looking to relocate, co-working spaces also make great environments for long-standing businesses. In fact, according to a Huffington Post article ("11 Incredible Coworking Statistics That Will Make You Leave Your Cubicle," January 14, 2015), 90 percent of business owners who use a co-working space feel more confident while working, and 68 percent are better able to concentrate. Being surrounded in the workplace by people with similar goals uplifts people, encourages them and pushes them to achieve greater success.

Fully furnished suites and one-year leases that include all amenities and utilities enable health and beauty professionals to own and operate their own businesses without opening an entire salon.
My Salon Suite

Co-working spaces work well for entrepreneurs in all industries. My Salon Suite, a national franchise operation, offers co-working spaces specifically built for beauty and health professionals who want to own and operate their own businesses without opening a whole salon. At every My Salon Suite, multiple entrepreneurs, known as members, rent individual suites and operate independent businesses under one roof.

The model works well for both franchise owners and the beauty professionals who rent the individual suites. My Salon Suite empowers both groups of business owners to focus on what they do best. After all, when people are happy with their work environment, their efficiency and productivity typically increase.

Although all members have a private space in which to focus on their individual clients without the distractions of a traditional beauty salon, they are still part of a community of like-minded professionals. Salon customers enjoy the experience more than they do traditional salon visits, and often refer additional customers, thereby allowing salon members to grow their clientele. Members typically see a 10 to 40 percent sales increase in the first year of business ownership.

Each salon location is between 4,000 and 8,000 square feet, depending on the market. That space is subdivided into individual suites ranging in size from 120 to 220 square feet. This model allows for about 20 to 40 suites at each location. All suites are fully furnished with the tools required by its occupants. Cosmetologists, for example, have a styling station, color station, dryer and so forth, while hair stylists have a styling station, shampoo sink and hairdryer. The suites can be further customized to include other equipment, such as massage tables and nail stations, for more specialized health and beauty businesses.

All locations have upscale common areas including a lobby, restrooms and hallways. They also have security systems in place that monitor the common areas and suites. Once a customer enters the front door, he or she is restricted to the salon entryway until a member grants the customer access to a specific suite through a video-intercom system. Members have access to their suites 24/7.

Members can customize their suites according to their business needs and interests. They can paint, decorate and rearrange furniture however they choose. Corporate leadership also provides training for members on marketing and business ownership, which helps to create a sense of community and to empower members to become successful business owners.

The lease structure is dependent on the market; My Salon Suite currently operates in Denver, Houston and Metairie, Louisiana, as well as in about 35 other cities across the U.S. Each lease is for one year and includes all amenities and utilities; there are no other fees. In addition, building maintenance services are provided by the franchise owners and are included in the rent.

The franchise owner of each My Salon Suite location is responsible for handling everything from technical issues to upkeep and general maintenance to heat and electricity. Salon locations are constructed of strong and sturdy materials, and furniture and amenities are chosen carefully to reduce maintenance issues.

Providing everything from physical space to business training empowers My Salon Suite members to succeed. The company has taken a real estate model originally designed to meet the needs of startups and freelancers and has customized it for the health and beauty industry, an approach that has proven successful in a variety of U.S. markets. ■

By **Ken McAllister**, founder and president, My Salon Suite

"The franchise owner of each My Salon Suite location is responsible for handling everything from technical issues to upkeep and general maintenance to heat and electricity."

Ken McAllister

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CEO on Leadership:
J. Dwight Bell, President and CEO, Cannon Equities

The president of an Atlanta-based diversified investment and development company offers his perspectives on the industry.

By Ron Derven

J. Dwight Bell
Karen Burns

IN 1981, STRAIGHT OUT of college, J. Dwight Bell got a job with Coldwell Banker Commercial, the predecessor of CBRE, working on the brokerage side of the business. He quickly moved to the development side, because he has always been intrigued with real estate development and the process of constructing buildings. From Coldwell Banker, Bell went to work for several local development companies.

In the late 1980s, he joined Hines, where he remained until he founded Boss Properties with a partner in the 1990s. When his partner left the company in 2001, Bell created his own platform, Cannon Equities. The firm specializes in both commercial and residential institutional-grade real estate. Bell is also director, asset management, for EcoMetrix Environmental Management LLC, a full-service sustainability and energy consulting company.

***Development:** As CEO, what are your core areas of focus?*

Bell: I focus on our capital partners, investors and lending relationships. I also focus on projects we have in the pipeline, and I generally oversee the execution of the projects we have underway, although we have a lot of good people on our team.

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

Bell: The most important skill is project management, followed by attention to detail, because we have a lot of moving parts. A third quality is people skills. We want people who can work well with other people and can motivate and incentivize them to get their work done.

***Development:** Tell us about your commitment to sustainable development and your founding of EcoMetrix Environmental Management.*

Bell: In addition to employing good real estate practices, we are primarily committed to two things: we want to create a positive impact on the communities in which we work, and we have a strong commitment to sustainability. In the early days of sustainability and LEED certification, we decided to get into that space and make our own projects sustainable.

At the same time, we decided to offer our services to other real estate developers and owners with a platform that presents a strong business case for being sustainable. We spend a lot of time looking at return on investment, at both the tangible and intangible benefits of being sustainable. The good news is that if you are reducing operating expenses by reducing energy and water usage, you are also being sustainable.

***Development:** What economic or market indicators do you track on a regular basis to keep up with the industry?*

Bell: On a macro level, we track interest rate and cap rate trends. Certainly on a macro level, we follow politics: what's going on in the world that is affecting our industry. At the local level, we are very much focused

"We are looking closely at what real estate products people want, and we are looking closely at how buildings are operated and the types of technology we need to put in buildings."

J. Dwight Bell

on fundamentals such as supply and demand dynamics.

Development: *Over the next 18 months, what challenges and opportunities do you see for the commercial real estate industry?*

Bell: We see challenges and opportunities from changing demographics and technology. We are looking closely at what real estate products people want, and we are looking closely at how buildings are operated and the types of technology we need to put in them. Clearly, one of the big moves is to wireless technology. This is very different today than it was just two or three years ago.

Development: *Looking out three to five years, what do you see on the horizon that will impact the industry? What are you doing today to prepare for those challenges?*

Bell: We are certainly looking at the leadership in Washington. The Trump administration has promised large infrastructure spending to the tune of $1 trillion, major tax reform and other pro-growth programs. This could have a major positive impact on commercial real estate.

Development: *How has the industry changed during your career?*

Bell: The industry has grown tremendously, and the number and types of players have changed. When I started out in the business, life insurance companies and pension funds were the major players. Now there are many, many more funds that are active. The biggest sea changes in my career involve technology and demographics, which are changing the way we approach real estate.

Development: *What is the most valuable lesson you've learned over the course of your real estate career?*

Bell: The major lesson I have learned is that no matter how blue the sky looks on the day you initiate a real estate deal, everything can change rapidly. Because of the time most deals take, it is impossible to know what will happen between the time you put a deal together and the targeted stabilization of the property. Therefore, you must underwrite all projects carefully and conservatively. We are very conservative in how we underwrite deals, and we are very conservative in our market assumptions going forward. This philosophy has served us well, given the uncertainty of the real estate business. ■

By **Ron Derven**, contributing editor, Development

Five Tips to Avoid Stormwater Headaches

Site work that results in stormwater runoff or erosion can expose a developer to potential liability.

By Sam Arden, Peyton Nunez and Irene Vander Els, Hartman Simons & Wood LLP

STORMWATER MANAGEMENT is an essential part of real property development. Unfortunately, certain development activities can expose the developer to potential liability if the site work results in stormwater runoff, erosion or sedimentation that impacts a neighboring property, despite the implementation of runoff controls.

Sam Arden

Peyton Nunez

Irene Vander Els

In many jurisdictions, owners are liable for a nuisance condition on neighboring property, even if that condition is the result of professional negligence by the engineer or contractor. Time and again, developers are surprised to discover that they have exposure for a neighboring landowner's damage claim even though the site design was prepared by an engineer and approved by the local permitting authority.

Even more surprising is that the developer's potential liability to neighboring property owners can continue long after construction is finished and the property has been sold to a third party.

Being aware of the uses of properties adjacent to a stormwater retention pond can minimize the risk of stormwater liability.

Recently, a regional retail developer faced a lawsuit related to a shopping center north of Atlanta. The developer purchased acreage in the mid-2000s and developed a 300,000-square-foot retail center, which it then sold within two years. In 2014, the developer was sued by downstream property owners who alleged that defects in the stormwater management system, which was included in the transfer of ownership at the time of sale, caused or contributed to property damage downstream. Because the neighbors claimed the development resulted in a continuing trespass of stormwater and sediment onto their property, the claims could not be dismissed short of trial or settlement. The matter was settled only after extensive expert discovery on the eve of trial.

Such risks exist in any development that modifies existing stormwater runoff patterns on the property, including redevelopment. In another recent case, a national retailer was sued by

> **“A key component in establishing liability for punitive damages and attorneys’ fees in stormwater cases involves demonstrating that the owner of the developed property ignored or failed to adequately respond to neighbors’ complaints.”**
>
> *Sam Arden, Peyton Nunez and Irene Vander Els*

adjoining property owners after redeveloping a one-acre parcel into a retail store in central Georgia. A drainage swale, part of the local municipality’s stormwater management system, ran between the client’s property and adjoining property owners’ land and regularly overtopped during storms. The neighbors alleged that, before the redevelopment, both the developer’s property and the neighbors’ properties were flooded when the swale overtopped. The redevelopment added stormwater management infrastructure that resulted in a net decrease in impervious surface after new landscaping was added.

The redevelopment also raised the elevation of the site. The adjoining property owners argued that the design caused the overflow from the swale to be directed only to the neighbors’ properties, so that flooding increased when the overtopping occurred. Again, this matter was settled only after extensive expert discovery.

In many jurisdictions, even where neighboring property has sustained little or no actual damage as a result of runoff from upstream development, claimants are entitled to recover for the loss of “use and enjoyment” of their property. This can expose the developer to damages well beyond the typical limited actual damages a neighbor incurs because of runoff. A developer also can be exposed to punitive damages and claims for the neighbor’s attorneys’ fees for allowing runoff to continue after the developer becomes aware of it, even if the developer has undertaken efforts to correct the condition. Such damages create a significant risk for developers.

How can a developer recognize potential liability and minimize risk? Consider the following tips:

1) **Review your commercial general liability and professional liability coverage.** Professional liability insurance for developers may cover conduct that is often at issue in these cases. That conduct includes a) the management, coordination and supervision of design and construction and b) the identification and acquisition of applicable permits, variances, consents, easements and other rights.

2) **Review your consultant contracts.** Make sure your construction and consultant contracts require your contractor and engineer to indemnify and defend you, and do not agree to limit the indemnification obligation to the contract price.

3) **Become familiar with neighboring properties during due diligence.** Look for potential uses that may be particularly sensitive to the impacts of stormwater, erosion and sediment control, such as ponds and streams. Confirm that

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Developers may have exposure for defects in construction, like this damaged headwall at a discharge point, that result in damage to downstream property owners.

your consultants have noted these as well, so that they can be accounted for in the site design and construction, if necessary.

4) **Delegate responsibility for implementing all stormwater design elements.** Stormwater management plans often include specific requirements that continue after construction is complete, such as sweeping parking lots daily, maintaining filters and recording use restrictions. Make sure that requirements for the stormwater management plan are properly implemented and that a mechanism is put in place to ensure compliance.

5) **Establish a protocol for addressing neighbors' complaints during construction.** A key component in establishing liability for punitive damages and attorneys' fees in stormwater cases involves demonstrating that the owner of the developed property ignored or failed to adequately respond to neighbors' complaints about damage to their property. A developer's statement, such as, "I thought someone else was responsible," will not be well received by a jury — especially in the context of a lucrative commercial development that is negatively impacting a neighboring residential property. Make sure that clear lines of responsibility are established for responding to complaints, and that you, as the developer, are kept in the loop.

Issues arising from stormwater runoff can be tricky and can present substantial risk for developers. To limit exposure, you must identify and monitor potential impacts on neighboring properties and ensure that your team is responding to issues in a timely and effective manner. ■

By **Sam Arden**, **Peyton Nunez** and **Irene Vander Els**, attorneys, Hartman Simons & Wood LLP

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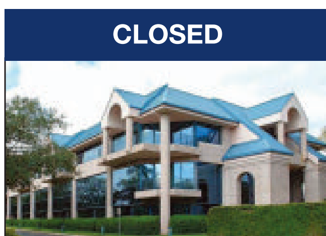
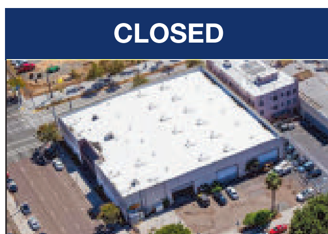


Office
Tampa, FL | 85,820 sf
$11,410,000

CLOSED

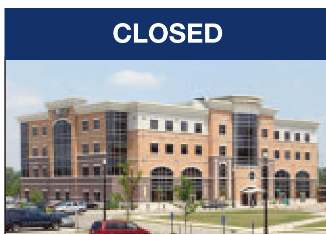
Industrial
Woodbridge, VA | 140,000 sf
$12,800,000

CLOSED



Industrial
San Diego, CA | 25,000 sf
$14,500,000

CLOSED



Medical Office
Grand Rapids, MI | 106,806 sf
$43,500,000

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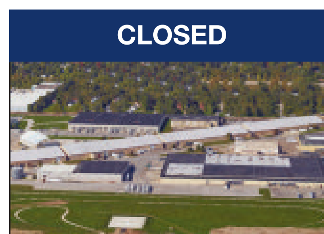

Industrial
Indianapolis, IN | 467,887 sf
$12,800,000

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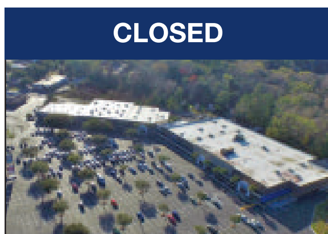

Office
Lake City, FL | 96,530 sf
$9,350,000

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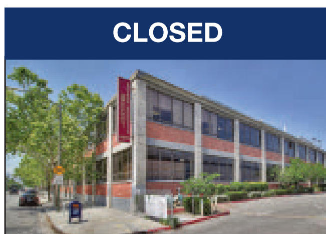

Industrial
San Jose, CA | 129,646 sf
$10,500,000

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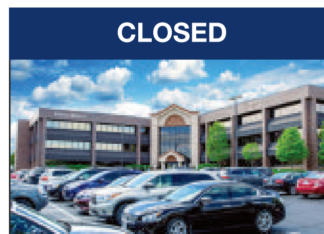

Medical Office
Overland Park, KS | 52,160 sf
$9,000,000

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Potential Pitfalls With Letters of Intent

What should landlords do when they discover that "nonbinding" really isn't?

By Renee Eshelman, Haight Brown & Bonesteel LLP

GONE ARE THE DAYS of handshake and scribbled-napkin deals. Today, most commercial real estate transactions are memorialized with a letter of intent (LOI) to outline the main agreed-upon deal points for a proposed transaction. Although signed by each party, LOIs are typically stated to be "nonbinding" and therefore not legally enforceable, merely an agreement to agree.

The nonbinding nature of LOIs can be both a blessing and a curse. Busy landlords considering a new lease might review the main points of the deal that affect their bottom line — lease term, rental rate, tenant improvements, etc. — and, finding that everything seems correct, might consider themselves finished. Why not skim over or altogether avoid reviewing the rest? The details can be worked out in the lease; there seems to be no need to put themselves to sleep reviewing the fine points now.

> **"In the worst case scenario, a landlord may find that he or she has signed a nonbinding letter of intent in which a specific provision is actually stated to be 'binding' and is legally enforceable."**
>
> *Renee Eshelman*

Why spend the time and expense of legal review? What harm can these provisions really do? The answer: quite a bit!

In the worst case scenario, a landlord may find that he or she has signed a nonbinding LOI in which a specific provision is actually stated to be "binding" and is legally enforceable. A landlord may have inadvertently agreed to take his or her property off the market for a certain period of time or agreed to certain restrictive confidentiality language. In the best case scenario, the other party may accuse the landlord of reneging on terms that he or she expressly agreed to in the LOI, starting off the negotiations on the wrong foot.

The following "cheat sheet" can help landlords avoid some of the more common problems found in LOI provisions.

Assignments and Subleasing

Tenants often include broad LOI language about their ability to assign or sublease their premises. The intricacies of these provisions are best handled in the lease document. However, if agreeing in the LOI to certain assignment or subleasing rights is unavoidable, the landlord should ensure that at a minimum the following safeguards are included: 1) the original tenant(s) and any guarantor(s) remain liable under the lease; 2) the landlord must be notified in writing of the assignment or sublease before the transfer; and 3) the transferee must assume in writing all of the tenant's obligations under the lease, to the extent applicable for a sublease. The landlord may also want to insist that no assignment will be permitted un-

Renee Eshelman

less the assignee, at the time of the transfer, has a net worth equal to or greater than that of the tenant as of the date of execution of the lease.

Landlord Representations

A savvy tenant may include in an LOI certain broad representations by the landlord; for example, a representation that no hazardous materials are on the premises or that the premises will comply with applicable laws, codes and ordinances throughout the lease term. A landlord should always try to avoid making any representations in an LOI. Although the applicable representation may sound correct, it will likely require refinement and specification by an attorney. And the tenant typically will want the representation to be included in the lease "word for word." If LOI representations are unavoidable, they should always be limited to the landlord's "actual" knowledge (without duty of inquiry) and should be limited to being true as of the date of execution of the LOI.

Maintenance and Repair Obligations

These LOI provisions are often vague and can lead to different points of

"Immense liability is connected with indemnities, and a landlord should never be asked to commit to an indemnity in a letter of intent."

Renee Eshelman

view and disagreements during lease negotiations. The LOI should always specify what portion of the premises and project each party is responsible for maintaining and whether each item includes maintenance, repair and/or replacement. With regard to the landlord's obligations, it should specify what, if any, obligations will be at the landlord's cost and what obligations the landlord intends to pass through to the tenant through common area costs.

ADA Responsibilities

The Americans with Disabilities Act and similar state statutes can result in costly compliance requirements for both landlords and tenants. A tenant will often want to ensure that the premises will be ADA compliant as of the lease's commencement date. Some general exceptions that should always be noted in an LOI are that the landlord is not responsible for any compliance that is required in connection with the tenant's specific use of the premises or any improvements that are constructed or paid for by the tenant. That compliance should always be the responsibility of the tenant. After the commencement date, any ADA compliance with regard to the premises should be the sole responsibility of the tenant.

Common Area Cost Caps

Any time a landlord and tenant agree to a cap on common area costs, it should be specifically stated which costs are subject to the cap. Landlords are typically willing to cap only the costs that they consider to be generally within their ability to control. At a minimum, taxes, insurance and utilities are not generally considered to be controllable. The LOI should also specify if the cap is cumulative and compounding.

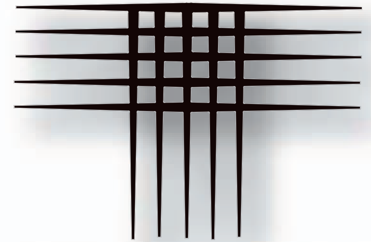
Indemnities

Indemnities are agreements to assume another party's costs and liabilities. Immense liability is connected with indemnities, and a landlord should never be asked to commit to an indemnity in an LOI. If an indemnity provision appears in an LOI, strike it. If it is absolutely unavoidable, a landlord should have his or her attorney review the document before signing it.

In Conclusion

Landlords who find themselves confronted with an unfamiliar provision when negotiating an LOI should not worry. Landlords can avoid such provisions until they have had an opportunity to consult with their attorney. Ideally, landlords should start the negotiations with a "form" LOI that has been reviewed by their attorney. The landlord can then carefully scrutinize any changes to the LOI. If forced to use another form, or if an unfamiliar provision is added, the landlord should add a note along the lines of "to be negotiated in the [lease document]." And, of course, you should always sit down with a strong cup of coffee and carefully read the fine print. ■

By **Renee Eshelman**, partner, Haight Brown & Bonesteel LLP, San Francisco



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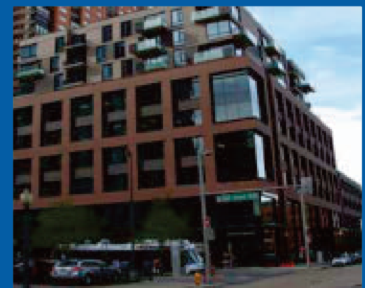
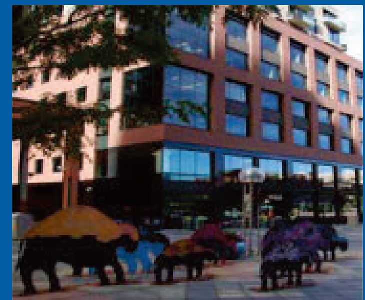
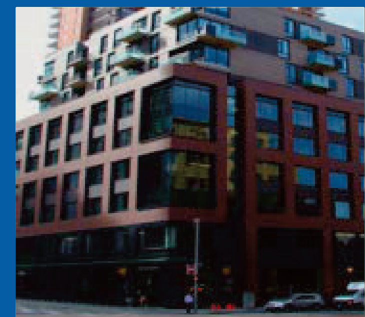

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The Benefits and Risks of Triple Net Leases

What do office and retail property owners need to know about triple net leases?

By Richard R. Spore III, Bass, Berry & Sims PLC

A COMMERCIAL real estate project's value is typically based on its net operating income, which equals rental income minus operating expenses. The allocation of operating expenses between the landlord and tenants is therefore an important factor in the project's value. Most commercial leases use some variation of two basic operating expense allocation models:

Richard R. Spore III

> "With the gross rent model, landlords and tenants make a bet on levels of future building operating expenses."
> *Richard R. Spore III*

Gross rent model: The landlord pays 100 percent of operating expenses from gross rent paid by the tenants.

Triple net rent model: The tenants pay all operating expenses, including property taxes, insurance and repairs and maintenance, either directly or by pass-through reimbursement to the landlord.

Avoiding the "Gross Rent Bet"

The choice between the two models is ultimately about how to allocate certain economic risks between the landlord and tenants. With the gross rent model, the landlord bears all the risk that actual operating expenses may exceed projected amounts. Of course, the tenant conversely bears all the risk that operating expenses may be less than anticipated, resulting in a higher than expected net operating income for the landlord. In other words, with the gross rent model, landlords and tenants make a bet on levels of future building operating expenses.

The longer the potential lease term, the greater the difficulty in projecting property operating expenses accurately over the life of the lease. Macroeconomic factors, such as inflation, as well as property-specific concerns, can be hard to predict over longer periods. Therefore, as the term of the lease increases, so does the risk under the gross rent model. That risk can be reduced or eliminated with the triple net model, under which all operating expenses are shifted to the tenants — although those expenses are sometimes subject to negotiated limitations.

Repair Expense Risks Under Triple Net Leases

Of course, triple net leases present their own kinds of risk to both parties. For example, a triple net lease under which the landlord performs all building maintenance and repair work at the expense of tenants represents a kind of cost-plus contract. Accordingly, tenants bear the risk that landlords will not work as hard as they should to control the building's operating expenses because those are passed through to the tenants.

Landlords will counter that argument by pointing out that they have market incentives to minimize building costs, because a building that is expensive to operate is less attractive to potential tenants under triple net leases. However, those market incentives may not provide sufficient comfort to tenants that their landlord will be adequately incentivized to control costs over the entire term of the lease. Tenants may therefore seek to hedge this risk further by requesting caps or limits on operating expense pass-throughs, particularly for operating expenses that can be controlled (i.e., expenses other than taxes, utilities and, sometimes, insurance).

Single Versus Multitenant Considerations

With multitenant buildings, the landlord typically performs building maintenance and repairs and collects a pass-through common area maintenance charge from the tenants, because it is impractical to have multiple tenants directly performing building repairs.

In contrast, with a single tenant building, a triple net lease may make the tenant responsible for directly performing building repairs and maintenance because the lone tenant uses 100 percent of the property. However, that situation presents another risk to landlords. Tenants who are directly responsible for building repairs may fail to perform necessary maintenance to reduce their occupancy costs, a choice that results in deferred maintenance problems at the end of their

lease. In other words, tenants may try to reduce their effective rent by cutting corners on their maintenance and repair obligations. That effective rent reduction manifests itself in the form of reduced asset value for the landlord.

Landlords may address that risk by requiring tenants who are responsible for directly maintaining and repairing the leased property to carry preventive maintenance contracts with approved vendors for major building elements such as the HVAC system, elevators and roof. Landlords may also specify minimum acceptable maintenance standards for other aspects of the property, such as requiring parking lots to be repaved and restriped at specified intervals. Landlords can also address this concern by including provisions for robust return conditions in their leases. Those provisions typically require that tenants return the building in good condition and repair at the end of the lease term.

Of course, tenants often seek to limit their contractual obligations on return conditions, for example, through an ordinary wear-and-tear exception. Landlords must then be clear that any such ordinary wear-and-tear exceptions to the return-condition requirement will not eliminate the tenant's obligation to keep up maintenance and repair throughout the term of the lease.

In the End

As with any real estate agreement, triple net leases have a variety of benefits and risks. Landlords must consider all of those factors when determining whether this model is best for their property and long-term plans. ■

By **Richard R. Spore III**, member, Bass, Berry & Sims PLC, Memphis

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How to Attract Institutional Capital

Local and regional developers who want to build relationships with institutional investors will need to implement these reporting and operating guidelines.

By Kelvin Tetz and Greg Martin, Moss Adams LLP

MANY REAL ESTATE owners, operators and developers seeking long-term growth are interested in institutional relationships, but building such relationships can seem daunting. Investment partners with billions of dollars to invest rightly need proven and capable partners. How does a local or regional real estate firm get into the institutional-investment club? The key is to get one's existing house in order, so that investors who court these local or regional partners can more easily understand and embrace the real estate firm's strategy.

While every firm has its own development strategy, one key to leveraging that success to attract institutional attention is to implement the reporting methods that institutions need their partners to use. Examples of internal components for local and regional operators to consider include 1) building an institutional-quality reporting system; 2) having a proper understanding of key issues, such as U.S. generally accepted accounting practices (GAAP), fair-value reporting and international financial reporting standards; and 3) creating operating guidelines that articulate the operator's practices.

Institutional-quality reporting requires a higher level of transparency and quality; it often also requires more frequency. Investors now want to see a combination of strong internal controls and ease of retrieving financial reports and information so they can feel comfortable and safe doing business with the operator. Becoming "more institutional" isn't easy. Is it worth the effort? And are investors still seeking regional opportunities?

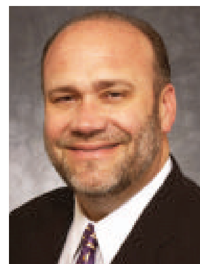
> **"Institutional investors are likely to want U.S. GAAP-basis, audited financial statements, including fair value reporting of some or all of the firm's real estate investments."**
>
> *Kelvin Tetz and Greg Martin*

Why Institutional-Partner Funding?

The growth trajectories of local and regional real estate firms are often limited by their funding and finance capabilities. A firm finding success in increasingly larger real estate projects may discover that it is even more challenging to fund big projects. Institutions, however, have the opposite challenge: Their overall capital deployments often require sizeable investments of at least $50 million or $100 million as a starting point and can be difficult to align with appropriately scaled real estate partners.

But institutions are looking. The Hodes Weill & Associates and Cornell Baker Program in Real Estate's "2016 Institutional Real Estate Allocations Monitor" showed a continued demand for real estate investment but a lack of appropriate opportunities. "Real estate is trending toward a 10%+ institutional portfolio allocation, [however] institutions remain broadly under-invested relative to target allocations," the report said. It also found that, in the area of private investment, "Larger institutions continue to show strong interest for non-fund vehicles including direct investing, joint ventures and separate accounts."

Kelvin Tetz


Greg Martin

One Operator's Institutional Ties

Regional operators take different roads to success but reflect similar aspects in modeling themselves to

"Institutions may require quarterly rather than annual reporting, as well as periodic internal valuations, external appraisals or both."

Kelvin Tetz and Greg Martin

be attractive to pension fund, private equity and other institutional sources. One particularly successful regional operator, Blake|Griggs Properties, has a portfolio of projects in development totaling more than $750 million in the San Francisco Bay Area. Its leaders told the San Jose Business Journal in October 2016, "We've demonstrated a good track record and institutions find that attractive. The team we've put together is very capable and high quality. Lastly, our projects both in terms of location, size and quality are of institutional caliber."

Added principal **Brad Blake**, "We serve as a bridge for institutions with large sums investing wisely. Finding regional experts is really important for them."

Reporting Trends

The institutional world clearly adds more complexity for smaller or mid-size companies. Many regional firms historically produced financial information that was reviewed, compiled or internally prepared using tax-basis accounting or some other non-GAAP

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basis of accounting. Institutional investors are likely to want U.S. GAAP-basis, audited financial statements, including fair value reporting of some or all of the firm's real estate investments.

Some operators already are using fair value reporting as an internal tool, but even these accounts need to be audited when institutional partners are involved. Institutions may require quarterly rather than annual reporting, as well as periodic internal valuations, external appraisals or both. For these reasons, the high reporting bar set by National Council of Real Estate Investment Fiduciaries and Pension Real Estate Association (NCREIF PREA) Reporting Standards — formerly known as Real Estate Information Standards, or REIS — is becoming increasingly common among real estate businesses that engage in a number of joint ventures or funds with institutional investors.

Fair value reporting for real estate companies encompasses multiple formats, creating a good deal of diversity in the market. Getting it right requires choosing the correct adviser and independent auditor.

Operating Guidelines

Similarly, operating guidelines provide an important tool for firms working with institutional investors that may require better information, especially as it relates to a higher level of reporting, including fair value reporting.

Operating guidelines are a basic building block of success for any real estate company, particularly for an early-stage firm aiming to be a registered investment adviser or even the next Blackstone. Once you have chosen the reporting standards and approaches you plan to use, it's important to codify them in your operating guidelines.

"Once you have chosen the reporting standards and approaches you plan to use, it's important to codify them in your operating guidelines."

Kelvin Tetz and Greg Martin

These guidelines might include the following elements:

1) A statement of objective or overview with process points for various actions. A system should be put in place that details how each process, such as accounting and check writing, is handled, to make clear that there are checks and balances in place. This statement can also serve as a guide for staff changes or other potential disruptions.
2) Business plans for the company and for key business lines.
3) Quarterly or midyear forecasting.
4) Asset management reporting practices.
5) Disposition or acquisition processes, including steps for solicited and unsolicited transactions.
6) Valuation processes for properties and investments, especially if you are operating under fair value reporting.

Codified practices and guidelines also come into play in the following situations:

A New Fund. A real estate fund manager has been successful for many years in opportunistic real estate with friends and family and wants to expand into a new line of business: a core investment fund. Detailed operating guidelines will help this fund manager better attract more institutional-level capital and effectively explain, in detail, how the new team brought in to execute the new strategy succeeded in carrying on the corporate culture of the existing firm. Detailed operating guidelines help define the bench strength of systems, procedures and execution.

Calming Investors. Even well-established operating companies may need to develop operating guidelines or new policies and procedures because of changing industry and client needs. Codifying and documenting procedures offer transparency and public company-style reporting that are increasingly the norm. They can also calm investors by helping them better understand the underlying operations.

Real estate developers and operators can find obtaining institutional funding to be a daunting objective, but taking a long-term view and building toward that goal can be a smart strategy. The effort can also provide insights into operational improvements that could pay off for the firm with or without an institutional partner. These best-practice approaches can yield significant benefits, either way. ■

By **Kelvin Tetz**, partner, and **Greg Martin**, partner and national real estate practice leader, Moss Adams LLP

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A More Relevant Measure of Risk

Is the cap rate to U.S. Treasury comparison an "apples-to-oranges" assessment?

By Mark J. Eppli, Marquette University

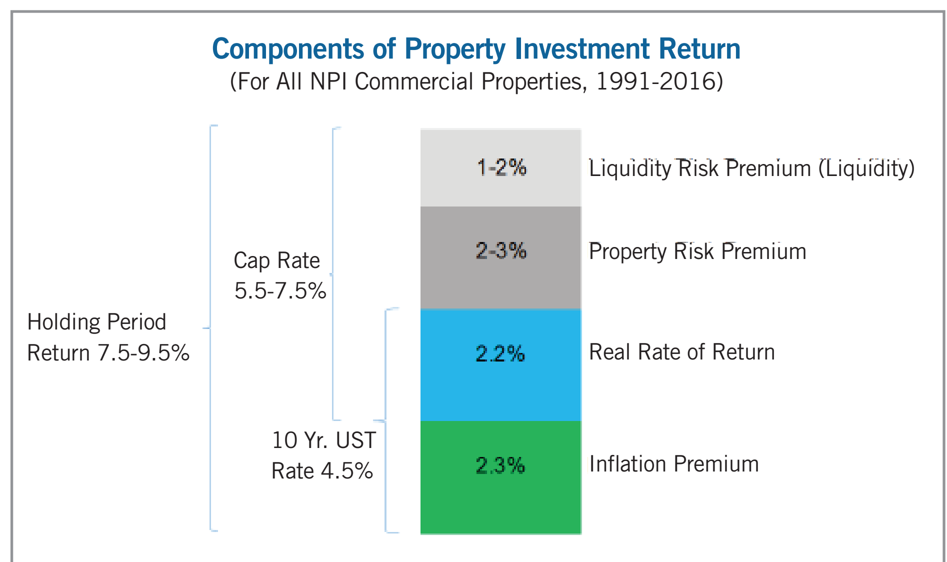
THE SPREAD BETWEEN purchase cap rates and U.S. Treasurys (USTs) is a standard measure in commercial property forecasts as an indicator of the property market's appreciation potential. It is argued that high spreads indicate there is room for cap rate compression and for property prices to appreciate, while low spreads carry the risk of widening cap rates and falling property prices.

The average spread between cap rates and USTs in 2016 was 2.75 percent, when NCREIF Property Index (NPI) data for commercial properties (office, industrial and retail) are compared to 10-year UST yields. Because the average spread over the past 25 years was 2.48 percent, the 2016 risk spread appears to be slightly above 25-year averages, suggesting a market that is slightly underpriced.

However, since 2016, 10-year UST securities are up 55 basis points (from the 2016 average to March 30, 2017), bringing the cap rate to UST spread below the 25-year spread average, signifying that commercial property prices may be a bit overvalued relative to the last 25 years. But what if this spread measure is wrong? Or, more accurately, what if the spread compares two very different risks?

Components of Investment Return

The 10-year UST is the base (risk-free) return for almost all long-term investments. Over the past 25 years, the 10-year UST yield averaged 4.5 percent with an embedded inflation premium of roughly 2.3 percent and a real rate of return of 2.2 percent. (See "Components of Property Investment Return" for a graphic presentation of investment returns.) The inflation premium is the return necessary to maintain the purchasing power of invested funds and the real rate of return is the investment return on the risk-free asset after adjusting for inflation.



property cash flow return and the property appreciation return. Property return components are similar to stock investment returns, where investors receive a dividend yield plus stock price appreciation. In general, however, property investments provide much higher cash flow return and lower appreciation than stocks.

The property risk premium needed to entice investors to invest in commercial properties is roughly 2 to 3 percent, depending on the creditworthiness of property tenants, cost of improvements and market profile. That is similar to the Moody's Baa inflation-adjusted bond yield of 2.4 percent (over the past 25 years). A liquidity premium of 1 to 2 percent is needed to compensate investors for investing in assets that cannot easily or quickly be sold and turned into cash.

Combining the return components in this graph results in the property holding period return. Property holding period returns combine the

In "Components of Property Investment Return," embedded components of return are identified for USTs, which includes the inflation premium and real rate of return, and for cap rates, which includes the real rate of return and risk premiums. The real rate of return is common to both measures. However, the remaining portion of return on the 10-year UST is the inflation premium and on the cap rate it is the two risk premiums. So, in short, when one compares the spread between cap rates and USTs, the resulting measure is effectively com-

paring the inflation premium to the risk premium which, in economics, is an apples-to-oranges comparison.

A Different Measure of Risk

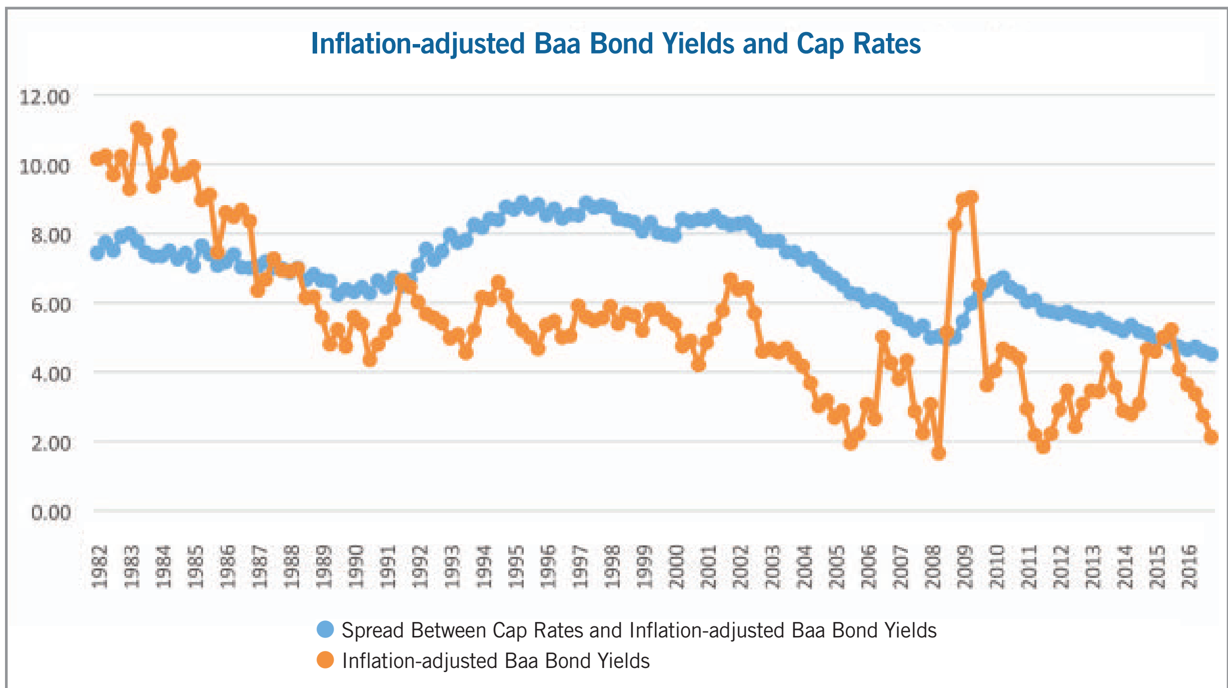
A more appropriate measure of relative risk compares property cap rates to long-term Baa bond rates after removing the inflation premium. Baa bond returns include an inflation premium, a real rate of return and a risk premium, where the risk premium provides a default risk premium over similarly termed USTs and is roughly akin to investing in commercial property. If the inflation premium is removed from Baa bonds, the resulting inflation-adjusted Baa bond yield provides a comparative metric to assess the reasonableness of property cap rates.

However, the property cap rate also includes a liquidity risk premium, which is not embedded in inflation-adjusted Baa bond rates, as bonds are relatively easy to sell/liquidate. In short, the cap rate-to-inflation-adjusted Baa bond yield comparison appropriately compares inflation-adjusted returns and risk premiums for commercial property with publicly traded bonds.

The blue line in the "Property Cap Rates and Inflation-Adjusted Baa Bond Yields" graph below represents the average implied cap rate for NPI commercial properties, revealing that property cap rates have largely ranged from 5.5 to 8.0 percent. In the third quarter of 2011, however, cap rates fell and have remained below 5.5 percent. The orange line is the yield on inflation-adjusted Baa bonds. This metric ranged from roughly 2 to 6 percent across the last 35 years, with significant volatility from 1982 to 1988 and again during the Great Recession.

In a normative investment environment, property cap rates should exceed inflation-adjusted Baa bond yields for two reasons: inflation-adjusted Baa rated bonds are likely to have a lower risk profile than the all-equity investment in the NPI property index, and Baa rated bonds can be liquidated more quickly than commercial property.

> **"When one compares the spread between cap rates and USTs, the resulting measure is effectively comparing the inflation premium to the risk premium which, in economics, is an apples-to-oranges comparison."**
>
> *Mark J. Eppli*



However, from 1982 to 1986, property cap rates provided a discount to inflation-adjusted Baa bond yields. This inversion indicates that property returns provided a negative liquidity and/or property risk premium to inflation-adjusted Baa bond yields, which suggests that commercial real estate was overpriced relative to inflation-adjusted Baa bond yields.

From 1987 to 1991, property cap rates were roughly at parity with inflation-adjusted Baa bond yields, providing little if any additional pricing premium for property investment risk and the illiquidity of commercial property investments relative to inflation-adjusted Baa bond yields. The periods from 1992 to 2007 and 2010 to 2016 maintained positive spreads to inflation-adjusted Baa bond yields. (Note that the 2015 spike in inflation-adjusted Baa bond yields was largely attributable to negative and near zero inflation caused by the dramatic fall in oil prices.) Finally, during the Great Recession, in 2008 and 2009, cap rates to inflation-adjusted Baa bond yields were again squeezed.

Factoring in Holding Period Returns

Additional analysis is needed to assess if the spread between cap rates and inflation-adjusted Baa bond yields may predict holding period returns. The "Inflation-adjusted Holding Period Returns for NPI Investments" table reveals the cap rate-to-inflation-adjusted Baa bond yields across time and the subsequent eight-, 10-, and 15-year property holding period returns, to assess whether the spread between cap rates and inflation-adjusted Baa bond yields at the time of property purchase informs ensuing holding period returns.

From 1982 to 1988, a time of negative cap rate-to-inflation-adjusted Baa bond yields, inflation-adjusted property holding period returns were a low 1.7 to 3.7 percent. During the low-spread years of 1989 to 1992, real holding period returns generally underwhelmed and were in the range of 3.2 to 5.9 percent. During the years 1993 to 2007, a time of strong positive spreads, holding period returns were consistently in the range of 6.9 to 7.1 percent.

Finally and importantly, the correlations between quarterly cap rates-to-inflation-adjusted Baa bond yield spreads and property holding period returns are a strong 76 to 81 percent for properties held for 10 to 15 years, indicating that this metric may provide strong predictive power.

In summary, there are two important takeaways. First, know what metric you are using and what it is measuring. Second, the spread between cap rates and inflation-adjusted Baa bond yields appears to be a very good comparative measure to assess whether current cap rates are becoming frothy or could provide value. Understanding this relationship and its application may be fortuitous for investors as the economy enters what might be a high-inflation period in the coming decades. ■

By **Mark J. Eppli**, Bell chair in real estate, Marquette University, and a NAIOP Distinguished Fellow

"A more appropriate measure of relative risk compares property cap rates to long-term Baa bond rates after removing the inflation premium."

Mark J. Eppli

Inflation-adjusted Holding Period Returns for NPI Investments

(In Percent)

	Investment Holding Period		
Property Aquisition Period (Cap Rate to Inflation-adjusted Baa Yield Spread)	8 Years	10 Years	15 Years
1982-1988 (Negative Spread)	1.66	1.59	3.62
1989-1992 (Small Spread)	3.13	4.28	5.88
1993-2007 (Appropriate Spread)	6.88	7.13	6.96
Correlation of Cap Rate Less Inflation-adjusted Baa Bond Yields and Holding Period Returns	.53	.76	.81

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Bringing the Outdoors In With Living Walls

Living wall systems can be simpler to install and maintain than one might expect — and can have meaningful impacts on building owners and occupants.

By Alvaro J. Ribeiro, AIA, Margulies Perruzzi Architects

THE EMERGENCE of biophilic design and living green walls satisfies the human need to connect with nature, offers positive health benefits and provides welcome visual elements. (See "Plantscaping and the Value of Biophilic Design," Development, spring 2017.)

There's no doubt that indoor plants can improve people's health and mood. According to a 2015 study published in the Journal of Physiological Anthropology, "interaction with indoor plants can reduce physiological and psychological stress through suppression of autonomic nervous system activity and diastolic blood pressure and promotion of comfortable, soothed, and natural feelings." Architects have devised various ways of incorporating indoor plants into the design of corporate, commercial, and even industrial work environments, including living green walls.

The value of living green walls can be more difficult to calculate than that of energy efficiency features such as LED replacement bulbs; there are, as yet, no practical tools for measuring these walls' effects on morale, health and well-being. Yet their value can be sensed in meaningful ways. Tenants and building owners who enjoy access to living green walls describe them as giving spaces a clean, vibrant and airy sense that evokes feelings of wellness, connection with nature and a general lightness of being. In urban settings, this response can be a welcoming respite from the hectic urban streetscape. Even in suburban office buildings situated on landscaped campuses, supplementing a

In the 101 Station Drive office building in Westwood, Massachusetts, Margulies Perruzzi Architects connected the lobby with the outdoors via a pair of two-story living walls that add visual impact and color. The lobby lighting can be adjusted to highlight these key architectural features.

Warren Patterson Photography

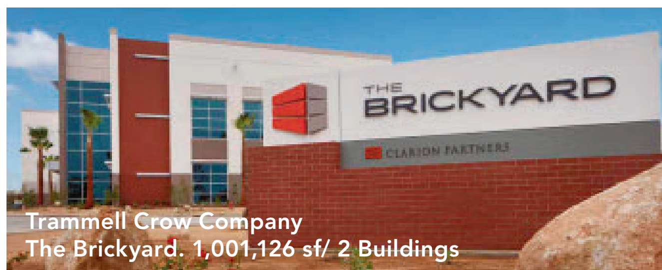
user's experience with an interior dose of green can make an otherwise cold lobby or atrium feel inviting, fresh and active.

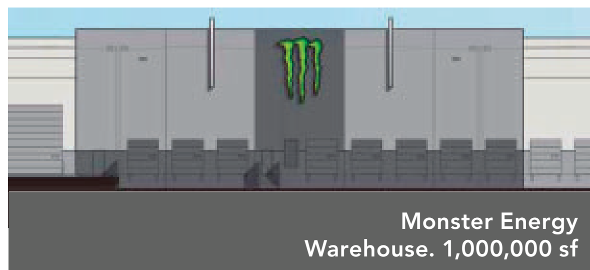
"An interior dose of green can make an otherwise cold lobby or atrium feel inviting, fresh and active."

Alvaro J. Ribeiro

Living Wall Systems

There are a variety of living wall systems on the market, ranging from simple plastic tray systems with small removable pots to fully integrated solutions with hard-piped plumbing, automatic controls and full-spectrum lighting. Living wall installations also vary widely in size and design, from 2-by-2-foot mini systems meant for small spaces to enormous feature walls that prominently soar multiple stories in height. Accordingly, installation costs can range from approximately $50 per square foot to more





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A large living green wall with lush plant life enlivens the dining facility at 275 Wyman Street in Waltham, Massachusetts, the North American office for Cimpress and its VistaPrint brand. The green wall feature contributed to LEED Gold certification for owner/developer Hobbs Brook Management.

Warren Patterson Photography

than $200 per square foot. Developers and building owners can work with architects to scale a living wall design that maximizes impact while managing installation and operational costs.

Some of the more versatile living wall systems consist of a simple metal tray or pan upon which multiple separately potted plants sit. This "plug-and-play"-style setup facilitates ongoing maintenance; if one of the plants fails to thrive, it can simply be replaced.

continued on page 42

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continued from page 40

Irrigation is typically required but does not need to be expensive or complicated. A few common systems use a manifold of plastic drip-irrigation tubing running in a grid that connects upstream to a single building plumbing connection. Water is supplied from the top shelf down to the bottom-most tray, which serves as a collector. If a plumbing connection is not available, a living wall can be watered using a portable water cart.

Lighting on and around a living green wall will affect both plant health and aesthetics. Factors such as building location and orientation, living wall placement and window glazing type, along with solar calculations, will help determine whether supplemental full-spectrum lighting is necessary. With appropriate natural light, lighting fixtures on a living wall may be reduced or eliminated altogether, resulting in substantial savings.

Several Examples

When National Development renovated an outdated office building at 101 Station Drive in Westwood, Massachusetts, designers repositioned the front entrance and added a new dynamic glass curtain wall. The brighter, double-height lobby was the ideal setting for a pair of two-story living green walls that anchor two sides of the lobby. Ample natural daylight eliminated the need for specialized grow lights.

A smaller installation at 275 Wyman Street in Waltham, Massachusetts, offered another opportunity to bring the outdoors in. There, a green living wall in the dining facility enhances the building's amenities while providing a fresh focal point.

Living green walls are becoming increasingly popular as an appealing and healthful design element. With careful planning, biophilic design can be easily and affordably implemented in any building environment. ■

> **"With appropriate natural light, lighting fixtures on a living wall may be replaced or eliminated altogether, resulting in substantial savings."**
>
> *Alvaro J. Ribeiro*

By **Alvaro J. Ribeiro**, AIA, senior architect, Margulies Perruzzi Architects

50
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Cranes and Lanes: The Link Between Transportation Infrastructure and CRE

Transportation infrastructure can have dramatic effects on the value of commercial real estate.

By Brian Landes, Transwestern

TRANSPORTATION infrastructure entails a vast number of systems and facilities that people interact with daily but rarely think about. This infrastructure takes people to work, school and play; it conveys freight across the country and around the world. Therefore, it's no surprise that the presence — or absence — of suitable infrastructure can have a dramatic effect on the value of the commercial real estate that surrounds it.

Transportation infrastructure projects run the gamut from reworked expressway interchanges and expanded commuter and light rail lines to new freight rail spurs and airport runways. While their primary goal may be to improve the movement of people and/or goods, these investments have one other thing in common: they are expected to lead to rent growth and increased occupancy in their respective markets.

The Current State of Affairs

U.S. infrastructure has long been underfunded and underdeveloped, as evidenced by a high-profile bridge collapse, transit system shutdowns and congested highways. The American Society of Civil Engineers estimates that the nation would need to spend $3.6 trillion by 2020 to bring the country's infrastructure back to a level described as adequate. (See "Innovative Financing for Roads and Highways" on page 70.)

The deficient state of the nation's infrastructure has an economic cost, too. U.S. drivers spend 5.5 billion hours in traffic each year, which equates to a cost of $120 billion when measured in lost time and extra fuel consumption. This means the average American is shelling out $700 to $1,000 annually for excess fuel and wear and tear on vehicles. Shipping delays cost American businesses an extra $27 billion annually. Compounding the problem is the environmental cost of increased fuel use and air pollution.

On the bright side, the economic benefits of infrastructure investments are tremendous. The Economic Policy Institute estimates that if the U.S. would invest an additional $18 billion annually, this would result in a $29 billion increase in GDP and add $11 billion to the U.S. economy. It would also add more than 200,000 jobs, meaning infrastructure spending could be one of the nation's job engines over the next decade.

Cities face a receptive audience for infrastructure improvements. A recent poll found that 80 to 90 percent of those surveyed want the government to fund additional infrastructure projects. And low interest rates mean it has never been cheaper for cities to borrow money for this purpose.

Upcoming Improvements

A number of cities have already embarked on projects that will reshape large parts of their metropolises, as these half-dozen notable examples from around the country illustrate:

Atlanta's Interstate 285/Georgia State Route 400 Interchange in the Central Perimeter submarket is one of the city's most traveled — and most congested. A significant reconfiguration is expected to be complete by 2020 at a cost of $1.1 billion, paid for by the Federal Highway Administration. The area surrounding the interchange is dominated by Class A office buildings that house several Fortune 500 firms, as well as a large medical office and hospital district.

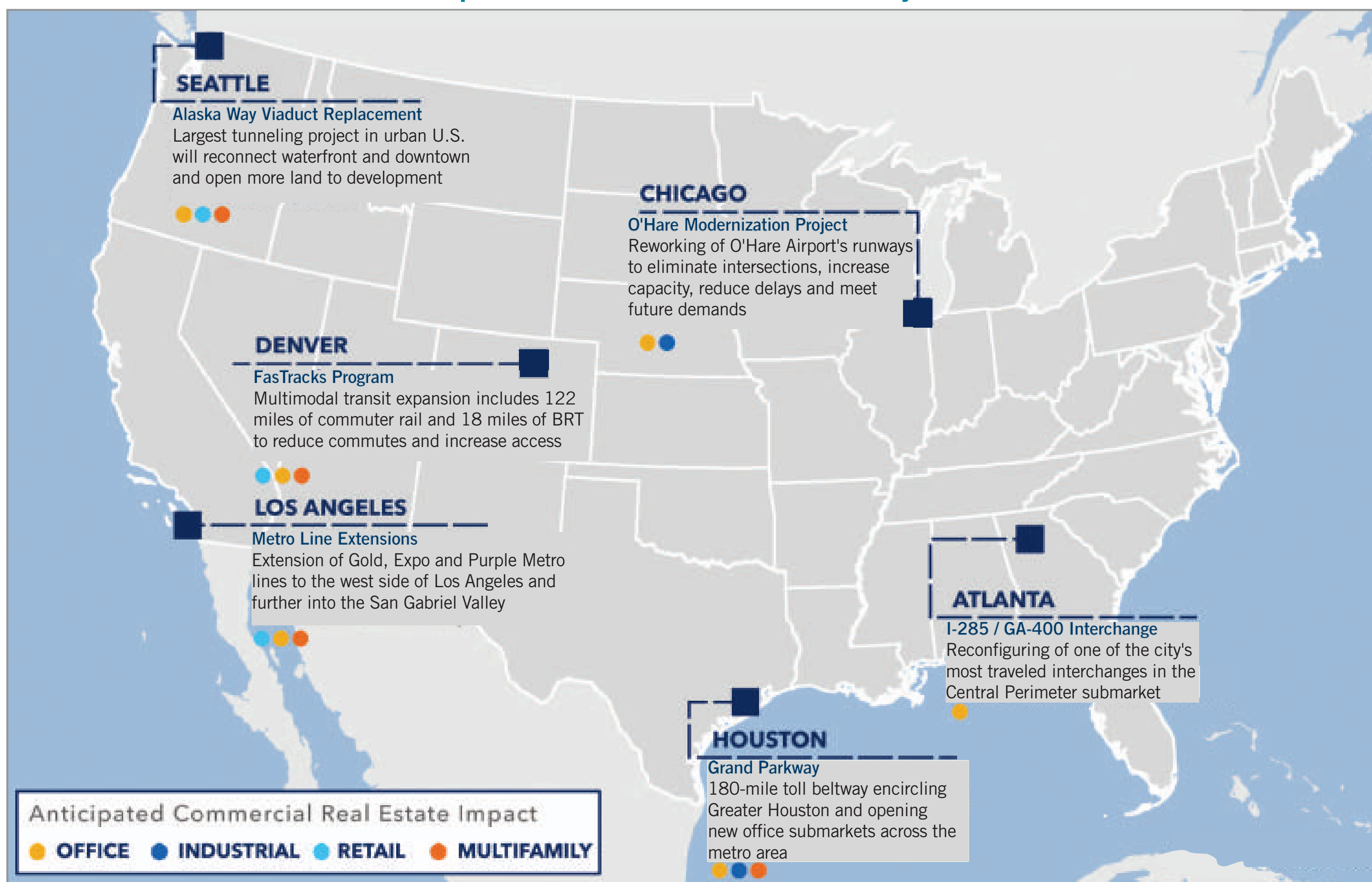
As part of the redesign of collector/distributor lanes, a number of Class B and C office buildings likely will be demolished. Highway access for the properties that remain will be improved or downgraded. Rental rates for remaining buildings are expected to rise as the market grows more constrained, although rates for buildings with decreased highway access may fall.

Chicago's O'Hare Airport Modernization Project is aimed at reworking the airport's runways to eliminate intersections, increase capacity, reduce delays and meet future demand. The project is being funded by the U.S. Department of Transportation, the Federal Aviation Administration and the city of Chicago. The impetus for this modernization was major delays caused by the existing cross-runway design. Completion is forecasted for 2021.

This modernization will help keep Chicago competitive in the global marketplace, since it will reduce wait times for business, industrial and leisure travel.

Denver's FasTracks Program is a multi-billion dollar, comprehensive transit expansion plan to build 122 miles of

Representative U.S. Infrastructure Projects



Source: Transwestern (2017)

new commuter rail and light rail lines, 18 miles of bus rapid transit lanes and 21,000 new parking spaces at light rail and bus stations. It is expected to enhance bus service for easy, convenient bus/rail connections across the eight-county district.

The program will be implemented in phases through 2044. Since 2008, over 8 million square feet of office and multifamily projects have been developed within a five-minute walk of the light rail system, and an additional 6 million square feet is currently under construction, boosting office, retail and multifamily development activity in the region.

Houston's Grand Parkway, a 180-mile beltway encircling Greater Houston, was supported through toll revenue and the American Recovery & Reinvestment Act of 2009. The initial phase opened in 1994; additions were completed in 2008, 2013 and 2016, with full completion slated for 2021.

The expanded highway is helping suburban commuters get around the metro area and easing congestion on other roadways. It links two growing office destinations: the Energy Corridor submarket on the west side of Houston with The Woodlands in the north.

The Los Angeles County Metropolitan Transportation Authority, which operates the city's public transit system, is extending its Gold, Expo and Purple Metro lines to the west side of Los Angeles and farther into the San Gabriel Valley. These extensions will help shape real estate development patterns for years to come, and are already causing rents at multifamily properties near stations to rise faster than those at properties farther from stations.

Since 1990, Greater Los Angeles has laid nearly 100 miles of heavy and light rail lines across the region. The city's development pattern is shifting from one dense urban center to more urban nodes clustered near train stations with office, retail and multifamily space nearby. Commercial

real estate within walking distance of transit will likely see rental rates and occupancy rise faster than projects farther away from transit.

Seattle's Alaska Way Viaduct Replacement Tunnel will replace an aging highway and reconnect the waterfront to Seattle's downtown by 2019. Since 1953, these areas have been divided by the unattractive double-deck Alaskan Way Viaduct, which was badly damaged in the 2001 Nisqually earthquake. This is the largest tunneling project in a U.S. urban area since the Big Dig in Boston, thanks to funding from the city of Seattle and the Washington State Department of Transportation.

Although most of the land being reclaimed will go toward public uses, improvements to the area will also result in a boon for the commercial market. Increased amenities and improved views will push rents higher in spaces overlooking the area where the viaduct is being removed, while demand can be expected to rise among prospective office, retail and multifamily users who want to be closer to the new park space and renovated waterfront.

A Bright Future Ahead

Amid an environment in which American infrastructure has been dramatically neglected or ignored, it is encouraging to see cities take steps to remain viable and competitive. These six projects and others like them will have dramatic effects on the commercial real estate in their respective markets. Each will help its city maintain a vibrant economy. ■

By **Brian Landes**, GIS analyst, Transwestern

Funding Transit to Industrial Properties

Employers in Plainfield, Indiana, are helping fund connector bus service that brings employees to local industrial parks.

■ By Cinda Kelley, Kelley and Associates LLC

IT'S BEEN MORE than 25 years since the central Indiana town of Plainfield embraced the transportation, warehouse and distribution industries with an aggressive, innovative business attraction effort. The town's work paid off handsomely, and Plainfield is now one of North America's key logistics hubs, with more than 40 million square feet of facilities at the end of 2016.

In addition to welcoming new companies, the town quickly earned a reputation for working closely with local developers and landowners to support and strengthen employers already doing business within the town limits.

Over the past seven years, local leaders began to hear concerns from employers about training and labor shortages. Once again, the community took an innovative approach and reached out to Vincennes University, which located its Logistics Training and Education Center in one of Plainfield's industrial parks. That gave employers a nearby source for training, as well as easy access to graduates from the program.

Plainfield's leaders recognized that more than half of the local labor pool commuted from outside the community. Aware that reliable transportation was a barrier for many residents of neighboring Marion County (which includes Indianapolis) and that the Indianapolis transit system could not easily cross county lines, the town worked with the Central Indiana

Connector buses funded by property owners through an economic improvement district (EID) make the "last mile" connection between Indianapolis bus routes and industrial parks in Plainfield, Indiana, helping companies to attract and retain employees.

Regional Transportation Authority (CIRTA) to develop a connector bus. CIRTA helped Plainfield with its efforts to secure federal support, and the town launched the Plainfield South Connector bus, funded by a $390,000 federal grant and a $60,000 contribution from the town of Plainfield, for a total cost of $450,000 for three years. The service connects Plainfield to a busy Indianapolis bus route that terminates just east of the town limits.

"Ridership on the Connectors has increased steadily, with approximately 28,000 trips in 2016," says **Lori Kaplan**, executive director of CIRTA. "The Connectors have provided a vital link between the Indianapolis bus service and the unfilled jobs in Plainfield. Before the Connectors, taking public transportation to a job in Plainfield required at least a mile walk from the last bus stop in Indy to the closest work site in Plainfield. That was a deal killer for most potential employees."

The effort was so successful that in two years, CIRTA received another federal grant to expand the program, thereby leading to the creation of the Plainfield North Connector route. That route was funded by a $360,000 federal grant and $90,000 from the town over three years, for a total cost of $450,000.

In 2015, federal funding for the South Connector ended. Plainfield began to explore options for sustainable funding, and town officials agreed to fund the route until they could identify a long-term source.

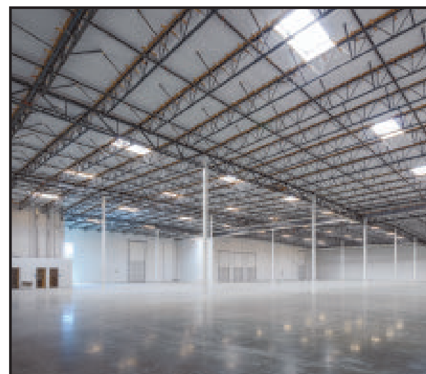
"Before the Connectors, taking public transportation to a job in Plainfield required at least a mile walk from the last bus stop in Indy to the closest work site in Plainfield. That was a deal killer for most potential employees."

Lori Kaplan

CIRTA officials suggested that the town use a provision in Indiana law to establish an economic improvement district (EID), a voluntarily created area established through a petition process that gives property owners a way to generate funding for mutually beneficial projects.

In six months, the proposed EID earned the support of three-quarters of the parcel owners, representing more than half of the total assessed valuation of parcels in the district. The owners agreed to make contributions that would provide a sustainable funding model to 1) encourage retention of existing companies; 2) support a new workforce pipeline; and 3) continue operating the Plainfield South Connector so employees could continue to commute to employers in the district.

Kelley and Associates, a firm focused on helping communities form sustainable strategies addressing local needs, spearheaded the petition project. In December 2016, it joined with several representatives from the property owners to formally present the petition, a plan of action and a budget to the Plainfield Town Council. The petition recommended that each property owner contribute at an an-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nual rate of $0.00034 (0.034 cents) per $1,000 in assessed valuation; the average cost amounts to less than one cent per square foot. “We see the EID as a proactive way to attract talent in a growing market,” notes **Jill Evans**, portfolio manager for The Meritex Co. “While no one desires to pay more in taxes, we appreciate an approach in which property owners have a voice in the budget and operations.”

“Labor is increasingly becoming a primary issue and concern for companies looking to enter the marketplace. It is one of the single most important drivers of the location decision,” explains **Douglas Swain**, vice president and general manager of Opus Development Co. LLC. “The Plainfield Economic Improvement District will help alleviate concerns and provide support for companies looking to attract additional labor, leading to better attraction and retention. I think this is a win for Plainfield.”

The town council immediately approved the petition, ensuring that employers in the community’s logistics district would be able to provide reliable transportation to the employees and potential hires who need it most. “The town recognizes that to be a partner with the many businesses in our community, we have to be forward-thinking in addressing their needs,” says **Robin Brandgard**, town council president. “It’s why we were supportive of the bus service from the beginning, first providing the match for the federal grant and, second, working with CIRTA to continue funding until the EID could be established. We were anxious to find out if public transit would satisfy a need for local employers. Once the demonstration proved the service worked, we wanted to help find a way to make it sustainable.” ■

By **Cinda Kelley**, president, Kelley and Associates LLC

Displaying Real-time Transit Information: An Update

Screens that provide real-time transit and other transportation information have become an amenity valued by office and residential tenants.

By Ron Derven

BY OFFERING OFFICE and apartment tenants real-time transit options right in the lobby on a big-screen monitor, building owners and managers are furnishing them with an amenity that they can repeatedly use to improve their scheduling, reduce commuting time and even relieve the stress of wondering when or if the next bus or train will arrive. A study by World Transit Research of Tampa, Florida, confirmed that when bus riders had real-time transit information, they cut their wait times by two minutes and greatly reduced their anxiety levels.

Since Development magazine first reported on this topic (see “Display Real-time Transit Information in Your Lobby,” Development, summer 2014), hundreds of robust new transit scheduling resources have been developed. Most of these are smartphone apps for iPhone and Android devices. Some of the more popular apps include Google Maps, Transit App, Moovit, Citymapper and

Students and staff at George Washington University in Washington, D.C., use TransitScreen monitors to find the nearest Metrorail station and train, bus, car share, bike share, or other transportation option.
Photo courtesy of TransitScreen

Transit. Many transit agencies also offer their own real-time apps. Few of these apps, however, present all of the transportation options available at a given location.

While there is a lot of competition for transit information in the app space, there is little competition in the office and apartment lobby space. As noted in the earlier article, one company that is aggressively pursuing this market is Washington, D.C.-based TransitScreen. The firm was launched in 2013 following a civic technology project by Mobility Lab, an Arlington, Virginia-based organization that is funded by Arlington County Commuter Services, the U.S. Department of Transportation, the Virginia Department of Transportation and the Virginia Department of Rail and Public Transportation.

Two entrepreneurs working on the Mobility Lab project, **Matt Caywood** and **Ryan Croft**, saw a gaping hole in the daily commuting process and sought to fill it by delivering a product real estate owners and managers can use in their lobbies to give their tenants real-time travel information in just a few seconds, without using a smartphone.

Multiple Transportation Options

TransitScreen shows commuters the nearest transportation choices, including bus, train, ferry, bike-share, car-share (Enterprise, ZipCar, Car2Go, etc.) and ride-hailing (Uber, Lyft, etc.) services, as well as private shuttles, real-time automobile drive times and other local information, such as weather, date and time. Today, the company has 1,200 screens in operation in 33 cities, including many large U.S. cities as well as Toronto, London, Paris and Dublin. In less than three years, the number of TransitScreen employees has grown from three to 20. By the end of 2017, Croft expects TransitScreens to be in 10,000 locations in 10 countries and in 10 languages.

"We see a general year-over-year decline in cars owned at our communities, particularly in urban areas, and a corresponding increase in newer alternative options, including car sharing, bike sharing, Uber, etc."

Karen Hollinger

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Its employee headcount will likely double, from 20 to 40. The system is now being used by a diverse group of organizations, including LinkedIn, MakeOffices, Harvard University, Equity Residential, the National Institutes of Health, the cities of Seattle and Toronto, AvalonBay Communities Inc. and The JBG Companies.

In February 2017, TransitScreen announced a national partnership with JLL that will bring its displays to building lobbies throughout the U.S. "We are thrilled to partner with JLL to improve the transportation habits of their tenants and have a sustainable impact on the cities where we operate," says Croft.

Karen Hollinger, a Washington, D.C.-area vice president of strategic initiatives for multifamily owner-operator AvalonBay, explains why the company includes TransitScreens at its projects: "In our lobbies, as well as through mobile access to our residents, we provide an efficient way for them to make travel plans. It is particularly important to provide [all transit options] for back-up planning (e.g., in cases of heavy traffic or for Metro down time). It also provides an avenue for our communities to post ad-hoc announcements or [promote] social events, serving an operational focus as well."

According to Croft, one benefit of using TransitScreen is that offering this amenity requires only a large-screen monitor, access to the internet and a monthly subscription to the service. No dedicated, expensive hardware installations are required.

"We are a cloud-based software company," says Croft. "We pull real-time information from mass transit sources — the transit agencies that operate trains, buses, ferries and streetcars around cities as well as from the sharing economy — the bike-share systems, car-sharing [and car-hailing] systems like Uber, Enterprise Car Share. Recently, we added real-time highway traffic information, so that users know to avoid certain roads, with or without their cars."

Hotel guests at Hyatt Place hotel in Arlington, Virginia, view transportation options, including drive times.
Photo courtesy of TransitScreen

According to Avalon's Hollinger, "Surprisingly, it has been equally important for our communities that are slightly removed from mass transit. These residents have [fewer transportation] options and it is even more important for them to 'not miss that bus.'" As one example, she cites Avalon at Arlington Square in Arlington, Virginia, a large apartment community that isn't near a Metrorail line but is served by several bus lines.

Hollinger expects such services to grow in importance. "We see a general year-over-year decline in cars owned at our communities, particularly in urban areas, and a corresponding increase in newer alternative options, including car sharing, bike sharing, Uber, etc. Soon, I suppose, we'll have automated cars. This system is very helpful to provide a 'one-stop shop' for the hyperlocal options available to our residents," she notes.

Why doesn't TransitScreen have more competition in the real estate space? Croft says setting up this type of data feed is difficult and expensive. His company pulls data from 250 different sources each day. "Our screens update every 45 to 60 seconds. Every time it updates, we are pulling in that real-time information. There are 20 million data points we pull every single day and that would be difficult for anyone to duplicate." ■

By **Ron Derven**, contributing editor, Development

Tampa International Airport

Development Opportunity

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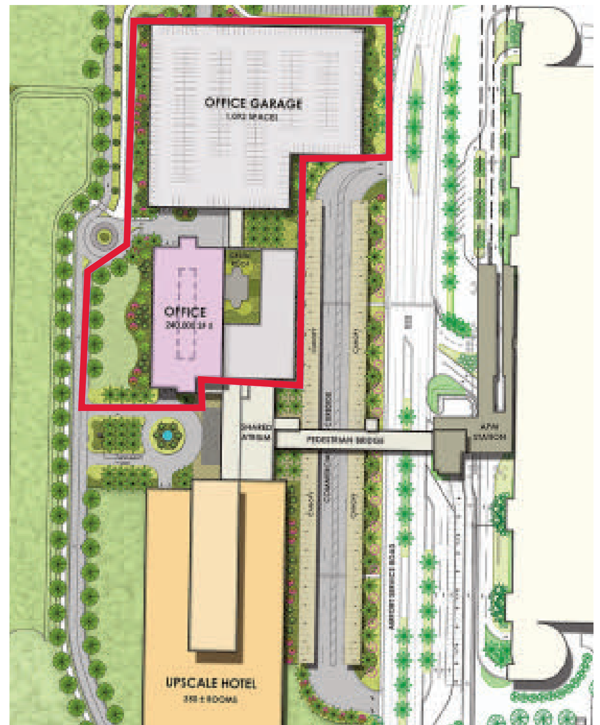
The Hillsborough County Aviation Authority (HCAA) is the owner and operator of Tampa International Airport. HCAA is currently completing its Phase I airport Master Plan program and will start Phase II in the summer of 2017.

As part of Phase II HCAA will move its administrative staff into a new office building. The HCAA desires to partner with an experienced office developer to construct a 240,000 +/- SF office building. HCAA will occupy 90,000 +/- SF. HCAA is interested in purchasing the building in the future.

It is anticipated that the Request for Proposals for this project will be advertised in the summer of 2017. The selection will be a two step process with a short list in the fall of 2017 and a final selection in the spring of 2018. HCAA will take occupancy in the fall of 2020.



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Building a Transit Army: How MARTA Army Is Working To Improve Atlanta's Bus Stops

Transit advocacy doesn't have to move slowly through layers of bureaucracy: in Atlanta, advocates have been mobilizing to improve bus stops in their own neighborhoods.

By Andrew Carpenter, Mobility Lab

AT TRANSPORTATIONCAMP DC in January 2017, an event that brought together transportation professionals, technologists and others interested in the intersection of urban transportation and technology, representatives from the grassroots advocacy group MARTA Army shared their organizing model, which has been successful in creating tangible improvements for riders in the Atlanta region.

Getting Started

A self-funded, community-driven advocacy organization and the product of Atlanta-based TransportationCamp South 2014, MARTA Army operates from an activism model centered in acts of "tactical urbanism," quick, low-cost improvement projects. **Simon Berrebi**, the group's executive director, described it as a common enough practice for walking, biking or placemaking projects, but said the group made it their mission to scale up the approach to a large transit system.

As Berrebi described it, the community-driven projects function to enhance the ridership experience. By giving the community a sense of ownership over their transit system, MARTA Army encourages members to participate in improving their transit system.

marta ARMY OPERATION TIMELYTRIP
LAWRENCEVILLE HWY @ JORDAN LN
Stop ID: 901750
Effective: 16-Apr-2016

75 Avondale ➤ Tucker

123 Belvedere ➤ N. DeKalb Mall

This stop has been adopted by Jenny

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MARTA Army members adopted 350 bus stops, printed laminated signs with route and schedule information like that shown at left, and zip-tied them to the stops' signposts.

MARTA Army

Operation TimelyTrip, MARTA Army's original campaign, highlighted the power behind this type of organizing. Of the Atlanta region's roughly 10,000 bus stops, Berrebi said that hardly any had route information signage on site. MARTA Army members adopted 350 of these stops, printed laminated signs with route and schedule information and zip-tied them to the stops' signposts.

The operation improved passenger access to accurate bus information and made the system easier to navigate. Due to Operation TimelyTrip's initial success, MARTA Army is looking to deploy QR codes at stops to provide riders with real-time information on buses. The state of Georgia has even taken notice and granted $3.8 million to further improve bus stops throughout the region.

Another campaign, Operation Clean-Stop, sought to address the fact that only one in 20 bus stops had a trash can, meaning many suffered from litter issues. The operation ultimately crowdfunded enough money for bins at 80 stops, which the city of Atlanta installed itself.

Growing Success

Despite the model's success in scaling up the organization, Berrebi did admit that this quick growth is not necessarily sustainable over the long term. Like many advocacy organizations, MARTA Army hasn't had a problem raising excitement, but there can be disagreements over what to do with that excitement. As a result, Berrebi said MARTA Army would likely need to become a more formal body to effectively address those problems in the future.

Nonetheless, MARTA Army's experience can help other transit advocacy groups gain footing in their own regions. The group grew from hyperlocal efforts that then moved to influence the entire Atlanta region. It also made a conscious decision not to focus on broader policy, but on what people most care about: their neighborhoods.

Another crucial factor for a successful transit army has been maintaining a broad, regional awareness of efforts and campaigns. MARTA Army needed MARTA's support to get started, and continues to depend on media coverage both to expand its membership and maintain pressure on the transit agency.

This type of public awareness integrates the role of mass transit into the local identity by portraying transit as a positive and necessary part of every neighborhood's fabric, convincing the public that they can and should invest in their transportation system. Showing residents that they can actively take part in transit issues — and, by extension, their neighborhood — highlights the benefits of transit and, ideally, increases support for or involvement in expanding it.

As they continue to grow their efforts, MARTA Army is looking to use their resources to help similar efforts get off the ground elsewhere. Its advocacy strategy is not tied to any particular location: any group can adopt its "open source" model and adapt it to their own transit system and city. ■

By **Andrew Carpenter**, tech reporter, Mobility Lab

This article is adapted with permission from one that appeared on the Mobility Lab website on February 8, 2017.

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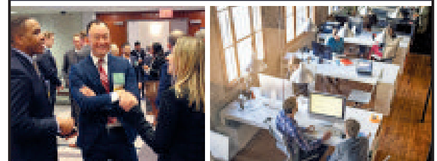

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EARLY BIRD RATE EXPIRES SEPT. 27

Colliers International's Advisor Development Program

This professional development program has proven to be a sound investment that benefits the company's brand, professionals and clients.

By Katherine Ringrose-Poole, Colliers International

RECRUITING, DEVELOPING and retaining top talent is a priority for any successful business enterprise. For global commercial real estate industry firm Colliers International, the path a new hire takes to becoming a trusted advisor — the title Colliers gives all its associates —is not left to chance. Company leaders believe that professionalism, technical skills, industry knowledge and an entrepreneurial spirit are attributes of great advisors, and that they can be learned.

Colliers is committed to mentoring its advisors. Company leaders know they need to hire the best candidates and develop them into great advisors, which is exactly what the Advisor Development Program aims to do. The program is an in-house training initiative for new and junior advisors. Participants train and work in the middle of the action. All new brokerage hires enter the program and commit time and energy toward developing strong technical skills and business acumen.

The program's rapid expansion speaks to its success. After piloting in two Canadian markets in 2015, the program launched across Canada in 2016 and now runs in 30 markets across North America, with more than 100 participants in 2017. Local, seasoned advisors and managing directors mentor participants, using standard program curriculum and content. This ensures consistency in what Colliers teaches its new advisors, and allows the company to objectively and fairly evaluate their skills.

Practical CRE Training

Advisor Development Program members are required to attend weekly group sessions focusing on technical and business development training, such as facilitating conversations with clients and handling difficult questions. They also must complete practical assignments that relate directly to the company's business. These assignments give participants a chance to test their skills and try new solutions away from the pressures of an actual real estate lease or investment sale transaction. The company draws from a wide range of internal information, including an extensive supply of case studies from advisors who experienced the situations first-hand, which ensures that the curriculum is rich and relevant.

In addition to group training, participants have one-on-one access to expert coaches. Who better to teach the intricacies of forging client relationships, delivering stellar service and matching people and businesses with their ideal spaces, than those who have built their success on these

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Participants in the 2017 Colliers International Vancouver Advisor Development Program attend weekly group sessions, complete practical assignments that test their CRE skills and have one-on-one access to expert coaches.
Photo by Nathan Thompson of Colliers International Vancouver

exact principles? The coaches work individually with participants to enhance their skills.

Program Champions

The success of the program is due in no small part to the support it receives from Colliers' internal advocates. These include senior leaders in Canada and the U.S., all of whom champion the initiative, aligned in their commitment to invest in talent.

One of the program's strongest advocates is **David Bowden**, CEO of Colliers International Canada. "Service excellence is at the heart of Colliers' values and strategy, and proven expertise and reliable advice are integral to delivering an exceptional client experience," he says. "Our Advisor Development Program equips new professionals with the practical insights and know-how they need to provide standout service and, in turn, greatly succeed in their work. Designed to produce high-performing advisors, the program helps make Colliers a destination for top talent and a truly great place to work."

At a local level, managing directors are instrumental in implementing the program and guiding participants in fulfilling its requirements. Senior advisors are also onboard; they recognize the enhanced skill level it offers the junior brokers working alongside them, and many actively participate as expert panelists for the program.

"The Advisor Development Program allowed me to develop a solid foundation of knowledge and skills in a safe environment, in order to become the best possible advisor I could be. Through the program, I was able to discover my passion for retail and office leasing, and gain confidence in my ability," says **Jackie Whitaker**, an associate with Colliers' Vancouver brokerage.

The program's training modules have become so popular that Colliers is now recording them, so the firm can share lessons and best practices more broadly, even with more tenured advisors who are also keen to continue honing their skills.

Another byproduct of the program's success and growth has been its contribution to establishing camaraderie and friendly competition among participants while accelerating their understanding and embodiment of Colliers' culture and values. The Advisor Development Program has also strengthened the ties that bind the company's vast, multimarket network. Although this wasn't one of the program's original goals, it certainly benefits participants, helping them build connections in other markets. ■

By **Katherine Ringrose-Poole**, national program director, advisor development, Colliers International

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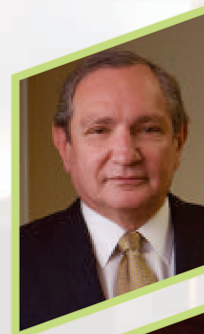

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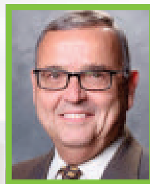

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NAIOP's 50th Anniversary

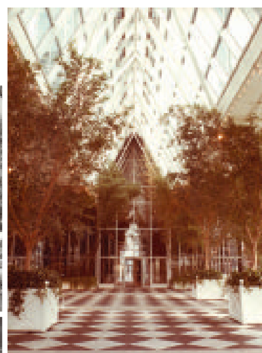
NAIOP celebrates 50 years of advocacy, education and professional excellence.

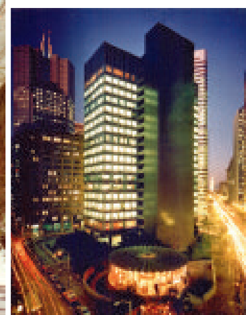
By Sheila Kelly Vertino

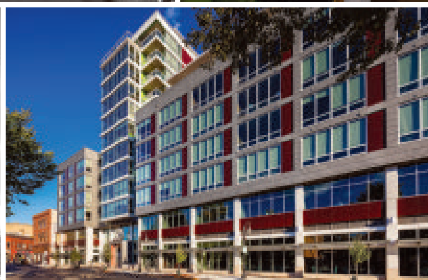
NAIOP, the Commercial Real Estate Development Association, began in 1967, when nine owners and developers of industrial parks in the eastern U.S. first met on September 12, 1967, near Philadelphia. Their goal was to support the emerging niche of industrial parks by addressing the need for standardized covenants and restrictions, building requirements and beneficial legislation and taxation.

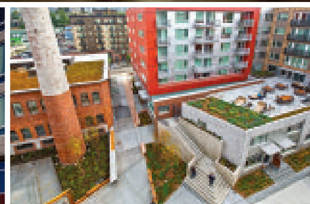
Since its earliest years, NAIOP has attracted members who are committed to creating a top-quality built environment, entrepreneurial in spirit and eager to learn from and share with their colleagues. While the group was initially founded to combat unnecessary regulation, its focus grew to include information sharing and education about best practices in CRE development, operations and investment. It has done this through face-to-face gatherings that include conferences, roundtables, briefings and educational programs, as well as through publications that include Development magazine, research reports, white papers and more. In recent years, these efforts have expanded to include a broad range of online offerings.

As the development process became more specialized, the association expanded its government affairs efforts, research, education offerings and conferences to meet members' increasing needs for information and support. And as more members recognized the always important value of relationship building to their careers in CRE, NAIOP created and has expanded its National Forums program.









This "three-legged stool" — advocacy, networking and education — is the strong foundation upon which NAIOP was built and with which it has endured the economic cycles of expansion and contraction for the past 50 years.

Today, NAIOP remains a leading commercial real estate industry provider of unparalleled networking opportunities, educational programs, research on trends and innovations and strong legislative representation. Its sister organization, the NAIOP Research Foundation, is dedicated to conducting research that explores and assesses trends and economic impacts.

The Early Years

By 1968, the association's nine original members had grown to 70 when it held its first annual meeting in Fort Washington, Pennsylvania. With the addition of members from California, Minnesota and New Jersey, the fledgling group became a national organization. Its mission quickly broadened to include networking and education, in addition to advocacy. The group began planning to create a research library, a newsletter and other literature to inform its members, the broader development community, public officials and the public about the industrial park in America.

A period of explosive growth in the organization followed, with NAIOP reaching almost 900 members and expanding to form 30 local chapters across the U.S. by 1977. The first Canadian chapter, in Vancouver, British Columbia, formed in 1994, with Greater Toronto following in

1995. They were followed by Calgary and Edmonton, both in Alberta, in 2002 and 2013, respectively. NAIOP's Canadian membership now tops 1,700.

Information Sharing and Best Practices

In the mid-1970s, as an economic recession set in and industrial and office park development activity diminished, NAIOP and its members faced many challenges. In a 1979 Plants, Sites and Parks article, 1978-79 NAIOP Chairman **John Lotz** voiced members' concerns: "As one tries to look into the future, it becomes increasingly difficult to predict or to plan because of the energy crisis, various economic pressures and the always-present environmental uncertainties."

Recognizing the value of increased information sharing in these uncertain times, NAIOP responded by ramping up its offerings, including publications, conferences, roundtables and White House Briefings for members. Educational programs focused on marketing, project design, business management practices and staff compensation, as well as energy policies and national building standards.

Gathering the expertise of its members to help each other develop properties to their highest and best use, NAIOP created the Project Plan Analysis program, which operated from the late 1970s through the 1990s. When a developer requested a Project Plan Analysis, NAIOP assembled a group of seasoned industry veterans to analyze the project's plans and objectives and provide recommendations about how the developer could enhance the project to make it more marketable, lessen risk and increase the bottom line. More than 100 properties benefitted from these teams' professional advice during this boom market period.

Five Decades of CRE and NAIOP: A Timeline of Key Industry and Advocacy Events

1970s

1970s: Birth of the Modern CRE Industry

The modern commercial real estate industry is born in the 1970s with the creation of the first publically owned real estate funds and the start of syndication — the pooling of funds to find, acquire and operate properties.

The Employee Retirement Income Security Act (ERISA) of 1974 requires pension funds to diversify, setting the stage for greater capital flows to real estate.

In 1974, the association scores its first legislative victory on Capitol Hill, when qualified industrial parks are deemed exempt from reporting requirements in the Interstate Land Sales Full Disclosure Act. This exemption saves industrial park developers millions of dollars by eliminating the need for time-consuming and costly applications, forms and permits.

The decade is marked by the OPEC oil embargo against the U.S., which results in high energy prices, inflation and record-high interest rates.

Recession takes hold in the middle of the decade, and industrial and office park development activity declines.

Membership, Chapters Expand

NAIOP membership grew steadily over the decades, from 654 in 1976 to 7,500 in 1988. Although many CRE companies went out of business following overbuilding in the late 1980s and the ensuing savings and loan industry collapse in 1989, and NAIOP suffered significant membership decline, losing more than 3,000 members between 1988 and 1993, the association persevered.

As 1993 Chairman **Dana Rowen** pointed out in a NAIOP flier, "In 1993, the industry was in a deep and brutal recession. NAIOP helped our members get through this tumultuous period, so that we could rebuild and reshape our businesses, and our members forged lasting friendships that led to new ventures and collaborative projects."

By 2008, membership had grown to 18,000, a number that dropped precipitously during the Great Recession. It took until 2017 for membership numbers to again top 18,000.

The number of NAIOP chapters has also grown since the first chapter, NAIOP New Jersey, was formed in 1970. By 2008, the association boasted 57 chapters. While a number of chapters disbanded during the 1990s economic downturn and the Great Recession, new chapters later formed, most recently NAIOP Edmonton in 2013. The association now has 51 chapters in 30 states and three provinces.

A Safe Harbor

As noted above, NAIOP's membership numbers have suffered during two significant periods of economic contraction. The association

1980s

1980s: Industry Expansion, Then Contraction

The Economic Recovery Tax Act of 1981 (ERTA) heavily benefits CRE by lowering ordinary income and capital gains tax rates and introducing the accelerated cost recovery system, improving the rate of return on CRE investment.

Syndicators begin to package and sell off real estate losses as tax shelters.

The savings and loan industry makes riskier CRE loans to achieve higher returns, moving real estate ownership from individuals to the books of institutions.

Foreign investors from Japan — as well as Canada, Germany, the U.K. and other countries — invest heavily in U.S. real estate, paying especially high prices for trophy assets in major markets. Valuations skyrocket, not because fundamentals are improving, but because investors are outbuying one another.

The first educational program offering a master's degree in real estate development is founded in 1983 at MIT.

NAIOP leads legislative efforts to defend the industry against the Tax

responded by focusing on helping members and their businesses get through those tough times. At the end of the 1990s, when the CRE industry was emerging from what many developers had feared might be a decades-long slump, 1999 Chairman **Phil Stevenson** wrote in NAIOP's annual "Vision" report, "A safe harbor is my vision for what NAIOP is for all of us … a place where individual, competitive entrepreneurs can come together as an industry and draw strength … so that we all thrive in this new marketplace…. A rising tide lifts all boats and that's what networking and sharing does for NAIOP members and our industry."

In 2009, at the peak of the Great Recession, NAIOP introduced its "Four-Point Promise," which outlined specific steps that the association was taking to sustain its members' businesses and facilitate returning the industry to good health. It offered complimentary membership to longstanding NAIOP members who had become unemployed. To seek solutions to the credit and capital crisis, the Four-Point Promise committed to public policy solutions that would increase capital sources, create jobs and assist CRE in its recovery. A Commercial Credit and Capital Advisory Board was formed, engaging experts to interpret trends and advise members on strategies for accessing capital.

Reform Act of 1986, which eliminates many of the 1981 tax policies that favored real estate investment.

The Tax Reform Act of 1986 thwarts the CRE industry, mostly through the repeal of ERTA rules; less favorable accounting treatments are applied to properties that are significantly overvalued.

On October 19, 1987, the Dow Jones industrial average loses $500 billion, 22 percent of its value, in one day.

In 1988, NAIOP hires its first lobbyist and intensifies federal advocacy efforts in response to the devastating 1986 Tax Reform Act.

By 1989, the S&L industry collapses.

1990s

1990s: CRE Clean-up and Reinvention

The short recession of 1990-91 affects the CRE industry disproportionately, as lending institutions delever from CRE projects. A credit crunch in the CRE industry and

Time and again, NAIOP has proved to be an important partner in the recovery of many of its members' companies.

Increasing Specialization, Sophistication

As the CRE development process became more specialized and investment and ownership more institutionalized, NAIOP responded to its members' needs for more sophisticated information, outreach and advocacy efforts.

Redoubling its advocacy efforts to protect its members' interests, NAIOP established a political action committee (originally called the American Development Political Action Committee, or ADPAC) in 1989. The PAC, which later became known as NAIOP-PAC, is funded through the personal contributions of NAIOP members who are U.S. citizens. NAIOP-PAC helps support candidates for the U.S. Senate and House of Representatives who understand the economic contributions of the CRE industry and who work to advance policies that are broadly supportive of the legislative goals of NAIOP and its members.

As regional and national companies became more involved in CRE, they required increasingly sophis-

sky-high vacancy rates result in significantly reduced development activity, setting the stage for declining vacancy rates and rebounds in CRE values throughout the decade.

The Resolution Trust Corporation is in full swing disposing of undervalued assets on the books of thrift institutions. Assets are sold at a fraction of their assessed values and "workouts" — the complex task of determining real estate values and assigning ownership and accountability to numerous parties — become the thing.

NAIOP is proactive in helping to find solutions to the "capital crunch," and is an active partner in the Economic Growth Alliance. This industry coalition, which includes the International Council of Shopping Centers and the National Realty Committee (later the Real Estate Roundtable), is dedicated to generating broad-based support to stabilize real estate values.

Numerous REITs are formed to generate capital for CRE development and acquisitions, since traditional sources are not eager to lend.

Commercial mortgage-backed securities (CMBS) are created. This new but opaque financial instrument enables the securitization of mortgage debt.

Many developers become fee-oriented, focusing on the development process as an area of specialization in addition to/in-lieu

ticated industry and professional knowledge to continue to thrive. To answer this need, in 2000, NAIOP, under the guidance of **Ronald Rayevich**, established the NAIOP Research Foundation, to support practical research into industry trends and other areas of CRE in order to deliver practical, useful information to practitioners. It was founded by 10 Governors, all of whom made a substantial financial commitment to support the work of the Foundation. As 2001 Chairman **Anne Evans Estabrook** summed up in that year's "Vision" report, "NAIOP presents solutions to problems before they become emergencies."

By 2017, the Research Foundation fully hit its stride, with 58 NAIOP members serving as Governors and multiple research and forecasting projects underway. Recognizing that CRE is all about the future, the Foundation's research efforts focus on identifying the trends that will impact the industry in the medium to long term.

Members' Activities Expand, Online Outreach Begins

By 1992, when it celebrated its 25th Anniversary, NAIOP had expanded to encompass those involved in developing, operating and investing in a variety of types of commercial real estate, including retail, mixed-use and hotel properties, as well as office and industrial space. As the association reaches its 50th Anniversary, more than 60 percent of NAIOP members report that they are engaged in a product type outside of the association's traditional office and industrial sectors.

Recognizing the speed and value of communicating digitally, NAIOP launched the association's first website, NAIOP.ORG, in 1996. A major upgrade in 2013 added an advanced content management system to allow the website to

of building and operating their own assets.

As the CRE industry strengthens in the mid-1990s, NAIOP advocates for the relaxation of passive-activity loss rules that are part of the 1986 Tax Act, which eliminated tax shelter provisions for CRE. Passive loss relief is achieved, enabling CRE professionals to deduct certain real estate losses from ordinary income, but only for entities deemed "active" in a real estate business.

The industry emerges from what CRE professionals describe as "a recession for the country but a depression for the real estate industry."

The quickly emerging internet technology sector generates increasing demand for space, while capital becomes abundant as the Glass-Steagall Act is repealed, enabling commercial banks to venture into risker investment banking activities.

2000s

2000s: The Tech Bubble, 9/11 And the Great Recession

The rapid rise and decline of many technology companies results in the dot-com bubble that bursts in spring 2000, as the Nasdaq com-

deliver personalized content based on a user's location and interests. In 2014, the Development magazine app debuted, followed by the NAIOP member app in 2015. With the development of these convenient mobile apps, members can now access this magazine as well as schedules, speaker bios and other conference content on their smartphones.

NAIOP also maintains an active social media presence on Twitter, Facebook, LinkedIn and YouTube.

Relationship Building Opportunities, Diversity Efforts Grow

Perhaps the most visionary initiative of the 1990s was the 1995 creation of the NAIOP National Forums, a flagship program that provides opportunities for exclusive networking and experience exchange among NAIOP members. As envisioned by Rayevich, who later became NAIOP chairman in 1997, each National Forum is structured to bring together, in an atmosphere of confidentiality and collegiality, a small but diverse group of peers from across North America. Each Forum meets at least twice a year, at NAIOP's fall conference and spring symposium. The program, which began with 100 members in four Forums, has now grown to 669 members in 44 Forums.

To bring even more new voices into the organization, NAIOP created a Diversity Task Force in 2004. The Developing Leaders (DL) program,

posite loses $1 trillion in value over just one month.

Roughly 18 months later, as jobs and economic growth begin a modest recovery, the Sept. 11, 2001, attacks occur.

NAIOP advocates for the Terrorism Risk Insurance Act of 2002 (TRIA), which requires insurance companies to offer coverage for incidents deemed to be acts of international terrorism.

NAIOP supports a provision in the Brownfields Revitalization and Environmental Restoration Act of 2002 that authorizes funding to assess and clean up brownfields properties; exempts contiguous property owners, prospective purchasers and others from Superfund liability; and authorizes funding for state response programs.

Building security, vulnerability and liability take center stage for the CRE industry. Interest rates decline precipitously and the 10-year Treasury rate settles at about 4 percent between 2003 and 2007.

Institutional investors seek higher risk-adjusted returns by investing in CRE, signaling an appetite for reliable cash flow generated by creditworthy tenants.

The housing bubble bursts and residential mortgage defaults skyrocket, eventually reaching more than 10 percent of outstanding residential mortgage loans. Banks lose tremen-

an ambitious plan that aimed to attract younger members, aged 35 or less, and improve the diversity of both NAIOP's membership and the entire CRE workforce, grew out of that effort. As a result, by the end of 2016 DLs constituted 22 percent of NAIOP's membership, an impressive increase from only 3 percent in 2006. (The proportion of women members also has grown, to 20 percent of the current membership.)

To actively support this next generation of professionals, NAIOP developed additional opportunities, including annual Developing Leaders Awards, mentoring programs and a Diversity Scholarship that awarded $25,000 in 2016, its inaugural year. In 2007, NAIOP created a Young Professionals Forum, which was renamed the Developing Leaders Forum in 2012. Through initiatives such as this, younger NAIOP members are deepening their involvement and embracing leadership roles in the national association by participating in committees and on the Board of Directors. Two DLs have gone on

continued on page 68

dous amounts of money, resulting in their eventually lacking the reserves required to meet liquidity requirements.

The Dow declines by $1.2 trillion on September 29, 2008, on news that Congress did not pass a bill to bail out banks from their liquidity shortages.

Lehman Brothers collapses, triggering a global financial crisis exposing the depth and breadth of the subprime mortgage contagion affecting securitized mortgage assets; credit default swaps; institutional investors; and commercial, investment and central banks worldwide. Two and a half million jobs are lost and vacancies rise into the double digits across most real estate asset classes.

2010s

2010s: CRE Becomes a Favored Asset Class

The economy slogs through a long, slow recovery, with GDP rates between 1.6 and 2.6 from 2010 through 2016.

NAIOP National Chairmen Reflect

Brian Hogg, 1980, reflecting on his introduction to NAIOP in 1971: ***"We got excited about the ability to get together in an organized manner. At that time, there was no formal education in real estate. What we started was an on-the-job training program, teaching each other about real estate development, on a planned, comprehensive basis."*** Hogg went on to become an early chairman of NAIOP's Education Committee.

Hogg adds that another driving force behind the formation of NAIOP was the need to fight the Interstate Land Sales Full Disclosure Act, which, he notes, was written ***"to protect consumers from buying residential land in Florida that was underwater; there was no carve-out for commercial real estate."*** (See "Five Decades of CRE and NAIOP" to read about NAIOP's first legislative victory, an exemption to the act for industrial parks.) ■

Ronald Rayevich, 1997, a driving force in the creation of NAIOP's National Forums, commenting on his 18-year membership on the Capital Markets Forum: ***"After I spend six hours with my Forum, I can tell you what every major lender is lending and how they're doing it, and what the nuances are from the previous six months."***

Rayevich also spearheaded the formation of the NAIOP Research Foundation, as founding chairman and one of its first Governors, who now number 58. He proudly points to the quality and scope of the Foundation's work: ***"The research we've done is both practical and highly useful to all of our members."***

Referring to the Foundation's Industrial Space Demand Forecast, he asks: ***"Is there an industrial developer who doesn't have to have that information?"*** ■

Anne Evans Estabrook, 2001, recalling how the 9/11 terrorist attacks sent ripples through the association: ***"None of us had ever been alive when an act of international terrorism had occurred on our own soil. It was absolute chaos and very scary; we didn't know what was going to happen next."***

"NAIOP Chapters raised a lot of money and sent it to organizations such as the American Red Cross," Estabrook recalls. She, NAIOP President Tom Bisacquino and the rest of the Executive Committee debated whether to cancel the annual conference, scheduled to be held in Chicago in October, just one month away, and decided to press on. Taking a commercial flight that soon after the attacks was terrifying to Estabrook, but she and her husband Ken braved it.

Estabrook relates how NAIOP members from various regions of the country reacted differently to 9/11: ***"The people from the Northeast were shell-shocked; other parts of the country were like, 'Let's move on.' We needed their exuberance; they needed to hear from us how solemn things were."*** Estabrook estimates that ***"it took five years [for the] industry, especially in the Northeast, to recover."*** ■

The massive Dodd-Frank Wall Street Reform and Consumer Protection Act is signed into law in 2010, one outcome of which is a general tightening of consumer and business lending.

Equity and debt are available; jobs are steadily added to the economy; and construction costs are low, due largely to a lack of competition from the residential sector, yet developers are careful not to overbuild.

NAIOP successfully advocates for reauthorization of TRIA in 2014. This law's expiration would have threated transaction activity and ownership among CRE developers and investors because of disruptions in the availability of property and casualty insurance that offers terrorism coverage, a key requirement for financing major projects.

NAIOP support helps lead to the passage of the Fixing America's Surface Transportation (FAST) Act, a long-term transportation bill, which President Obama signed into law in December 2015. The act dedicates funding to U.S. highways and transit systems for a five-year period.

E-commerce takes off, shifting much retail activity from the mall to the fulfillment center, moving industrial real estate properties into the investment mainstream.

continued from page 66
to become Research Foundation Governors.

As 2014 NAIOP Chairman **Jean Kane** wrote in the winter 2014 issue of Development magazine, "Our Developing Leaders membership is crucial in propelling NAIOP into the next decade, and it's our responsibility to encourage diverse hiring practices, both within our own firms and throughout membership organizations. Bringing a variety of perspectives to our organization allows us to take new approaches to old issues and problems, preparing us for the future."

To meet the needs of these young professionals, as well as support established members who were exploring new property types and/or markets, NAIOP rolled out numerous educational initiatives. In 2009 The Center for Education was launched to provide a comprehensive approach to continuing education, with a curriculum based on the core competencies involved in CRE. Members and others can take individual courses or pursue a more rigorous body of knowledge by completing a series of courses leading to a Certificate of Advanced Study in Commercial Real Estate Development or Commercial Real Estate Finance.

Looking Ahead

As NAIOP celebrates its 50th Anniversary with 18,000 members and 51 chapters across North America, the association looks back proudly on surviving and thriving through numerous real estate cycles. Commercial real estate has evolved from local to regional, national and even international in scope; from privately held to institutionally financed. NAIOP has built a foundation of professionalism for its members that has elevated the industry and allowed real estate to become the "fourth asset class." The three-legged stool of advocacy, education and networking opportunities on which NAIOP was founded remains remarkably sturdy and capable of supporting the association and its members well into the future. ■

Sheila Kelly Vertino is former editor-in-chief of Development magazine and a freelance writer. **Thomas J. Bisacquino**, president and CEO; **Margarita Foster**, vice president, knowledge and research; **Kathryn Hamilton**, vice president, marketing and communications; and **Julie D. Stern**, managing editor, Development magazine, contributed to this article.

A provision of the U.S. EPA's federal Clean Water Rule, which aims to clearly define which waters are federally protected, results in more confusion than clarity. NAIOP argues in its 2015 comment letter that erosional features such as ditches and settling basins should be explicitly exempt from the rule, as they have never before been considered federal waters. The EPA meets NAIOP halfway with the erosional feature exemption, but leaves the door open to field determinations.

The Protecting Americans from Tax Hikes (PATH) Act of 2015 results in a number of key outcomes that affect the CRE industry. Key provisions that were once temporary and subject to renewal every one or two years are either made permanent or extended for longer periods, providing vastly increased predictability for investment decisions.

CRE's appeal to institutional and individual investors continues to grow, with more than $2.5 trillion in CRE sales volume transacted between 2010 and 2016.

The industry receives a formal nod from the Global Industry Classification System when it creates its 11th investment sector exclusively for real estate, moving it from the "financials" sector. ■

By **Margarita Foster**, vice president, knowledge and research, and editor-in-chief, Development magazine

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Innovative Financing

For Roads and Highways

New approaches are needed to fix an old problem.

By Robert T. Dunphy

U.S. HIGHWAYS ARE financed with a broad array of federal and state fuel taxes and motor vehicle fees, an unusual arrangement compared to most government services such as schools and libraries, which compete for funding out of general revenue. This highway funding system once worked well to sustain a critical element of the economy. Today, however, the system is threatened by increased fuel economy, which results in decreased fuel tax revenues; a proliferation of electric and hybrid vehicles, whose owners pay little or no gas taxes; political opposition to raising taxes and fees; and the introduction of shared vehicles via services like Zipcar and Car2Go as well as ride-hailing services like Uber and Lyft.

So far, federal transportation funding has avoided addressing this fundamental problem; instead, it has managed to find a workaround, most recently a general fund transfer financed, as described below, by reducing the surplus account of the Federal Reserve and the dividends paid to banks. The fact that investment in infrastructure was an important issue in the 2016 presidential election may augur positive change for the future. In the meantime, a growing number of innovations are providing smaller fixes to this overarching financing problem.

The Current Funding Situation

The nation's local, state and federal governments spent a combined $238 billion for highway-related purposes in 2014. About 47.5 percent of total highway spending was for capital improvements to highways and bridges. Much of this money funded reconstruction and improvement of existing facilities rather than new construction.

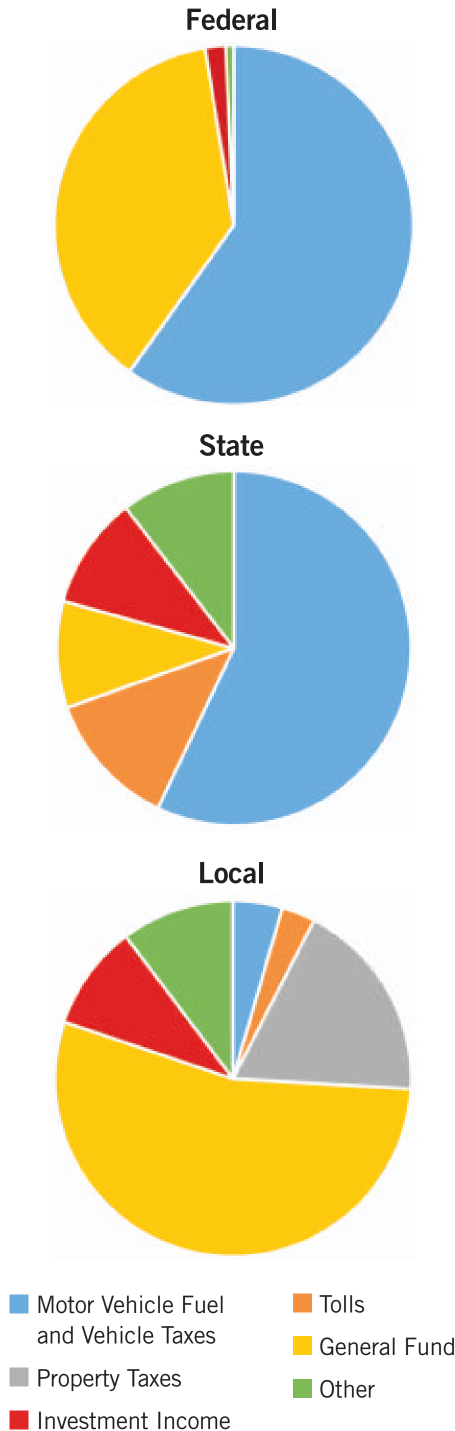
The LBJ Express project, developed through a public-private partnership (P3) between the Texas Department of Transportation and the LBJ Infrastructure Group LLC, features variable fluctuating pricing based on traffic demand. The largest public-private project in Texas, it has eased traffic congestion in the Dallas-Ft. Worth region.
Stephen Gould, Aperture Photography

Fuel taxes and fees paid by car and truck owners and drivers have been the primary source of funding for both federal and state highway revenues. As shown in the top chart on page 72, federal highway revenues come almost exclusively from taxes on cars and trucks, with a significant transfer from the general fund in 2014. As shown in the middle chart, by 2014 the three key sources of state highway funding — taxes and fees on cars and trucks, tolls, and investment revenue — accounted for 80 percent of revenues. More than half of local highway revenue comes from the general fund, as shown in the bottom chart, while about one-sixth comes from property (real estate) taxes, and the remainder from a variety of local revenue sources.

The portion of federal highway spending funded by taxes dropped by 50 percent during the Great Recession, but was restored with additional general fund transfers. Taxes and fees paid by vehicle owners and drivers, along with tolls, account for a slightly lower share of state transportation budgets, but saw a less precipitous decline during the recession and have been recovering since then, boosted in part by federal stimulus funding as part of the American Recovery and Reinvestment Act beginning in fiscal year 2010.

Federal transportation funding has traditionally come through multiyear legislation, which gives states the long-term support needed to undertake large projects requiring many years to complete. In recent years, however, Congressional gridlock prevented these kind of bipartisan agreements, until President Obama signed the Fixing America's Surface Transportation (FAST) Act on December 4, 2015. The act authorized surface transportation programs through 2020 and provid-

Sources of Highway Funding Revenues, 2014



Source: Highway Statistics 2014, Funding for Highways and Disposition of Highway-User Revenues, All Units of Government, 2014, Table HF 10, Federal Highway Administration, March 16, 2016

ed $281 billion, subject to annual appropriations over the five-year period. (See "Congress Finally Acts on Transportation Investments," Development, spring 2016.)

The FAST Act did not rely on taxes and fees from auto and truck drivers and owners; it did not create any new revenue sources from transportation users. Instead, it transferred $70 billion from the general fund of the U.S. Treasury to the Highway Trust Fund (HTF). This funding was financed by budgetary gimmicks: reducing the surplus account of the Federal Reserve and the dividends paid to large member banks on their capital stock in the Federal Reserve. And this level of funding is still inadequate; the Congressional Budget Office projects that, under the FAST Act, both the highway and transit accounts of the HTF will be unable to meet all obligations in 2021.

The Gas Tax: A Flawed Foundation

The Highway Trust Fund was created as a user-supported fund when Congress established the interstate highway system in 1956. (Before then, revenues from taxes on motor fuels and automotive products went to the general treasury.) The Federal Aid Highway Act of 1956 directed that the HTF be supported by highway users. (Revisions in 1982 established a special Mass Transit Account in the HTF to receive part of the motor fuel tax.) The taxes were raised occasionally, most recently in 1993, reaching 18.4 cents a gallon.

The current system of fees on gasoline and diesel fuel, with several other user charges, is threatened

by technology, inflation, driving trends and political will. Since the federal gas tax has been fixed at 18.4 cents per gallon since 1993, its purchasing power has declined by almost 40 percent. According to **Ed Regan**, senior vice president of transportation consulting firm CDM Smith, if one takes into consideration the effect of federally mandated fuel efficiency standards and gas tax revenues lost to electric cars, fuel tax revenues will drop by $40 billion by 2040.

The number of vehicle miles traveled (VMT) on the nation's highways declined by 3.6 percent between November 2007 and 2012. Total travel seems to have recovered since then, to 3.2 trillion vehicle miles annually. Per capita driving, which declined from about 10,000 miles annually in 2007 to about 9,500 in 2012, recovered to about 10,000 in 2015, much to the chagrin of those who believed that a fundamental change in personal travel habits had taken place. It continues to increase as vehicle travel, up another 2.5 percent in 2016, grows faster than the population.

Adjusting the gas tax rate would be a simple fix for many of these problems, but that solution runs afoul of political will among elected officials of all stripes. Most view even an adjustment in this consumption tax as "raising taxes," something that is anathema to a public widely perceived as tax averse.

What Is the Alternative?

The transportation community has done better at estimating future funding needs than at developing consensus on how to pay for them, and expanding facilities to serve growth competes with a backlog of needs from deferred maintenance. Such a backlog acts as a barrier to the introduction of innovative projects, at least if they wish to use traditional financing. A recent evaluation of combined highway needs estimated it would cost $120 to $156 billion annually, depending on traffic growth, in capital investments by all levels of government to begin to address future needs, in addition to recent spending of $88 billion annually. (See "2015 AASHTO Bottom Line Report," American Association of State Highway and Transportation Officials.)

The one-third increase at the low end would seem manageable, especially if introduced over several years, if not for the resistance to any increase in taxes or fees noted above. Over the long term, this critical funding gap will have to be addressed. As of late March, the Trump administration's proposed $1 trillion infrastructure program to improve highways, transit, airports, and many other areas of infrastructure is slowly taking

State Funding

Opportunities for significant increases in infrastructure funding clearly exist at the state level; 19 states and the District of Columbia have increased their gasoline taxes in recent years. These opportunities are, however, dependent on political support.

In 2013, the Pennsylvania General Assembly (the commonwealth's legislature) enacted a 19 cent per gallon increase in the state gas tax, which was expected to generate $2.3 billion for roads annually by 2019, the fifth year of the plan, as well as significant increases for public transportation. This was expected to finance improvements to thousands of bridges and 1,000 miles of roadway, as well as provide investment in statewide public transportation to avoid crippling budget cuts. By January 2017, nearly 950 road and bridge construction projects were underway statewide, according to a January 2 Lancaster Online editorial titled "Why the Pennsylvania Gas Tax Increase Isn't So Bad."

New Jersey's legislature and Governor **Chris Christie** agreed in 2016 to a deal that increases the gas tax by 23 cents per gallon, from the second lowest in the U.S. (14.5 cents), to the seventh highest (37.5 cents). The revenue will finance an eight-year, $16 billion transportation program which, with additional federal funding, will increase to $32 billion. To make such increases in taxes a bit more acceptable, the deal also included a number of tax cuts, including a reduction in the sales tax, increases in the earned income tax credit for low-income workers, a reduction in retirement taxes and a veterans' exemption, as well as the elimination of the estate tax. Christie said this will be the longest and largest reauthorization in the state trust fund's history.

An added benefit of increasing state, as opposed to federal, gas taxes is that all the additional revenue stays in the state. One of the shortcomings of such a state-centered approach is that it precludes a focus on nationally significant projects, which additional federal funds could support. ■

> "Software could be used to develop a much more nuanced and equitable system, if the political will to do so exists."
> *Robert T. Dunphy*

shape. Funding, however, appears to be a sticking point, and fixing the Highway Trust Fund by increasing taxes is not yet on the agenda. While Rep. **Peter DeFazio**, D-Ore., has proposed increasing the federal gas tax by up to 1.5 cents per year, with proceeds going to pay interest on an annual surface transportation bond issue of $17 billion through 2030, a March 26 Washington Post editorial called this increase "almost laughably modest, given that the failure to raise the tax for the last quarter-century amounts to a 40 percent cut in real terms."

New Approaches for a New Era

Yet a number of innovative approaches to funding highways are already in practice, while others are under consideration. The apparently broad support at the federal level for aggressive infrastructure investments brings hope that a quarter-century of deadlock in funding highways will be broken. Some of the ideas in the works include the following:

Tolling the Interstate Highway System. Many transportation advocates believe this is the "holy grail" of funding solutions. Tolling only the urban portions of the interstate system would generate about $40 billion annually, according to the Congressional Budget Office. U.S. Department of Transportation Secretary **Elaine Chao** signaled in an interview in February that tolling is an idea being considered, without specifically endorsing tolls on interstate highways.

Charging by the Mile. One idea favored by many analysts and virtually all economists is charging motorists costs that reflect the impacts they impose on the transportation system. A mileage-based user fee system would calculate fees based on the actual vehicle miles traveled (VMT), rather than simply the number of gallons of fuel used.

Increasing State Funding. Like the federal government, most states have so far resisted raising the gas tax. A growing number, however, have done so, including Pennsylvania, New Jersey, Maine and Washington. These states have demonstrated that higher state gas taxes can generate significant funds, all of which the states get to keep. (See "State Funding" on page 73.)

Creating or Expanding Regional Toll Authorities. The nation's fewer than 6,000 miles of toll roads make up about 1 percent of the federal highway system. Most of these toll roads are state-operated through routes. Fourteen states, however, have toll roads operated by regional entities. Some of these represent a large share of their region's transportation capacity. (See "Regional Toll Authorities" below.)

Implementing Public-private Partnerships. There is growing interest in public-private partnerships (P3s) that integrate design, construction and operation — including long-term maintenance — of a public facility such as a highway to a private operator. This operator typically has some "skin in the game"; in other words, the project's financial structure includes a slice of private equity. In order to attract private investors, revenue must be generated from tolls or other sources, a situation that is uncommon for most of today's major highways. (See "P3s" on page 75.)

Creating a Carbon Tax. The idea of taxing travel according to the amount of carbon emitted is a wonky idea long popular with economists and environmentalists. But it is now receiving some new, broader support. Liberals appreciate the focus on the impacts of climate change, while conservatives prefer taxation to government environmental regulation. A 2017 report by the U.S. Treasury estimates that a "midrange" tax of $50 per metric ton would generate $250 billion

continued on page 76

Regional Toll Authorities

Some regional toll authorities represent a large share of their region's transportation capacity. The North Texas Tollway Authority, for example, operates 966 lane miles of toll roads in Dallas-Fort Worth and the Central Florida Expressway Authority operates 767 lane miles of toll facilities around Orlando and carries two-thirds of all freeway travel in the region. Such highways offer opportunities to provide much-needed capacity to quickly serve patterns of regional growth without either federal or state funds.

Fourteen other states, including California, Colorado, Virginia, New York, Pennsylvania and Illinois, also have toll facilities operated by regional organizations. They demonstrate that toll roads, despite initial resentment among residents, can play an important role in regional transportation networks. ■

Public-private Partnerships (P3s)

There have been 34 public-private partnership contracts for major construction projects in the U.S. over the last 30 years, according to Public Works Financing newsletter. The newsletter's editor, **William Reinhardt**, writing in the November 2016 issue, attributes the scarcity of such projects to a lack of public investment capital as well as general distrust of the private sector's profit motive. A successful program at the national level might be able to overcome such inertia.

In order to cope with growing traffic congestion on Interstate 595 between Ft. Lauderdale and the western suburbs in South Florida, the Florida Department of Transportation (FDOT) decided to develop the I-595 Corridor Improvements Project as a P3. This $1.8 billion project, developed between 2009 and 2014, has relieved traffic congestion and created a multimodal transportation network along I-595 in South Florida.

A major component of the P3 project was the construction of three at-grade reversible express toll lanes known as 595 Express, which serve express traffic to/from the I-75/Sawgrass Expressway from/to east of state Route 7, with a direct connection to the median of Florida's Turnpike. These lanes are operated as managed lanes with variable tolls to optimize traffic flow, and reverse direction in peak travel times (eastbound in the morning and westbound in the evening).

The project also included the reconstruction and widening of the I-595 mainline and all associated improvements to frontage roads and ramps from the I-75/Sawgrass Expressway interchange to the I-595/I-95 interchange, for a total project length of approximately 10.5 miles. FDOT selected ACS Infrastructure Development Inc. to design, build, finance, operate and maintain the roadway for a 35-year term. Teachers Insurance and Annuity Association of America (TIAA) became a 50 percent equity partner in 2015.

According to **Kelley Hall**, who served as FDOT's assistant manager for the project, it "has been seen as a success on both the DOT and concessionaire sides. Non-compliances related to performance issues have been very minimal, and the public also seems very pleased with the customer service they receive."

FDOT provides management oversight of the contract; installed, tested, operates and maintains all tolling equipment for the express lanes; and sets the toll rates and retains the toll revenue. The concessionaire receives three types of payments:

1) Final Acceptance Payments totaling $634 million over the first five years after construction.

2) Milestone Payments for expedited completion of construction activities, totaling $50 million.

3) Performance-based Maximum Availability Payments for assuring that the lanes are available for use. These payments may total up to $66 million annually, beginning in 2014 and continuing until 2043. If the lanes are closed for two hours during rush hour, for example, $24,000 is deducted from the availability payment. Deductions are also taken if the concessionaire fails to maintain agreed upon operations and maintenance standards.

Funding sources for the $1.8 billion project included FDOT, federal funding, bank debt of $781 million and $207 million in equity by ACS Infrastructure. The financing closed in 2009, at the peak of the U.S. banking crisis, demonstrating the financial markets' confidence in the project.

In the Dallas-Ft. Worth region, Texas Department of Transportation (TxDOT) officials executed a comprehensive development agreement (CDA) with the LBJ Infrastructure Group LLC in 2009 to design, construct, finance, operate and maintain the 13-mile LBJ-635 corridor in Dallas County. With a price tag of $2.6 billion, this was the largest public-private project in Texas.

The project began in 2011 and involved reconstruction of all of the main and expanded frontage lanes of Interstate 635. It added new managed toll lanes (TEXpress lanes) along this 13-mile stretch, as well as direct connectors to managed lanes on I-35 east from Loop 12 to I-635.

The LBJ Express project, which opened in 2015, features variable fluctuating pricing based on traffic demand, to help maintain speeds. The LBJ Infrastructure Group is made up of Cintra, Meridiam Infrastructure, APG and the Dallas Police and Fire Pension System. Financing came through four main sources, including an $850 million loan from the U.S. Department of Transportation's Transportation Infrastructure Finance and Innovation Act (TIFIA), $490 million from the Texas Department of Transportation (TxDOT), $664 million from investor funds and $615 million from private activity bonds. ■

The reversible toll lanes known as 595 Express have eased traffic congestion between Ft. Lauderdale and its western suburbs in South Florida. The lanes were constructed by a P3 between the Florida Department of Transportation and ACS Infrastructure Development Inc.

continued from page 76
annually, a major windfall if it were used for infrastructure improvements.

However, if a large windfall from such a policy were obtained, it is unlikely that all or even most of it would be used to invest in infrastructure. More likely, as proposed by a group of former Republican officials in February, most of the $250 billion would be returned to consumers as a revenue-neutral expense, creating a rebate of $2,000 per family.

Simple Software, More Equitable Funding?

Autonomous cars and some simple tracking software, as well as changes in vehicle ownership patterns, may soon force the nation to consider new funding mechanisms. As federal, state and local governments are attempting to find a secure fix for the nation's highway funding, automobile companies are preparing to roll out a new generation of cars and trucks with technology that will transform the driving experience, as well as ownership models that may make the family car irrelevant. Instead of the expense of buying, maintaining, insuring and operating a household vehicle that gets used less than an hour a day, the near future will offer affordable shared mobility options for taxi service or rental by the trip.

Reimagined highway funding could build off of the current practice of using gas and diesel taxes, applied at the point of purchase, with some equitable tax or fee added for electric vehicles. Simple software can now measure — and be used to apply different user fees — for peak versus off-peak travel, urban versus rural roads and so forth. This software could be used to develop a much more nuanced and equitable system, if the political will to do so exists. But fairness is not necessarily politically expedient.

A substantive attack on the central problem, inadequate user funding, will require significant increases in the costs to users, and there has been no sign to date of a serious national initiative to increase those charges to make highway funding sustainable again. Politically popular ideas have depended on what real estate people recognize as OPM — other people's money — such as juggling Federal Reserve requirements, carbon taxes or repatriation of overseas earnings of American companies. Lacking any miraculous breakthrough, there will be a growing need for innovative projects that charge tolls and other fees, allowing them to be financed as public-private projects. ■

Robert T. Dunphy is a transportation consultant and emeritus fellow, Transportation Research Board.

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Beyond 72 Degrees and Sunny Inside: Optimizing the Indoor Work

The Edge, Deloitte's Amsterdam headquarters building, provides a healthy, productive work environment with dynamically controlled, interconnected lighting and ventilation systems. Widely recognized as one of the world's smartest, most sustainable office buildings, The Edge was developed by OVG Real Estate and designed by PLP Architecture.

Photo © Ronald Tilleman

Environment

The conversation about indoor environments is changing as tenants leverage new technologies to support employee productivity.

By Dan Diehl, Aircuity

OVER THE LAST decade, a slow and steady evolution has been taking place in the commercial built environment. Building owners, architects, engineers and various service providers are moving to incorporate new technology that optimizes worker productivity, space utilization and the operational efficiency of a building over its useful life. They are also seeking to create workplaces that help companies recruit and retain talent.

Many commercial buildings now include features such as operable windows, dynamic glass, smart metering, prefab construction and chilled beam HVAC systems, all of which aim to optimize the indoor working environment for productivity, health and overall well-being. While a number of these technologies and approaches have been available for quite a while, many are now moving from being the exception to the norm.

Developers, building owners and occupants alike are beginning to realize that these innovations improve productivity, creativity and the recruitment and retention of key talent. Many of these technologies also collect data. Property managers and others can analyze this data to develop a life cycle approach to optimizing efficiency over the life of the building.

Today's buildings must do more than just maintain a constant temperature of 72 degrees inside. They must take advantage of emerging Internet of Things (IoT) and analytics technologies to provide owners, occupants and operators with actionable information that helps them achieve their goals.

It's Dynamic

One of the main factors driving this movement is changes in the way people work. As working conditions change, buildings also need to change, both inside and out. Open, flexible workspaces are expected to be able to adapt to who is using the

The Tower at PNC Plaza, PNC Financial Services Group's world headquarters in Pittsburgh, features a passive ventilation system that brings fresh air into the building via a solar chimney and a double-curtainwall facade, as well as an indoor park on the 28th floor.
Photo courtesy The PNC Financial Services Group

space, how many people occupy it, the position of the sun and the tasks being performed. In short, these work-spaces need to evolve in ways that will support and even improve their occupants' performance, based on a variety of environmental conditions.

New technologies have made it much easier to make buildings very energy efficient. But the actual energy savings achieved are often compromised by what is commonly referred to as "value engineering." This should actually be called "devalue engineering," since it often entails reducing initial costs while negatively impacting life cycle costs and other key long-term benefits. As the cost of these technologies comes down and as total life cycle costs and benefits become easier to measure and track, making intelligent, long-term decisions — and avoiding devalue engineering — has become easier.

Providing healthy, productive work environments means that these spaces need to be dynamically controlled. This includes natural light working in tandem with automatically adjusting lighting systems, natural and/or demand-based ventilation systems and smart or individualized metering. These subsystems are then connected through enterprise-wide building management systems (BMS) and supervisory control and data acquisition (SCADA) systems.

One of the first buildings to incorporate these types of systems is The Edge, Deloitte's Amsterdam headquarters building. It was certified by the British rating agency BREEAM as the most sustainable building in the world and holds the highest BREEAM rating ever achieved. The Edge is smart as well as extremely efficient, but the real news is that buildings like it are no longer being seen as outliers. Since it opened in late 2014, smart, sustainable buildings have become more prevalent.

The lighting industry has driven the evolution away from fixed light levels to systems that offer workers a choice of lighting, based on the task at hand. This influenced many other demand-based approaches, from smart ventilation systems to smart glass. The result is a trifecta of benefits: providing the most resource-efficient and sustainable

Designed by Gensler, The Tower at PNC Plaza features two-story "neighborhoods" with shared amenities as well as both formal and informal collaboration spaces.
Photo courtesy The PNC Financial Services Group

buildings; maximizing productivity and worker satisfaction; and generating the feedback needed to optimize these benefits over the life of the building.

Productivity: The True ROI

Studies conducted by the Harvard T.H. Chan School of Public Health's Center for Health and the Global Environment, SUNY Upstate Medical University and Syracuse University have demonstrated that improved indoor environmental quality more than doubled occupants' cognitive function test scores. (See naturalleader.com/thecogfxstudy for more details.) This proves that it is now possible to optimize energy efficiency and life cycle costs while also optimizing employee productivity. Supporting employees' cognitive function may be the ultimate example of using facilities to drive the success of the occupants' core business.

More than 25 years ago, Johnson Controls developed a technology well ahead of its time: "personal environmental modules" (PEMs). These were designed to let each cubicle occupant control temperature, sound and lighting according to his or her needs. It didn't take off, because of other system change requirements and the lack of a real belief that indoor environments mattered.

Today, these concepts are being put into action across the globe. Technology, owner demands and ar-

> **"Supporting employees' cognitive function may be the ultimate example** of using facilities to drive the success of the occupants' core business."
>
> *Dan Diehl*

This illustration demonstrates a ventilation efficiency monitoring system installed in an office environment. Red squares represent wall-mounted sensors, yellow lines represent the cable through which air samples are routed and the green box is an air data router that sequences the air samples and routes them to a centralized sensor suite.
Aircuity

chitects' and engineers' acceptance of office occupants' true needs have converged to make these types of systems more prevalent. While early innovations and breakthroughs, like PEMs and Lutron's first whole building lighting controls, set the stage for these changes, they were often met with resistance and "devalue engineering" death.

Recently, however, there has been a major spike in the adoption of these technologies. Examples abound:

Apple Park, Apple's new 2.8 million-square-foot world headquarters "spaceship" campus in Cupertino, California, which opened in April 2017, features prefab construction with natural ventilation, making it the world's largest naturally ventilated building. It has been designed to run entirely on renewable energy.

The Tower at PNC Plaza, PNC Financial Services Group's 33-story world headquarters in Pittsburgh, which opened in 2015, has operable windows and a chilled beam HVAC system. It was designed to be the greenest office tower in the world.

One Bryant Park in New York, completed in 2010, features an ice cooling system, state-of-the-art air filtration, destination dispatch elevator controls and more. It is the first LEED Platinum-certified high rise. The 51-story tower houses Bank of America's global corporate and investment banking businesses as well as The Durst Organization's corporate headquarters and several other tenants.

P.S. 62 , completed in 2015, is the first net zero energy school in New York City. The 68,000-square-foot, two-story structure serves 444 students and features photovoltaic arrays, a geoexchange heating and cooling system, energy recovery ventilators and demand-controlled ventilation, and a solar thermal system for hot water.

Even the expansion of the Grand Mosque in Mecca, which is expected to be completed in 2020, features a naturally conditioned open-air design. These buildings, and an increasing number like them, are being developed or expanded with a complete life cycle value approach that focuses on occupants' health and well-being as the top design criteria.

Mounted within a sensor suite (the green box), sensors (in foreground) measure and evaluate an array of environmental conditions, including carbon dioxide, carbon monoxide, dewpoint temperature, total volatile organic compounds and airborne particulates.
Aircuity

Insight and Intelligence

The "fault detection" industry is now an approximately $3.3 billion a year business worldwide. While roughly 25 percent of this involves first-time commissioning of buildings to ensure that systems are operating correctly, the much larger portion involves evaluating and correcting building systems that are not working as they were designed and intended to work. While using data and analytics is key to keeping buildings operating as intended, the commercial real estate industry should consider standards that will enable these buildings to function properly from the beginning.

The commercial real estate industry is following a familiar path already taken by other industries, including travel, investment and health care. The value in those markets has migrated from service providers to value providers: essentially, those who can quickly and effectively deliver on the overall end-to-end value of the service being provided, and not just focus on reducing the first cost while sacrificing long-term value.

The sea change in the built environment is no different. The real value will be created by those who can provide indoor environments that are well beyond "72 degrees and sunny." Developers must create, maintain and validate this value for owners, operators and occupants. How safe, productive and healthy is

"[Tenants] see the value of lower operating expenses in their rent bills and, more importantly, **they see how more intelligent buildings can drive the success of their core businesses,** helping them attract and retain top talent and maximize productivity."

Dan Diehl

the indoor working environment? Do the occupants know? Do the operators know? Is there an app for that? Soon, there probably will be!

Outcomes and Connections to Core Business

How are all of these concepts tied together? The three primary stakeholders in the built environment can be categorized as owners, operators and occupants. Occupants are obviously the most important but, until recently, they were frequently overlooked by owner/operators, designers, engineers and contractors.

Although this was often unintentional, the industry has had a blind spot regarding the importance of occupants' needs. First cost and low value-added designs that looked inexpensive initially, but provided little long-term value, tended to rule the day, as did designs that looked impressive but provided little or no value to occupants.

How does a marble entrance enhance worker productivity? How does it impact health, well-being and productivity when the occupants pass through it for less than five minutes a day? It doesn't! Savvy developers, owners and operators are now considering today's intelligent and connected solutions in terms of the efficient, long-term benefits they offer for occupants. How much do they cost to operate over their useful life? What strategic and competitive advantage will the owner-operator gain by implementing more intelligent and sustainable designs? These questions must now be at the core of building design going forward.

Abundant natural light and indoor plantings at The Edge, Deloitte's Amsterdam headquarters building, contribute to employee health and productivity.

Photo © Ronald Tilleman

More Believers

The most telling evidence of this shift in building design philosophy is the fact that growing numbers of developers and REITs are now on board. They recognize that buildings with fancy lobbies don't rent out quicker, renew better or attract top-tier tenants like they did in the past. Sustainable and productive designs matter more; tenants are now seeking them out.

This trend has become clear in owner-occupied real estate over the last several years. More developers are leaning this way, even for build-to-suit projects, suggesting that mid- and even lower-end prospective tenants "get it." They see the value of lower operating expenses in their rent bills and, more importantly, they see how more intelligent buildings can drive the success of their core businesses, helping them attract and retain top talent and maximize productivity. The COGfx studies cited earlier underscore the importance of this trend. Study participants received cognitive performance scores that were significantly higher when in the "enhanced green building environment" versus a conventional building environment.

The concept of "beyond 72 degrees and sunny" is about dynamic and productive work environments that leverage initial expenditures to maximize total life cycle value. It can result in lower real costs to own and operate a facility. Even temperature control isn't a static or "one size fits all" system. So why should other building systems be? As the industry embraces true total life cycle value solutions, measurably better environments will become the new norm. ■

Dan Diehl is CEO of Aircuity.

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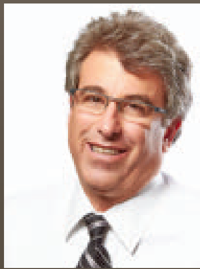
The Future of Family-owned CRE Businesses

How can family-owned businesses stay competitive in the commercial real estate industry?

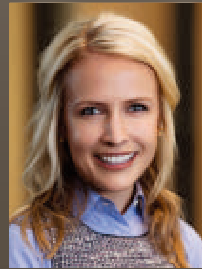
The Experts: Five Members of NAIOP's Family-owned Business Forums



Harvey Alter, executive vice president, Alter Asset Management, Lombard, Illinois

Ralph Heins, president and CEO, Primera Companies, Inc., Dallas, Texas

Alex Klatskin, general partner, Forsgate Industrial Partners, Teterboro, New Jersey



Caitlin Russell, director, Russell Construction Co., Davenport, Iowa

Stuart S. Wyllie, president and CEO, The Graham Companies, Miami Lakes, Florida

By Ron Derven

FIVE MEMBERS of NAIOP's Family-owned Business I and II Forums offer their insights into the future of family-owned CRE businesses as well as some of their strategies to successfully manage and convey the business to the next generation. They also provide their insights on the benefits of the following:

- Creating a generational overlap so that the older generation can pass on its wisdom to the younger one.
- The importance of getting "real world" work experience outside of the family business.
- Making sure that new family members coming into the firm develop skills in at least one area of commercial real estate to add value to the company.
- Allowing only those family members working in the business to manage it.
- Ensuring that family members coming into the business gain the respect of other employees and the industry.
- How to avoid playing favorites when it comes to family.

Russell Construction Co. served as general contractor for the Black Hawk College Health Sciences Center, a 46,300-square-foot structure housing eight labs, two classrooms, two conference rooms, a lecture hall and faculty offices in Moline, Illinois.

Ballog Photography

How is your family-owned business structured?

Stuart Wyllie: From a governance standpoint, we have an 11-member board; all are shareholders. Then we have a five-member executive committee made up of four members of the third generation and one outside member who is our chief financial officer.

The Graham Companies is a family-owned business founded in 1932 when **Ernest "Cap" Graham** acquired 7,000 acres [outside Miami] to start a dairy business called Graham Dairy. Two generations later, we have commercial, residential, hospitality and agricultural divisions in the company. I am president and CEO. I happen to be a son-in-law.

Ralph Heins: My wife and I formed Primera Companies in 1989 when we were living in Minnesota. We made the transition from being a service provider in the Twin Cities with CBRE to being a principal down here in Dallas. We started the business in Dallas with an industrial project we purchased and an office portfolio that we managed for a family from Hamburg, Germany.

Alex Klatskin: Forsgate Industrial Partners is a limited partnership consisting of two families, the Klatskin family and the Seiden family. Our families are not related, but in business we are 50-50 on everything. The first generation in each family started the business together. The structure of our business has not changed in the past decade, and we do not anticipate changes in the next several years. We are now into the second generation of ownership with me — I am 52 years old — and my business partner, **Steve Seiden**, who is in his 60s. Steve's son, Sam, joined the firm last October. There is a third generation potentially coming in from the Klatskin family as well, in the next one to three years.

Caitlin Russell: My father, **Jim Russell**, started Russell Construction Co. in Bettendorf, Iowa, in 1983. Until the early 2000s, he was the sole owner. Over the last 15 years, he has expanded ownership of the company as an employee benefit and engagement tool. Currently, he owns 70 percent; the remaining 30 percent is owned by employees and his children.

Harvey Alter: Alter Asset Management, a division of Alter, is owned by my brother Michael and me. (See "CEO on Leadership: Michael J. Alter," Development, fall 2014.) We are the only family members involved in the business, although we have other siblings. My father was involved in the business right up to his death in 2008. He knew his health was declining, and we created a seamless transition. Over the next couple of years, we probably won't see any of our kids taking over the mantle. The oldest member of the next generation is now 26 and they are making their careers elsewhere, although they are enormously proud of the family legacy.

What is the focus of your business? Do you expect it to shift in the future?

Russell: We started as a commercial contractor focusing on medical, institutional, office and industrial construction. Over the years we have diversified our business to also include commercial development. We found that clients were looking for additional services, which led to our providing build-to-suit lease-backs, site selection and sourcing

> “I think working five to 10 years at other businesses is sufficient. **If possible, it is beneficial to have a 10-year overlap of generations** to pass on the wisdom from the older generation to the younger generation.”
>
> *Alex Klatskin*

financing. As we look to the future, we plan to continue to mold our offerings to the changing needs of our clients.

Klatskin: The focus of our business is industrial real estate in New Jersey, 100 percent. We do not own anything else. In the past, we had a hotel and an office building in Maryland, but they have been sold.

Alter: Ours is a 62-year-old business. We are in development and asset management. We were NAIOP's Developer of the Year in 2010. We have six divisions: construction, property management, internal brokerage, health care, investment sales and distressed assets. One of the biggest shifts in our company is the increasing migration toward Class A downtown office development in major gateway markets.

Does your firm work independently or with partners?

Klatskin: We use all of our own equity for projects; we do take debt from third parties, either banks or life insurance companies. The newest project we are doing is with another family business that is also a member of NAIOP. The Forsgate partnership and the other family business each own 50 percent of that project.

Wyllie: It was a family decision back in the early days of the business that we would have a smaller pie, but a pie that we owned 100 percent of as a family. For all of these years, we have done no joint ventures and we have no partners.

Russell: We find that partners are a good way to expand offerings, whether a client needs assistance finding a site or sourcing financing. Each project is unique, so each project's ownership structure is tailored to meet the needs of that specific project, which is where real estate partners come into play.

One project we are working on is a former hotel site in our hometown. The 30-year-old hotel had fallen into disrepair, but is in a prime location. We acquired the property, demolished the hotel and will redevelop the 8-acre parcel. Local brokers, companies and ownership partners are helping bring new life to the property.

Alter: We work independently and we are self-financed with no debt. We never took any debt to fund the growth of the firm, relying instead on our revenues from investment sales and leasing to fund our growth.

How did you "cut your teeth" in the real estate business?

Klatskin: I am a licensed, registered architect. I worked at an architectural firm in New York for five years and then joined the family business. I got my property-level experience at the family-owned business because we are, first and foremost, developers.

Heins: I joined Coldwell Banker Commercial, the predecessor of CBRE, in the early 1980s. I was in the investment division in Minneapolis. I worked with them for five years and then struck out on my own.

Russell: Growing up in a construction family, I always knew I wanted to get into the business. I earned a construction management degree and began working for a construction company. After spending my first few years managing construction projects, I knew real estate development was the next step in my career path. Knowing I needed to continue to challenge myself professionally, I received an MBA in finance and earned my real estate broker's license. A lot of my industry knowledge has come from working with clients on construction sites and the natural progression of thinking of the "next deal," which tends to lead to real estate acquisition and development to make it happen.

Wyllie: I graduated from the University of Florida in 1976 and got a job with General Development, the largest development company in Florida at the time. Eventually, I ran its commercial operation for 15 years. My father-in-law wanted me to work for the family business, The Graham Companies. I said at the time that the last thing I would ever do is come work for my wife's family company. But my father-in-law convinced me, and I have been with the company for 27 years.

Alter: My dad created a very democratic culture at Alter, and we [family members] were treated like everyone else. I started cleaning vacant space, working on electrical panels, hanging heaters and cutting lawns at our office and industrial parks as a teenager. I was interested in real estate, and I asked my dad if I could come to work with him to learn the business. He said that he would teach me the business, but wanted to give me the freedom to choose my own career.

I later got a hotel/restaurant degree in college and worked in that industry for several years. When my dad got sick, I realized that, rather than selling the business, we wanted to keep the family name on the front door. My brother Michael joined the business in 1990; I got in in 1991.

What is the age range of family members involved in the business? Have age

or generational differences created conflicts or opportunities?

Russell: I am the youngest family member involved, at 30 years old, and my father is the oldest at 56. We each bring our own views to the table, but ultimately always have the same goal of achieving successful, profitable projects and exceeding client expectations.

Klatskin: I was born in 1964, the last year of the baby boomer generation. **Sam Seiden** is 36, so he is a Gen Xer. We have had no conflicts, but we have discovered opportunities working with a different generation. Those opportunities involve translating the wisdom of the past into the future.

What, if any, efforts is the company making to engage younger family members and prepare them to lead the company in the future?

Klatskin: To prepare the next generation, they need to work for someone else who doesn't [care] about them. They need to see how the real world works, because not everyone is nice. But there are additional reasons. Real estate is actually made up of five or six fields, including construction, engineering, law, accounting, finance and marketing. We need people of the next generation to come into the business who can add value with expertise in one of these six fields. I think working five to 10 years at other businesses is sufficient. If possible, it is beneficial to have a 10-year overlap of generations to pass on wisdom from the older to the younger generation.

Wyllie: All of the [members of the] first and second generations of the business are gone. We have four members from the third generation, including me, and four members of the fourth generation. We third-generation folks are all in our late 50s and early 60s; the fourth-generation group are in their mid to late 20s and early 30s.

About 15 years ago, we third-generation people came up with a playbook for family members getting into the business. We called it a "family protocol," which is just a rule book. We spelled out that you need to get an education, and then you need to work somewhere else for a period of time, preferably in a business that has something to do with what we are doing here.

The four fourth-generation people have varying backgrounds, but they have all received advanced degrees and have all worked elsewhere. We frown on people coming here out of college. We say a minimum of a year working for someone else [is good], but more is better. We think these kids should get a perspective, get out there in the real world and get beat up a little. There is a fifth generation coming along, but they are all still running around in diapers.

Russell: My father gifted my sister, brother and me a small amount of stock in the company with the caveat that any of us who are not working at the company by age 30 would need to sell their stock back. My brother and sister are younger and, at this point, are not working in the business, so they may end up selling their stock back in the future. Gifting us stock was a good way for him to teach us about the business. The company culture is very entrepreneurial and has a strong emphasis on continual learning and professional development for both family members and other employees.

What is unique about your family-owned business? What makes you most proud of it?

Russell: What is unique and what I am most proud of is that we grew from a small company in 1983 to [one that is now] one of the largest general contractors [in the region]

NAIOP National Forums

NAIOP's National Forums program brings together successful commercial real estate executives from leading companies across the U.S. and Canada in a noncompetitive environment where they share industry knowledge and help each other solve problems. These focused groups serve the needs of senior-level NAIOP members and provide them with an opportunity for exclusive networking and experience exchange with their peers. National Forum members gain and provide practical advice, creative ideas and industry wisdom.

The program began in 1995 with 100 members in four Forums. Since then, it has grown to 669 members in 44 Forums, including Capital Markets V, Developing Leaders X and E-commerce II.

The first Family-owned Business Forum began in 2004. Seven of the 14 individuals in the group's current roster are founding members. Increased interest in this Forum resulted in the formation of a second group in 2017. The Family-owned Business II Forum met for the first time in April at the National Forums Symposium in Indian Wells, California. This Forum is interested in expanding its membership and is accepting applications during the program's current recruitment period, which began in June and runs through September.

To learn more about the Forums program, contact **Bennett Gray**, vice president, National Forums, at gray@naiop.org or 703-647-1436. ■

> "We have learned ... that **by sticking together as a family and not selling either land or company stock, we can create long-term value** that exceeds what any family member could achieve on their own."
>
> *Stuart S. Wyllie*

and have a great reputation in the community. We would not have gotten where we are with just my father. We have a lot of great people in the company who want to continually make it better. While we are one of the largest contractors in the region, we have managed to maintain the small, family-owned feel and culture that go along with that.

Heins: What is unique about our business is that my wife and I were able to come to the United States from Europe, get into the commercial real estate business and build a portfolio that is now self-sustaining. We have about 3 million square feet of office and industrial space in which we own more than 50 percent and, in some cases, 100 percent. We take pride in identifying the land, designing the building, developing it and continuing to manage it.

Alter: We have employees who have been with us for 35 years and an executive team whose tenure is approaching 30 years. That is what I am most proud of; we've created a culture that's as much about high performance and success as it is about family. There are people here who saw me grow up.

Klatskin: What is unique about the business is that I am working for myself and my family, not some pension fund in Boston that couldn't [care] less about my family. Then there are the nonmonetary benefits: If your child has a baseball game at 3 p.m., go to it! Leave work and attend your child's game. That goes for all of our employees, not just family members.

What makes me most proud is successfully transitioning from one generation to another and gaining the respect of the industry and employees along the way. When a new generation enters the business, they must gain the respect of the employees, otherwise you are [in deep trouble] because you are going to be their future leader.

Wyllie: My father-in-law used to say that when the family was in the dairy business, they would work 365 days a year, and the only time they made money was when they sold eggnog at Christmas. So everyone in the family has tried to live well below their means and work hard. It is a cultural thing with us. We have always reinvested in the business as well.

What I am most proud of is the development of Miami Lakes, Florida, a 3,000-acre master-planned community that started out as a dairy and now is home to 35,000 people. We did that without ever missing a payment to anyone or tearing up the family. We have an annual board meeting and annual dinner that is like a big family reunion for us.

Why does the firm elect to remain a family-owned company?

Alter: There is so much blood, sweat and tears that my family put into this business in 62 years, I can't imagine selling it. My father, my brother and I built this business from one small office in a Class B building [and expanded it] to 25 markets all over the country, stretching from Washington, D.C., to California.

Heins: We have a lot of unsolicited offers to buy the business. We have never been tempted to sell. Real estate is now considered the fourth asset class and this is justification for me not to sell. Besides, what would I do with the money? Invest in stocks, bonds or commodities? An existing real estate portfolio provides a reasonable risk/reward investment return and it allows us to shelter income. These are great attributes.

Russell: As the second-generation person in the business, I have asked my father that same question. He is only 56, and a young 56 at that, so selling the business is not something he is even considering at this point. I think there is a general sense that we are just getting started.

Wyllie: We have learned from our two earlier generations that by sticking together as a family and not selling either land or company stock, we can create long-term value that exceeds what any family member could achieve on their own. Even when times get tough, we make money because we have low leverage. Family members feel safe about leaving their equity in the company. It is an efficient way to grow wealth because, in essence, we are not paying taxes on it as it grows.

We bring in a company from New York once a year to do a stock valuation for gifting purposes and in case someone wants or needs to sell. The stock in the company has compounded an average 7 to 8 percent annually for the past 30 to 40 years. If someone wants or needs to sell, however, they have the right to sell to another member of their family group; there are four family groups. If no one in the family group wants to buy the stock, then the company will buy it.

Klatskin: We resist selling. If we were to sell the company, where would we invest the money? There is no reason to sell the business at this point. We will leave the keys to the business to the next generation to decide what they want to do with it. If they [mess] it up, so be it." ■

Ron Derven is a contributing editor to Development magazine.

3164

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The Challenges Of Bringing a **Museum to Market**

The Museum of the American Revolution, which opened in Philadelphia on April 19, 2017, is just one of the new museums developed throughout the U.S. every year.
Museum of the American Revolution

Museum development requires collaboration among designers, contractors and museum operators.

By Robbie Tarpley Raffish

NO ONE REALLY knows how many museums open — or close — in America each year. No single registry or governing body keeps track of them. But museums are big business. According to the Institute of Museum and Library Services (IMLS), the U.S. was home to about 35,000 active museums, libraries and private collections in 2014. And, according to the American Alliance of Museums (AAM), 850 million people visited U.S. museums last year, contributing $21 billion to the U.S. economy.

Few are the size and scope of the Museum of Modern Art or any of the Smithsonian Institution museums. IMLS data shows that most are small, with less than $10,000 of annual income. There are museums for everything imaginable, from the Hammer Museum in Haines, Alaska, which celebrates the construction implement, to the Wyoming Frontier Prison, Wyoming's first state penitentiary, in Rawlins.

Americans, particularly those who conceptualize, design and build museums, have turned these institutions into an art form all their own.

A Long and Winding Road

Developing museums is often a long, collaborative process, with many agendas and politics to maneuver around. Many take decades to come to fruition.

The 118,000-square-foot Museum of the American Revolution (MoAR) in Philadelphia was more than 100 years in the making. The Valley Forge Historical Society had been collecting Revolutionary War artifacts since the early 1900s. It was initially anticipated to be in Valley Forge, but a land swap with the U.S. National Park Service in the early 2000s allowed the $120 million privately funded museum to be located at Independence National Historical Park in Center City Philadelphia.

Robert A.M. Stern Architects (RAMSA) has been involved with the building since 2002. **Alexander Lamis**, FAIA, who headed the project for RAMSA, reflects that **"George Washington** mustered his troops down Chestnut Street, right past the museum site. Franklin Court is a block away. We have one foot in the park and one in the city. It's a vibrant neighborhood and the location could not be better."

With an exterior Lamis describes as "restrained Classicism," the MoAR features three floors. From the moment one enters the rotunda through the domed bronze-cladded entrance, there's a sense that the building's been in place for decades — an amazing feat as it only opened in April 2017.

The cross-vaulted ceiling in the lobby features an illuminated laylight — a glazed panel set flush with the ceiling — representing the six-pointed star from Washington's standard flag, which is in the mu-

seum's collection. The galleries are organized around a sky-lit central interior court with terrazzo floors and a grand elliptical staircase.

Lamis explains that the cornice lines of the building are designed to align with those of neighboring buildings, so that it feels "as if it has been there forever." Someone glancing at the building might not even realize that the second floor, which houses most of the galleries and Washington's campaign tent, the museum's crown jewel, has no windows.

"Museums are a challenge in cities," he adds. "You have to control the light to protect the artifacts, and yet you want it to feel welcoming and expansive."

The museum includes permanent and temporary exhibit spaces, a public plaza, a 190-seat theater, retail space, a cafe and event space with terraces off the third floor. The lower level includes classrooms and storage space. It is also the temporary home for the tens of thousands of artifacts found during the excavation of the site.

Museum of the American Revolution Finds Artifacts Underfoot

Dig anywhere in Philadelphia and you're likely to come across an artifact or two: arrowheads, pottery shards, metal tools. But when archeologists working on the site of the Museum of the American Revolution began sifting through the site at Third and Chestnut streets, they uncovered an amazing 85,000 artifact pieces that together created a record of occupation of the site from the earliest settlements through the mid-20th century.

The initial dig took three months. Development paused twice more as additional artifacts were found. One of the most extraordinary finds was a rare punch bowl with an image of the sailing ship Tryphena, which sailed between Liverpool and Philadelphia and, in 1765, carried a petition from the merchants of Philadelphia asking their counterparts in Great Britain to reconsider the Stamp Act, one of the major grievances that started

Archeologists sifting through the site of the Museum of the American Revolution uncovered hundreds of artifacts, one of which is now on display at the museum.
Museum of the American Revolution

Speed to Market

Some museums do get off the ground quickly. The privately funded, $505 million Museum of the Bible (MOB), which is scheduled to open in November 2017, has gone from concept to execution in just six years. Museum director **Cary L. Summers** attributes that to two things.

"Most of our team members came from the theme [park] industry, where speed and flexibility are the norm," he says. "And we had some great advice from **Francis Rooney** of Manhattan Construction (and a member of the U.S. House of Representatives), who told us, 'get everyone in one room on Day One so that everyone hears the same thing.' We've made that a priority."

Brian Flegel, senior vice president of general contractor Clark Construction, says that even with everyone on the same page conceptually, with six different exhibit designers, communication could be challenging. Each design firm has a different platform or storytelling methodology, which meant that each part of the building required a different approach. Whereas one floor may have ancient artifacts and scrolls,

the rift between the colonists and the mother country. Another group of artifacts came from what appears to be a mid-18th century tavern on Chestnut Street and included many red earthenware vessels made by local potters.

But the most significant find was almost missed. A shattered —and painstakingly reassembled — small, inconspicuous white bowl made of hard-paste porcelain, it is considered the "holy grail" of American ceramics. The unassuming vessel shows how at least one Philadelphia craftsman replicated a Chinese pottery process that dates to the seventh century. The Tryphena bowl is now on display at the museum; other artifacts uncovered at the site will be featured in the future.

"It seems only fitting that such a complete story of the evolution of the city should be found on the site of a future museum," says **Michael C. Quinn,** the museum's president and CEO. "These artifacts provide a tangible tie to Philadelphia's past and help us tell the stories of the people who lived here before, during and after the Revolutionary War." ■

Project Summary

Location	Philadelphia
Type of Site	Urban
Development Type	New construction on historic brownfield
Site Dimensions	
Parcel Size	1.16 acres
Building Size	118,000 sq. ft.
Number of Stories	3
Development Team	
Developer/Owner	The Museum of the American Revolution; a subsidiary of the National Center for the America Revolution, a 501(c)(3) organization
Architect	Robert A.M. Stern Architects
Landscape Architect	OLIN
Exhibits	Healy Kohler Design
Engineers	Keast & Hood Co. (structural) Pennoni & Associates (civil) Altieri Sebor Wieber (mechanical, electrical and plumbing)
General Contractor	Intech Construction
Total Development Costs	$120 million
Major Funding	Museum Chairman H.F. "Gerry" Lenfest The Commonwealth of Pennsylvania's Redevelopment Assistance Capital Program The Oneida Indian Nation
Timeline	
Museum Planning Began	2002 (Valley Forge location)
Land Swap With National Park Service	2009
Design Began	2011
Construction Began	2014
Building Delivered	2017
Museum Opened	April 19, 2017

another may be based entirely in techno-media storytelling.

But, the philosophy of getting everyone in the same room — or conference call or email chain — paid off. "Through a closely woven partnership of client, designers, contractor and subcontractors, we will deliver this museum in half the time of any museum in its class.

This highly collaborative environment has allowed creativity and ingenuity to thrive, despite the accelerated pace, without sacrifice to quality in building a world-class guest experience," adds Flegel.

The eight-story building is a complex structure that included the renovation of the historic Terminal Refrigerating and Warehousing Co.

"Most of our team members came from the theme [park] industry, where **speed and flexibility are the norm.**"

Cary L. Summers

building (which formerly housed the Washington Design Center), the addition of a floor to an existing office building next door and the creation of a modern atrium (along with a long span structure to accommodate multiple theaters) to serve as a connecting "hyphen" between them. Two floors were added to the historic building to house a 470-seat performing arts center and a 500-seat "gathering room" for events.

"From the beginning, we all believed the Museum of the Bible had to stand up to the architecture of the Smithsonian and the National Gallery of Art," says **David B. Greenbaum**, FAIA, LEED AP, vice president of SmithGroupJJR, the project's architect. "This is a building that has to be taken seriously in terms of architecture, yet be relatable to almost anyone who would visit."

Fitting In

To Greenbaum's point, another challenge facing today's museums involves their relationship with the surrounding neighborhood. At Scottsdale's Museum of the West, which opened in 2015, architect **Christiana Moss** of Studio Ma relates that the museum's design is intended to celebrate the "epic beauty and bigness" of the Arizona desert, to "showcase the context and be of it."

That approach echoes through nearly every aspect of the LEED Gold-certified facility. The museum's warm earth tones and light-filled lobby beckon visitors. A central courtyard serves as a connector to light and nature, making the building feel as if it is part of the landscape. A rain screen of rusted metal panels evokes the fencing used by early settlers, while a bison "grazes" on dry, cracked "earth" in the lobby. A theater/auditorium with an undulating ceiling is the centerpiece and anchor of the museum.

A sculpture garden features contemporary architectural design and desert plantings. Moss and her partner, **Christopher Alt**, designed a "weeping wall" that collects rainwater from the roof and HVAC condensation. The water travels across the museum campus through an irrigation system to provide water to the landscaping. It also serves another,

continued on page 98

The Museum of the Bible: Not Moses' Tablet

It may seem counterintuitive, but one of the most highly anticipated elements of the new Museum of the Bible, opening in November 2017, is technical rather than historical.

"The team involved in this project are longtime museumgoers, and we all knew, by default, what the customer wanted — and it wasn't old, stodgy or boring," says **Cary L. Summers,** president and CEO of the museum. "We are bringing the 'ancient of ancients' alive by using the latest technology."

It's a $42 million investment that will include up to eight technology patents at opening. At the core of this technology is a dedicated interior GPS system. Each visitor will receive a data tablet at the museum entrance. The GPS system will be able to locate visitors within four inches of the nearest exhibits; "digital docents" will then share information about the exhibits as it pilots visitors along a path through the museum.

Two floors were added to the historic Terminal Refrigerating and Warehousing Co. building to house a 470-seat performing arts center and a 500-seat "gathering room" for events at the Museum of the Bible.

With six floors above ground and two below, not every visitor will have time to see every exhibit. The project's fact sheet says it would take nine eight-hour days to read every placard, see every artifact and experience every activity in the museum.

"Some people will only have a couple of hours to spend with us," says Summers. The technology will enable museum guests to get the most out of their visits, however long or short. When their visits end, the system will provide guests with opportunities to extend their learning through online courses, speakers and, eventually, trips.

The technology investment will not only pay off for the visitor; it may create another revenue stream for the museum. Summers and his team are committed to sharing the technology for a fee, as he says, to let "all boats rise," to increase interaction at all types of museums. ■

Project Summary

Location	Washington, D.C.
Type of Site	Urban
Development Type	Adaptive reuse (terminal building), new development (center building) and rooftop expansion (floor added atop neighboring office building)
Site Dimensions	
Building Size	430,000 sq. ft.
Number of Stories	8: 6 above; 2 below ground
Development Team	
Developer/Owner	Museum of the Bible, a 501(c)(3) organization
Architect and Engineer	SmithGroupJJR
Landscape Architect	Michael Vergason Landscape Architects
Structural Engineer	TCE & Associates Inc.
General Contractor	Clark Construction
Museum President	Cary L. Summers
Development Costs	
Cost of Land	$50 million
Total Development Costs (Excluding Land)	$505 million
Core Funding	National Christian Foundation
Timeline	
Planning Began	Late 2011
Site Purchased	2012
Construction Began	September 2014
Building Delivered	September 2017
Museum Opening (Expected)	November 2017

Museum visitors will receive tablets that will act as "digital docents," sharing information as they guide them through exhibits.

continued from page 96

equally important use: telling the story of water in the desert.

The $11.5 million project was a public-private partnership with a very tight budget. The city funded the building while a nonprofit organization covered the interior costs. To save time and money, the museum was built like a warehouse, with tilt-up concrete panels and steel joists. The architects used a variety of tactics to weather the exterior, and incorporated into the interior natural elements such as scented cedar planks and textured materials to awaken the senses.

The museum's director, **Mike Fox**, says "It's the Old West meeting the New West. We are a hybrid, not singularly an art museum, or a cultural center or a history museum, but a combination of all three. The choice of materials and their utilization in the design clearly annunciates that connection of old and new."

Standing Out

Just as clearly, the Neon Museum in Las Vegas, which opened in 2012, stands out from its desert setting. **Rob McCoy**, the museum's CEO, calls it "the sexiest museum in the world." With more than 200 classic signs and a total of 600 pieces, there is nothing circumspect about the mostly outdoor museum.

Planning for the museum began in the late 1980s, when the city began to reinvent itself and started demolishing buildings. The Allied Arts Council worked to save many of these structures' signs for a future museum. At the same time, YESCO (the Young Electric Sign Co.), which had built many of the signs, was constructing its own "boneyard," which makes up about 30 percent of the Neon Museum's collection today.

In the 1990s, the city of Las Vegas became interested in creating the museum to showcase the city's neon history. It provided land for the project, which it leases to what is now the Neon Museum for $1 a year. But it took several more years, until the family that owned the soon-to-be-demolished La Concha Motel donated its historic lobby building to the project, for

Scottsdale's Museum of the West: Built on a Challenging Foundation

Mike Fox, director of Scottsdale's Museum of the West, often says that the institution "is not a museum of objects, but a museum of ideas." That was never truer than when, in the midst of construction, the development team needed a really good idea, fast.

Located on a brownfield that had initially been allocated by the city

Scottsdale's Museum of the West was designed to blend into its desert environment. Its sculpture garden features western sculpture, desert plantings and a bench carved from ponderosa pine.
Photos by Bill Timmerman, courtesy Studio Ma

for a transit hub, half of the institution was being built on top of an existing parking structure. The other half was to be set on a new foundation located on an abandoned street. When it came time to lay the new foundation, the construction team uncovered fiber optic cable that served 2 million people in south Scottsdale.

"Two foundation systems are challenging," says Christopher Alt of Studio Ma, architect for the project. "But this was not even in the realm of what we expected to find."

The museum was on an extremely tight budget and needed an out-of-the-box resolution. CenturyLink (which owns the cable), the city of Scottsdale and the development team came together to brainstorm. The utility agreed to an unusual solution: it would allow the lines to remain under the building if secondary pathways, additional manholes and vaults were added outside the footprint of the museum so that cable could be serviced or rerouted, if needed.

"This was western spirit at its best," says Moss, another Studio Ma architect, "true bootstrapping to keep the budget under control and bring the project in on time." ■

Project Summary	
Location	Scottsdale, Arizona
Type of Site	Urban (former transit center)
Development Type	New construction
Site Dimensions	
Parcel size	2.62 acres
Building Size	35,310 sq. ft.
Number of stories	2
Parking	134 spaces, below ground
Development Team	
Developer/Owner	City of Scottsdale and the Museum of the Southwest's nonprofit board
Architect	Studio Ma
Landscape Architect	Colwell Shelor Landscape Architecture
Structural Engineer	Rudow + Berry
Mechanical, Plumbing and Lighting	Syska Hennessy Group Inc.
Electrical Engineer	Woodward Engineering
General Contractor	Joint venture, Core Construction and LGE Design Build
Museum Director	Mike Fox
Development Costs	
Cost of Land	$0 (donated by city)
Total Development Costs	$11.5 million
Timeline	
Site Obtained	2012
Construction Began	2014
Building Delivered	2015
Museum Opened	2015

the museum project to fully come together. Designed by the famed architect **Paul Revere Williams** in the Googie style, the motel lobby was dismantled into several pieces, trucked across town and attached to a new building constructed for the museum. It now serves as the Neon Museum's visitor center.

"This was a tremendous challenge, but it's had a terrific impact on Las Vegas," says McCoy. "We had more than 100,000 visitors last year and the trend line for this year is rising. Next, we will expand our outside gallery for another 35 signs and then build an indoor gallery for the dozens of pieces we have in storage,

"Bringing a museum to market is a rigorous affair."

Robbie Tarpley Raffish

as well as a fabrication area so people can see how neon is made. Las Vegas has not done a very good job preserving our history, so we will do this right."

Control Is Key

Bringing a museum to market is a rigorous affair. Timing, budgets and passion all must align. Designers, developers and contractors must work closely with museum staff as well as any other partners in the project, to ensure that it is completed on time and within budget — and that it meets the needs of museum staff and visitors.

Fox, director of Scottsdale's Museum of the West, underscores the need to "know your budget and have the conviction that you can meet your project's goals with it." He adds, "throughout the process, have your contractor continuously bid on the various dimensions of the design, so you know at all times where the design lines up with the project and [are assured there will be] no surprises at the end."

Control during the development process is also critical.

"Have one project manager," recommends the Neon Museum's McCoy. "[There can be] too many cooks, especially when you're dealing with melding a new building and an old one; with designers, contractors, a preservation office and a board. The museum needs to call the shots. We own the final product. We have to live with it." ■

Robbie Tarpley Raffish is a freelance writer based in Maryland.

The Neon Museum Makes Signs Sing Again

In the late 1980s, as Las Vegas began imploding its older hotels, sign designers around the city shuddered. Pieces of neon art that had defined Las Vegas for decades were abandoned, and some landmark signs, such as the one from the Sands Hotel, were demolished — lost to future generations. The Neon Museum, established in 1996 as a

Originally constructed in 1961 on Las Vegas Boulevard South, the La Concha Motel lobby was a distinctive shell-shaped building, a striking example of Mid-century modern design characterized by atomic and space age shapes and motifs. It has been transformed into the Neon Museum's visitor center, and a section of the hotel's main roadside sign has been restored and illuminated as part of the museum's rehabilitation efforts.
The Neon Museum

public-private partnership with the city of Las Vegas, is dedicated to preserving their history.

But moving these electric works of art was not as easy as it sounds. Take the iconic "Stardust" sign. In its time, it was one of the largest neon signs in the world. Standing at 188 feet tall, it lit up the Las Vegas skyline. When the Boyd family, owners of the Stardust hotel, donated the sign to the museum, it had to be cut up into several pieces and transported by flatbed trucks across the city in the very early morning hours. The move cost $250,000, which was covered by special grant funding.

During the last three decades, more than 200 signs and a total of more than 600 artifacts have been saved. In 2009, the stretch of Las Vegas Boulevard between Sahara and Washington avenues was designated a National Scenic Byway by the U.S. Department of Transportation, Federal Highway Administration, and the Neon Museum installed the Hacienda Horse and Rider sign at Fremont Street, followed by signs for Binion's Horseshoe, the Bow & Arrow Motel, the Silver Slipper, Society Cleaners, Lucky Cuss Motel, and the Normandie Motel.

"These signs will never again be created in the world," said museum CEO Rob McCoy. "We have to do everything we can to preserve them for generations to come." ■

Visitors to the Neon Museum can take a guided tour through the Boneyard, which features more than 200 signs, seven of which have been restored to working condition.
The Neon Museum

Project Summary

Location	Las Vegas, Nevada
Type of Site	Urban
Development Type	Redevelopment (Boneyard) and adaptive reuse (Visitors Center)
Site Dimensions	
Parcel size	2+ acres
Building Size	About 1,100 sq. ft.
Number of Stories	1
Parking Spaces	28 spaces
Development Team	
Developer	City of Las Vegas (until 2002)
Owner	The Neon Museum, a 501(c)3 nonprofit organization
Architects	Westar (retrofit of La Concha Motel) Robert Chattel (addition) Sam Tolman (La Concha reassembly)
Engineer	Mel Green
General Contractor	Savi
Major Funding Sources	Local fundraising campaign Grants from Southern Nevada Public Land Management Act (SNPLMA), Las Vegas Centennial Commission, Scenic Byways, Nevada Commission on Cultural Affairs (CCA)
Timeline	
Planning Began	Late 1980s
Nonprofit Organization Separated From City	2002
La Concha Building Moved	2006
Construction Completed	2008
La Concha Visitor Center Opened	October 2012

2017 Guide to Architects, Contractors and Engineers

Looking for an architect, engineer or contractor for your next project? This guide lists dozens of firms throughout North America to help complete the work and achieve your vision.

Architects 102
Consultants 104
Contractors/Construction 104
Design Build 104
Engineers 104
Environmental 106
Interior Design 106
Land Planners 107
Landscape Architects 107
Tenant Services 107

Architects

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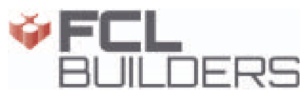

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A Regulatory Framework for a New Administration

Uncertainty about how the Trump administration will fulfill its promises to vastly decrease the number of federal regulations is creating uncertainty for the CRE industry.

By Alex Ford

While the traditional legislative process can be slow and laborious, requiring a president to work with an oftentimes difficult Congress, an administration can also make major policy changes through the president's unilateral authority to issue executive orders and control regulations issued by federal agencies. Like many presidents before him, **Barack Obama** used his executive authority to advance key priorities of his agenda, including immigration and climate change. What will the Trump presidency mean for the existing regulatory framework, and what role will it play as the new administration seeks to advance a policy agenda?

To help answer this question it's worth looking at both the promises of then-candidate and the actions of now-President **Donald Trump**.

On the campaign trail, Trump pledged to do away with the vast majority of existing regulations, stating, "70 percent of regulations can go, it's just stopping businesses from growing." The president's chief strategist, **Steve Bannon**, has also made clear that a top priority over the next four years will be "the deconstruction of the administrative state."

> **"While the administration's broad goals for regulatory reform are clear, the means by which it plans to achieve them are somewhat murky."**
>
> *Alex Ford*

Since taking the oath of office, Trump has moved quickly to fulfill these promises. On Day One of his presidency, Trump ordered agencies to halt any ongoing rulemaking and imposed a moratorium on future regulations.

Two weeks later, he issued an executive order (the so-called "one-in-two-out" rule) mandating that any new regulation be accompanied by the repeal of two existing regulations. The order also places additional emphasis on costs, and limits the amount of new regulatory costs agencies can impose on individuals and businesses each year. He's even elevated the role of his "regulatory czar" — the informal title given to the Office of Information and Regulatory Affairs' administrator, who is tasked with overseeing any rules promulgated by government agencies — to a level far greater than that of past presidencies.

While the administration's broad goals for regulatory reform are clear, the details through which it plans to achieve them are somewhat murky. In other words, the devil, as is so often the case, is in the details.

This point is exemplified by the seemingly straightforward one-in-two-out rule, which has engendered a great deal of uncertainty. The order doesn't actually spell out what constitutes a "regulation," or whether independent agencies like the Environmental Protection Agency would be covered. It also fails to clearly define the term "costs," granting agency heads vast leeway in determining the financial burden of new regulations on taxpayers. Its vague exemption for national security regulations is already being described as a potential loophole. In addition, the scope of the order is limited by the fact that it does not supersede laws that require agencies to issue new rules. (The Dodd-Frank Act, for example, requires that certain figures and thresholds be adjusted for inflation every five years, which is done by issuing new regulations.)

What impact will all of this have on NAIOP members? While at first glance many of these critiques might seem like nitpicking, they introduce a new layer of uncertainty regarding existing and future regulations on key issues.

Take the Waters of the U.S. (WOTUS) rule, a controversial regulation that would have expanded the federal government's jurisdiction over certain types of waters. In November 2014, NAIOP submitted comments expressing concerns with the proposed rule, which had been held up in the courts. In early March 2017, President Trump took a step in rolling back WOTUS when he ordered EPA Administrator **Scott Pruitt** to formally review the rule.

Will the EPA seek to modify the rule and narrow its scope, or repeal it altogether? Under the one-in-two-out regime, would either of these two outcomes also require the repeal of additional, existing regulations? If a new WOTUS rule is introduced, how exactly will its cost be calculated? This dynamic, which creates a certain

> **"For developers looking to invest and expand, the shifting regulatory landscape does little to instill confidence."**
>
> *Alex Ford*

degree of unpredictability, extends beyond environmental regulations and touches a number of issue areas relevant to NAIOP members, from banking and finance to infrastructure. For developers looking to invest and expand, the shifting regulatory landscape does little to instill confidence.

Regulations play a critical role in shaping the health, welfare and economies of our society, but at times can also be overly burdensome. For proof, look no further than a 2010 Small Business Administration study on the impact of regulatory costs on small firms, which found that government regulations cost companies an added $10,585 per employee annually.

Going forward, it is clear that a key priority of this administration will be to pull back on the reins of the regulatory state and to take a more hands-off approach to the American economy. How the president actually goes about achieving that goal remains to be seen. This will remain an important concern for commercial real estate businesses for the next four years and beyond. ■

By **Alex Ford**, director of federal affairs, NAIOP

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

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Nominations are now being accepted for NAIOP's distinguished Developing Leaders Award

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People + Companies INDEX

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abSketches 1
Alter, Harvey 86
Bank of America 33
Bell, J. Dwight 20
Brown, Garrick 14
CenterPoint Properties 7
City of West Melbourne 40
CTL Thompson 27
CBRE 5
City of Hesperia 19
Cushman & Wakefield .....cover 4
Ductilcrete Technologies . 29, 31
Eppli, Mark J. 34
Eshelman, Renee 26
Estabrook, Anne Evans 64, 67
First Industrial Realty Trust 16
Grunley Construction Co. 42
Heins, Ralph........................ 86
Hines 43
Impark 49
Kane, Jean 68
Klatskin, Alex 86
KSS Architects 21
Majestic Realty Co. 85
Marcus & Millichap 25
Martin, Greg 30
Millie & Severson 39
Newmark Grubb Knight Frank 77
Northmarq 9
Oregon Department of Administrative Services 24
Prologis 69
PGIM Real Estate Finance 3
Rayevich, Ronald 64, 67
REDA 109
Rockefeller Group 17
RP PV II LLC ....cover 2
Russell Construction Co. 40
Russell, Caitlin 86
Seiden, Sam 89
Shea Properties 47
SIOR 91
SKYCO Skylights 41
Swain, Douglas 48
Tampa International Airport ... 51
Ten-X 12
Tetz, Kelvin.......................... 30
Town of Apple Valley 23
Transwestern 37
Tratt, Jonathan.................... 112
USAA ....cover 3
Wyllie, Stuart 86

* *This is a listing of NAIOP members who are mentioned in this issue, as well as paid advertisers, which appear in bold.*

2017 Industry Partners

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Is the Glass Half Empty or Half Full?

AS I WRITE THIS, much is happening politically that impacts each of our businesses. The ongoing strife in Washington, D.C., certainly gives us little confidence for the immediate future, with the ongoing battle over the health care overhaul and dissention between the nation's political parties over everything from tax reform to enacting the "nuclear option" to confirm the newest associate justice of the Supreme Court.

Jonathan Tratt

In April, I attended my second meeting of the Real Estate Roundtable (RER). NAIOP plays a fundamental role in working with RER on industry-related coalitions and issues, ensuring that our industry presents a cohesive voice to the government about real estate's important role in the domestic and global economies.

The topics we discussed at the meeting were diverse and included discussions with U.S. Secretary of Transportation **Elaine Chao** and Secretary of Commerce **Wilbur Ross Jr.**, both of whom are supportive of issues important to real estate. Chao is a steady hand with deep political knowledge, and she is acutely aware of the need for infrastructure improvements. She believes that both parties want a deal, but Republicans want it to be tax neutral and Democrats want government to pay for it. They are only $700 to $800 billion apart! While I'm hopeful that the new administration will enact an infrastructure program, I don't expect it to happen until 2018.

To me, what is important is that both parties demonstrate leadership. President Trump was elected to be a change agent in D.C., and I believe the vast majority of our elected leaders are passionate about their service and want to do the best they can for their constituents. Now it's up to each of them to work together for the good of the nation.

As NAIOP celebrates its 50th anniversary, I'm pleased to report that the association continues to move in a positive direction and is fully engaged with both the political issues facing our industry as well as the industry-related topics that either keep us up at night or are propelling our businesses forward during this period of growth.

I've enjoyed traveling to our chapters and, in particular, visiting some of the smaller chapters and markets to learn what makes them tick. I've appreciated the experience of visiting diverse commercial real estate markets, from Dayton, Ohio, to Reno, Nevada, to Seattle, Washington. While these markets could not be more different, industry leaders and their involvement in NAIOP are the threads that connect them. I look forward to visiting more chapters as the year continues.

I've always believed that for every challenge, there is a solution — and an opportunity. The old adage that life is "10 percent what happens to you and 90 percent how you deal with it" is true.

We all have work to do. To help advance our industry and our nations, I urge you to get involved. Call your member of Congress, your member of parliament and/or your senator. Ensure that they know how what they're doing — or, in some cases, not doing! — affects you.

To make the most of this period of industry prosperity, I also encourage you to deepen your involvement with NAIOP by attending our upcoming industrial conference (I.CON: Trends and Forecasts, June 8-9 in Long Beach, California) and the fall CRE. Converge event (October 10-12 in Chicago). I look forward to seeing you there, as we celebrate NAIOP's 50th anniversary and acknowledge our accomplishments and the leaders who have guided the association throughout its existence. ■

By **Jonathan Tratt,** principal, Tratt Properties, LLC, and 2017 NAIOP Chairman

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