Commercial Real Estate Development

SUMMER 2020

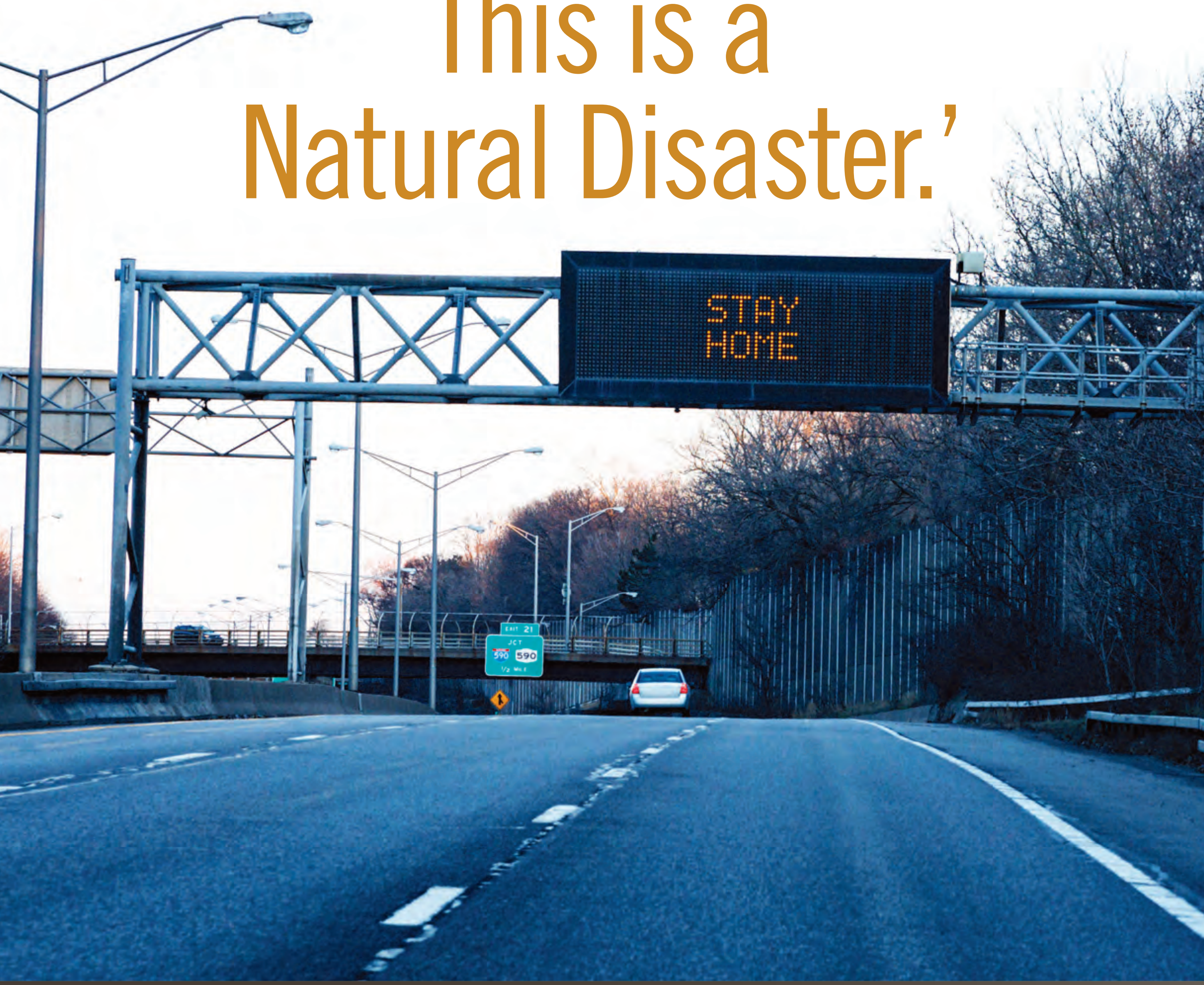
Development®

IDEAS | ISSUES | TRENDS

SPECIAL ISSUE: COVID-19

The Way Forward

‘This is **Not a Financial Crisis.** This is a Natural Disaster.’



Governments at all levels took unprecedented actions to slow the spread of the coronavirus in the U.S. These included stay-at-home orders that effectively shut down much of the economy.

Getty Images

The coronavirus hit the economy and commercial real estate like a hurricane.

By Shawn Moura, Ph.D. and Trey Barrineau

The coronavirus pandemic that first erupted in China late in 2019 has now spread around the world, causing thousands of deaths and straining the capacity of health care systems in many countries.

Currently, there are only experimental treatments for COVID-19, the respiratory disease caused by the novel coronavirus, and a vaccine likely won't be available until at least 2021. While the disease's progression appears to be slowing thanks to extraordinary public health measures taken by governments and individuals, many

Getty Images

Beginning in March, governments across North America ordered non-essential businesses to close to help reduce the spread of the coronavirus.

infectious-disease experts fear that a second wave will strike in the fall.

But illness and loss of life aren't the only disastrous effects of the coronavirus. In the U.S. and around the world, the pandemic's economic aftershocks brought an end to a long bull market and abruptly plunged the U.S. economy into a deep downturn as entire states mandated business closures and "social distancing" to control the spread of COVID-19. Those shutdowns and unprecedented job losses, in turn, threaten the commercial real estate industry, which depends on thriving businesses that can pay rent for the space they occupy.

"This is unlike anything we've ever experienced," said **Hessam Nadji**, CEO of Marcus & Millichap, during an interview with Bloomberg P&L. "Most of our clients and everyone participating in our industry is first and foremost concerned about the health of their employees and their families. But it's very difficult to separate the emotional component of that with the business component of that, which is unusual."

Timothy H. Savage of NYU's Schack Institute of Real Estate, who is the author of NAIOP's office and industrial demand forecasts, compared the pandemic's effects to a catastrophe such as a hurricane — but one that hits everywhere at once.

"We have to recognize that this is not a financial crisis," Savage said during a recent NAIOP webinar. "This is a natural disaster. It's a natural disaster in which it is not the physical capital that is being affected — it is the human capital. It is each one of us essentially isolating ourselves, and that directly impacts the economy."

Before COVID-19 Hit

John Chang, national director of research services with brokerage and investment services firm Marcus & Millichap, said the U.S. economy was strong before the coronavirus

"This is unlike anything we've ever experienced. Most of our clients and everyone participating in our industry is first and foremost concerned about the health of their employees and their families. But it's very difficult to separate the emotional component of that with the business component of that, which is unusual."

— Hessam Nadji, CEO, Marcus & Millichap

A Negative Outlook from Business Leaders

A YPO Chief Executive COVID-19 Global Survey of 3,534 CEOs in 109 countries that was conducted in April shows the impact of the coronavirus pandemic on business leaders' outlooks for the coming year:

- The majority of chief executives (61%) expect a U-shaped recovery curve — a sharp recession with a longer rebound period. About 22% anticipate a W-shaped curve — a double-dip recession and recovery.
- Chief executives in hospitality/restaurant (41%), aerospace/aviation (30%), education (19%), and retail and wholesale sales (19%) are the most likely to say their businesses are at risk of failing.
- Almost two-thirds of business leaders (64%) anticipate negative effects on revenues for at least a year. About 43% of chief executives expect revenue to fall more than 20%. ■

crisis began accelerating here in early March.

"Job creation, corporate profits, the unemployment rate, consumption levels, interest rates and inflation were all in a very good position," he said during a recent NAIOP webinar. "We had 113 months of continuous job gains through February."

Anirban Basu, chairman and CEO of Baltimore-based economic consultants the Sage Policy Group, noted during a recent webinar for NAIOP Maryland that the U.S. added 22 million jobs during the long recovery from the Great Recession. Thanks to the exceptional job-creation performance of large metropolitan areas in the U.S., unemployment had held below 4%, a 50-year low.

According to NAIOP's "Economic Impacts of Commercial Real Estate, 2020 Edition," published in February, the U.S. economy grew 2.3% in 2019 and rose 2.9% in 2018. The report noted that the positive momentum was the result of "the combination of continuing stimulus from the Tax Cuts and Jobs Act of 2017, increased federal government spending, rising consumer spending, and strong job and personal earnings growth."

An Economic Gut Punch

And then the pandemic hit in March. As deaths and hospitalizations skyrocketed, state and local governments ordered social-distancing measures and business closures. Millions of white-collar employees began working from home. Universities banned students from campuses and instituted distance learning, and primary and secondary public and private schools followed suit. Collegiate and professional sports teams canceled their seasons. Travel and business activity ground to a halt. Fueled by the massive economic uncertainty surrounding the pandemic, the Dow

Getty Images

The revival of shuttered retail districts will play a crucial role in the overall economic recovery from the coronavirus pandemic.

Jones Industrial Average, which almost reached 30,000 in February, plunged to 18,591 on March 23 after days of record losses.

"This is a planned, organized, partial shutdown of the U.S. economy in the second quarter," **James Bullard**, president of the St. Louis Fed, told Bloomberg News. "It is a huge shock, and we are trying to cope with it and keep it under control."

Some data points illustrate the impact of the unprecedented shutdown.

Box Office Mojo, which analyzes movie ticket sales in the U.S., reported that box office totals fell from $120 million for the week of March 6-12 to just $5,179 for the week of March 20-26. And an analysis of transaction data by Womply, a provider of software and business services, shows that during the week of March 25, hotel revenue fell 78% from the previous year, restaurant revenue declined 59%, and revenue for bars and lounges dropped 52%.

"The economic carnage is severe," **Stuart Gabriel,** director of the Richard S. Ziman Center for Real Estate at UCLA, said during a recent webinar. "It is unlike anything that we have ever seen or known, and it is outside of any statistical range."

Those losses, as well as others across many service industries, sent jobless claims skyrocketing to more than 30 million in April, the largest figures since the U.S. Department of Labor began reporting claims in 1967. Unemployment spiked to 14.7% in the U.S.

In late April, the Commerce Department reported that the U.S. gross domestic product (GDP) fell 4.8% in the first quarter, the sharpest decline since the global financial crisis in 2008. Many economic experts predict a much steeper GDP decline in the second quarter. For example, **Spencer Levy**, chairman of Americas research and senior

"We have to recognize that this is not a financial crisis. This is a natural disaster. It's a natural disaster in which it is not the physical capital that is being affected — it is the human capital. It is each one of us essentially isolating ourselves, and that directly impacts the economy."

— Timothy H. Savage, NYU's Schack Institute of Real Estate

economic advisor for CBRE, told attendees at a NAIOP webinar that he sees second-quarter GDP shrinking by 20%; it could end up down 3% for the year. Goldman Sachs sees a 24% GDP decline for the second quarter, and Morgan Stanley predicts it will fall 30%. The Congressional Budget Office is forecasting a drop of 39.6% in the second quarter and a decline of 5.6% for the year.

The massive slowdown in business activity is also affecting tax revenues at the state level. Urban Institute Senior Researcher **Lucy Dadayan** told Axios in May that collections would be down between 20% and 50%, depending on the state. California is facing a $54.3 billion budget shortfall through 2021. New York state is projecting a shortage of $13.3 billion.

Government Gets Moving

In response to the crisis, the federal government took aggressive action in March to help shorten a recession and mitigate its effects on workers, consumers and the commercial real estate industry. (**See related story, page 76**)

The Federal Reserve cut interest rates to zero, made large bond purchases to shore up credit markets and took additional measures to backstop commercial lending. The Federal Reserve began using the Term-Asset Backed Loan Facility to purchase agency-backed CMBS (mostly comprised of multifamily mortgages) in March and subsequently expanded these purchases to non-agency CMBS in April. In late March, several mortgage REITs reported that banks were submitting margin calls on non-agency CMBS-backed repurchase agreements, impairing the REITs' liquidity and leading them to freeze issuance of new debt. The Federal Reserve's actions may help to restore liquidity in the CMBS market.

"They're going to do whatever it takes to maintain the liquidity of both the financial markets and backstopping businesses with lines of credit," Chang said. "That includes large businesses, small businesses, municipal bonds and credit facilities for sectors of the economy that are most at risk."

Chang said these unprecedented actions by the Fed demonstrate the lessons learned from the global financial crisis of 2008.

"At that time, they were very tactical in their approach," he said. "They tried to surgically backstop certain pieces of the economy. This time around, they're unleashing everything in the very beginning, and they're continuing to make all the resources available that the economy will need to sustain itself through this shock."

Legislation to expand sick leave and a $2.3 trillion stimulus bill that includes loans to adversely affected industries and small businesses, support for health care systems and local governments, supplements to unemployment benefits and direct payments to individuals could keep vital services operating and help workers and businesses weather the recession.

Levy said that U.S. authorities are pumping the equivalent of four times the expected second-quarter decline into the system. For perspective, the stimulus bill passed in response to the 2008 global financial crisis was about $800 billion.

"They're not just trying to assist individuals and households," Chang said. "They're also trying to protect the businesses as well. When we get through this, it's going to be very important that we have those businesses in place with staff in order to support a recovery and growth cycle. The government is

"Ultimately, who are we counting on? Regeneron. Gilead Sciences. Merck. Pfizer. Bayer AG. That's who's going to solve this economic problem. **It's not going to be solved in a bank or in a brokerage or on the trading floor of the New York Stock Exchange. It'll be solved in a laboratory. The brilliant minds that work in global life science, they're going to save the day."**

— Anirban Basu, Sage Policy Group

being very aggressive about getting out in front of the situation as opposed to trying to respond after things have already hit a tough patch."

Nadji told Bloomberg that the most important part of the stimulus package from the perspective of the commercial real estate industry is the hundreds of billions that have been set aside for small-business loans and to help large companies.

"As much help as can be delivered to companies to stay afloat during the worst of this health crisis in order to limit employee layoffs, because that has to do with tenants, and tenants have to do with occupancies of commercial real estate," he said.

Savage said one major difference between the coronavirus pandemic and the recession of 2008 is how rapidly equity and labor markets reacted to the bad news.

"During the height of the global financial crisis, we were losing about 800,000 jobs a month," he said. "Recent job losses dwarf that figure. So on the fiscal side, if you look at the core elements of the stimulus bill that has been passed, it is addressing those sorts of issues. It is addressing things like unemployment insurance, the duration of unemployment insurance, the amount people are compensated for having lost jobs in order to provide income in what is a short-term disruption to labor markets."

But no matter how large the government's intervention, the speed and shape of an economic recovery will depend on how widely the virus spreads and how long it takes to contain the pandemic.

"Ultimately, who are we counting on? Regeneron. Gilead Sciences. Merck. Pfizer. Bayer AG," Basu said. "That's who's going to solve this economic problem. It's not going to be solved in a bank or in a brokerage or on the trading floor of the New York Stock Exchange. It'll be solved in a laboratory. The brilliant minds that work in global life science, they're going to save the day."

Effects on Commercial Real Estate

Commercial real estate is a critical part of the U.S. economy. According to NAIOP's "Economic Impacts of Commercial Real Estate, 2020 Edition," it contributes $1.14 trillion to GDP, generates $396.4 billion in personal earnings and supports 9.2 million jobs.

Most sectors of the commercial real estate industry are better positioned to endure the current crisis than they were during the recession that accompanied the 2008 financial crisis. However, the outbreak and its effects will differ sharply across product types and geographic markets. (**See related stories, pages 46, 54 and 62**).

Trepp, a provider of information, analytics and technology to the commercial real estate market, predicted in March that the overall default rate across all commercial mortgages could rise from 0.4% to 8%. The default rate in lodging could approach 35%, and retail could climb to 16%. However, office, industrial and multifamily are expected to see much lower numbers.

In addition to potential risks to existing real estate assets, the outbreak has disrupted new development deals and may pose a risk to ongoing construction projects. **Matt Burke** and **Cathy Cunningham**, writing for Commercial Observer, note that lenders are still lending and investors are still making deals, but all parties are being more conservative than they once were and real estate is being repriced at lower values.

Levy said most of the bidders who have fallen off have been institu-

'Location, Location, Liquidity': An Economist Weighs In On the Pandemic

During a recent webinar for NAIOP National Forums members, economist **Mark Dotzour** shared his thoughts on how the coronavirus pandemic will affect the economy and commercial real estate. Here's a sample of his comments:

"We've all heard that phrase 'location, location, location.' I'm going to modify that for the 2020s and say it's 'location, location, liquidity.' You can make the perfect location decision and make a bad decision with liquidity, and it changes your whole outlook."

"The Wall Street Journal recently reported that 900 firms are looking to enter the distressed-asset space with almost $300 billion ready to go. There's going to be a lot of dry powder coming into this business, so if there is any downward pressure on pricing, it's going to be mitigated by an overwhelming response from people wanting to mop up the mess."

"Right now, real estate prices are unknown. I don't think it's proper to say that real estate prices have dropped a lot. … All I see right now is nobody can predict far enough in the future in terms of cash flow to put a value on a building right now. That will change over time. … It's going to be a while before we get enough transactions to know what has happened to property values."

"The biggest question in my mind is how long is it going to be before we feel comfortable to do anything like go to a restaurant, go to a convention, take a vacation or go to a basketball game? Another issue is, can our government force us to abandon our businesses every year? If we have another go-round of COVID next fall, will we have to close again?"

"I'm bullish on warehouse space. This idea of just-in-time manufacturing, where you have just a bare-bones amount of inventory that has to be refilled every couple of weeks, I think people are going to start reconsidering that, and they're going to start having more warehouse space with more inventory so they don't get caught off guard."

"Cap rates are going to be up and down. Short-term interest rates could stay near zero for at least five years. The 10-year Treasury will be lower for longer. There's going to be a huge search for yield that's going to cause people to want to own real estate. A 5% yield on some kind of real estate opportunity is going to look like a gold mine compared to the bond market. All this volatility in stocks and bonds makes people more nervous and directs more of their enthusiasm toward real estate. That's the upside. The downside is a government-sanctioned rent holiday for all kinds of real estate that throws an additional piece of risk into every kind of real estate. Every piece of real estate in America has a slightly higher risk component to it because of the rent holiday and the threat the government might shut down businesses who are your tenants again."

"I will say that I'm more bullish on commercial real estate investment in secondary and tertiary markets because the yields are higher. The big markets got overshot and the yields got too low, so I'm still bullish on secondary and tertiary markets. The urban vibe has lost its luster. I could see some additional demand for people moving to smaller cities. … I also feel like there's more demand for open spaces in the suburbs."

"I think the supply chain is getting ready to change big time. I've been saying for the last five years that China is a subcontractor for America. Sure, they're a big global power, but they're a big global power because we chose to buy all our stuff from them. We have financed their big global power move. But the problem is when you make a decision to have one supplier and it's in trouble, then you're in trouble. This was already happening last fall. Businesses were starting to reposition parts of their supply chains to other countries, and that's going to continue. That's going to change the port structure, too. Not just L.A. and Long Beach coming in from China; there's going to be goods and production redistributed around the world. That will open up more demand. If you live in a city in the South like Charleston or Savannah, the chances are you're going to have more business there going forward."

"Americans do not tolerate deferred gratification. We'll either conquer this virus or get used to it. Americans don't hide in their houses for very long." ■

Dr. Mark G. Dotzour served for 18 years as chief economist of the Real Estate Center at Texas A&M University. He has given more than 1,600 presentations, and his research findings have appeared in the Wall Street Journal, USA Today, Money Magazine and Business Week.

> "The biggest risk factor out there is called a double dip. **It means we get the all-clear notice from the authorities, and then they have to reshut the gates again soon after when the infection is clearly not under control."**
>
> *— Spencer Levy, chairman of Americas reasearch and senior economic advisor for CBRE*

tional, not private. Institutional investors are pulling back because their portfolios are suffering losses.

Levy said he's seeing banks taking on more forbearance for mortgages for many property types. Levy also said CBRE has seen an increase in the number of requests for price reductions, also known as repricing asks or retrade asks.

"Those accelerated in [late March]," he said. "Many of them were above 5%. About 50% of our deals are asking for this 5%-plus retrade."

While Levy thinks that repricing activity won't be worse than in other periods of market distress, he said he's seen a lot of deals completely collapse. They've either fallen out of contract, or folded when "material adverse change" clauses were invoked.

The coronavirus may also increase costs and risks for all types of commercial construction, particularly for projects that rely on materials or equipment shipped from China. In its H1 2020 Construction Outlook, JLL notes that the U.S. imports between one quarter and one third of all construction products from China.

Illnesses and quarantines could also disrupt the construction labor supply in areas affected by the virus, resulting in significant project delays. According to Construction Dive, although a few localities like Boston have ordered a halt to all construction, ongoing construction projects continue to operate largely unaffected by government restrictions across most of the U.S. However, as widespread construction bans take effect, they could bankrupt many construction firms, according to Association of General Contractors CEO **Stephen Sandherr**. (**See related story, page 20**)

Rising construction costs and labor disruptions could be particularly painful for projects that are operating on thin margins. Even developers with conservatively financed projects in otherwise healthy sectors may benefit from working proactively with lenders, contractors and tenants to develop contingency plans for disruptions related to the outbreak.

When — and How — Will Markets Recover?

Levy said it's not useful to compare the coronavirus pandemic to past market crashes such as the 2001 post-9/11 tech bubble or the 2008 global financial crisis, which both led to recoveries that took years to play out.

"I think a good comparison could be the SARS period in 2003 in Asia," he said.

During the SARS outbreak, economies in Asia saw a six-month material drop in transaction activity and a fall in values, followed by a rapid bounce-back because there were no fundamental flaws in the economy. Citing a Goldman Sachs analysis of GDP changes during the 2003 SARS outbreak in China, Hong Kong and Canada, Basu said there is almost always a sharp contraction in activity during pandemics, then a strong rebound. He said it's possible that could happen during this cycle. Low interest rates and the amount of government stimulus money in the pipeline will be a big help.

"I'd characterize this as short and vicious," he said. "But the short part will be a public health issue — how quickly we can flatten the curve."

But in April, Basu warned the Baltimore Business Journal that the initial rebound probably won't be a complete recovery, either.

"I liken it to a game of musical chairs," he said. "When the economy was good, there were a lot of chairs. In this crisis, a lot of the chairs were removed, and it's going to take some time to get back to the number of chairs we had."

Levy predicted that a recovery could begin in the third quarter of the year.


Getty Images

Masks could become ubiquitous in North America's public spaces as businesses open back up and citizens take measures to protect themselves from the coronavirus.

"It'll be the worst second quarter in the history of the United States, but with a rapid bounce-back thanks to the massive monetary and fiscal stimulus," he said. "That will give rocket fuel to businesses to come back."

Savage echoed those sentiments, citing the 1957 flu pandemic that killed 1.1 million worldwide and 116,000 in the U.S. In the fourth quarter of 1957, the U.S. economy contracted by about 4%. It shrunk by 10% in the first quarter of 1958, but fully recovered by the end of the year.

"It was very much a V-shaped recovery in a pandemic that is barely mentioned in the history books but is recorded in the data," Savage said. "The coronavirus is not the global financial crisis. Remember, that arose in a situation of considerably more private leverage than we have today, and the protracted recovery required a fair amount of time for that leverage to work through the system. This is a very different situation."

However, there is a risk for a much longer U-shaped recovery, especially if the economic impacts of extended shutdowns and high unemployment linger. A worse scenario would be a W-shaped recovery. That's where the economy makes a rapid initial rebound as businesses start to come back online, but then plummets again if a second wave of coronavirus hits.

"The biggest risk factor out there is called a double dip," Levy said in reference to a possible W-shaped recovery. "It means we get the all-clear notice from the authorities, and then they have to reshut the gates again soon after when the infection is clearly not under control. That would be a disastrous scenario." ■

Shawn Moura, Ph.D., is research director at NAIOP. **Trey Barrineau** is managing editor, publications, for NAIOP.

Will Teleworking **Change the Future** of the Office?

As workers begin to return to their offices, they might see fewer open layouts to accommodate social distancing.

The **COVID-19 pandemic might not have a massive** economic **effect on the office sector, but it could** spark big **new ideas on the use of space.**

Getty Images

By Shawn Moura, Ph.D., and Trey Barrineau

The office sector appears to be less vulnerable to disruptions associated with the coronavirus pandemic than retail or hospitality, but it's not entirely immune to an economic downturn — or the acceleration of changes in the ways people have been working during the crisis.

Mandatory closures and other social distancing measures have taken a toll on firms that are closely tied to the consumer economy, such as the British airline Flybe, which went bankrupt in March after travel bookings plummeted in the wake of the coronavirus pandemic. Businesses that cannot conduct most of their business remotely are also in peril. On the other hand, many companies have learned that they can run their operations without anyone physically in the office, a trend that has the potential to depress demand for traditional office leases.

"High-priced office space, and new construction in particular, is going to see a hit," said **Anirban Basu**, CEO of Baltimore-based economic consulting firm the Sage Policy Group, during a recent webinar with NAIOP Maryland. "People are going to be thinking about what kinds of commitments they're going to make, and cash is king right now. If you're trying to preserve cash, that doesn't take you into A-plus office space necessarily. And if you do use A-plus office space, you'll probably try to rent less of it. You'll have more people telework if possible."

A Turn to Teleworking?

Remote work got a prominent plug in April when Morgan Stanley CEO **James Gorman** told Bloomberg Television that he believed the $60 billion investment bank could operate with "much less real estate" in the aftermath of the coronavirus pandemic.

"We've proven we can operate with effectively no footprint," he said of the firm, which has more than 500 locations around the world. "Can

Getty Images

The open-office concept, which is used in about 70% of U.S. offices, could decline in the aftermath of the coronavirus pandemic.

I see a future where part of every week, certainly part of every month, a lot of our employees will be at home? Absolutely."

CNBC reports that Nationwide is permanently transitioning to a hybrid work model following its positive experience with remote work arrangements. Food and beverage company Mondelez is also exploring transitioning more employees to alternative work arrangements as a way to reduce costs in a recession. And **Jes Staley**, CEO of Barclays, believes companies may permanently move away from centralizing large numbers of staff in a single building: "The notion of putting 7,000 people in a building may be a thing of the past."

Many office workers and managers would welcome these changes. A March 30 poll by Gartner of 317 finance leaders and CFOs indicated that 74% of them plan to permanently shift some of their workforce to teleworking. Additionally, a recent poll by career planning site Zippia.com shows that 51% of workers would prefer a full-time work-from-home arrangement.

However, the same Zippia.com survey found that nearly 60% of those workers didn't think teleworking would become permanent. Many commercial real estate professionals tend to agree.

"I think the office is here to stay," said **Gregory May**, executive vice president and West Region market leader for Newmark Knight Frank, during a recent NAIOP webinar. "But I also think there's definitely going to be a percentage of people who will work remotely permanently."

Prior to the pandemic, about 4% of U.S. workers were able to work from home at least half the time, according to a Global Workplace Analytics analysis of 2018 American Community Survey data from the U.S.

"While we might want the flexibility of telecommuting, we're all learning that we miss our communities of colleagues. **There is a very strong counterweight to the idea that we're all going to work from home in the future.** Certainly the flexibility to do so is increasing, but it's a little early to say."

— Al Pontius, national director of office and industrial for Marcus & Millichap

Census Bureau. A national survey by MIT during the first week of April showed that 34% of former commuters were working from home.

Al Pontius, national director of office and industrial for Marcus & Millichap, believes there is a real appeal to telework, but he doesn't see demand for office space falling off a cliff in the near future.

"I see a counterpoint that's equally strong," he said during a recent NAIOP webinar. "While we might want the flexibility of telecommuting, we're all learning that we miss our communities of colleagues. There is a very strong counterweight

The Six-Feet Office

In response to the coronavirus pandemic, Cushman & Wakefield recently unveiled a new office setup called the Six-Feet Office. It's based on the social-distancing rule to keep six feet of space between yourself and other people to prevent the spread of the coronavirus.

In a Six-Feet Office, "transparent shields divide desks, markers direct foot traffic and disposable desk pads catch germs and can be discarded when a worker leaves for the day," according to an April article in the Wall Street Journal.

Here are the elements of the Six-Feet Office, according to a post on Cushman & Wakefield's website.

Cushman & Wakefield

Cushman & Wakefield's Six-Feet Office features concentric circles on the carpeting around desks, a visual reminder to stay six feet away from other workers.

6 Feet Quick Scan: "A concise but thorough analysis of the current working environment in the field of virus safety and any other opportunities for improvement."

6 Feet Rules: "A set of simple and clear workable agreements and rules of conduct that put the safety of everyone first."

6 Feet Routing: "A visually displayed and unique routing for each office, making traffic flows completely safe."

6 Feet Workstation: "An adapted and fully equipped workplace at which the user can work safely."

6 Feet Facility: "A trained employee who advises on and operationally ensures an optimally functioning and safe facility environment."

6 Feet Certificate: "A certificate stating that measures have been taken to implement a virus-safe working environment." ■

to the idea that we're all going to work from home. Certainly the flexibility to do so is increasing, but it's a little early to say."

Spencer Levy, chairman of Americas research and senior economic advisor for CBRE, also doesn't see a secular shift after the pandemic is over in which most workers abandon their offices.

"Even though we believe that more people now see that working from home is doable, every survey we had done prior to the coronavirus crisis showed that working in the office is much more productive," he said during a recent webinar for NAIOP Maryland. "We think that's not going to change."

New Designs for Offices?

May says that when people do return to the office, the spaces might look a little different for reasons related to health and safety.

"There might be some density issues where they want to be separated a little more," he said. "That could change the layout of offices."

Levy also sees office densification changing in the wake of social distancing.

"The average square footage for an average person in an office, which had gone so dense, we believe that pendulum will swing back to adding more square footage," he said. "That comes directly out of my conversations with some of the largest occupiers in the world."

According to Robin, a Boston-based office technology company, North

Getty Images

In China, many office elevators now have tape on the floor to ensure that passengers follow social-distancing guidelines.

American offices average about 150-175 square feet per person. Open office spaces, which have grown in popularity in recent years, average roughly 125-175 square feet per worker. (**Christian Beaudoin** of JLL told the New York Times in February that 70% of U.S. offices have some form of open plan.)

While popular, open office designs can allow viruses to spread more easily than traditional office layouts. Without walls or a cubicle divider, droplets from a sneeze or cough can spread farther. Offices that use unassigned desks — a common practice in coworking — can also make it easier for a virus to spread as new desk occupants come into contact with infected surfaces. In the face of the coronavirus outbreak, these design features are now a concern, as was demonstrated by an outbreak in March at a crowded open-floorplan call center in South Korea. According to a study published by the U.S. Centers for Disease Control and Prevention, 94 of 216 workers came down with the coronavirus. Almost all of them sat in close proximity to each other.

> **"The average square footage for an average person in an office, which had gone so dense, we believe that pendulum will swing back to adding more square footage.** That comes directly out of my conversations with some of the largest occupiers in the world."
>
> *— Spencer Levy, chairman of Americas research and senior economic advisor for CBRE*

Getty Images

The pandemic has led to a huge rise in teleworking, which could reduce demand for office space.

Offices in China, where COVID-19 first struck, are coming back online, but many of the social distancing and hygiene measures that began at the height of the pandemic are still in place. Masks, hand sanitizer stands and spot temperature checks with handheld digital thermometers are ubiquitous. Some commercial facilities use infrared cameras to scan people for fevers before entering. **Eunice Yoon**, CNBC's Beijing bureau chief, reported in March that elevators in China's capital use tape to mark where passengers should stand for proper spacing.

However, limiting the number of passengers on elevators in high-rise offices with thousands of workers could create long waits in lobbies. For example, global marketing company Interpublic Group told the Wall Street Journal in May that if only two or three of its staff at one of its locations could ride an elevator at one time, it would take two or three hours for them all to reach their offices.

"How many people can work in the building if you limit the number of people in an elevator to two at a time?" Staley asked in a recent interview with the Financial Times.

What's Ahead?

As restrictions lift across the country, look for a gradual phase-in of workers, possibly with staggered schedules or shifts.

"There could be A teams and B teams working different days," **Scott Rechler**, the chief executive and chairman of RXR Realty, told the New York Times in April.

Concerns about clean surfaces could lead to the deployment of new technologies. For example, the South China Morning Post reported in March about Easpeed, a company in China that has developed "no-touch" hologram buttons for elevators. Existing "no-touch" technologies could be put into greater use in common areas. These include voice- or motion-activated doors and dispensers in bathrooms, kitchens and common areas. (**See related story, page 28**)

Another change could involve antimicrobial materials in interior

"**Companies will need offices to build culture or to train people or to allow them to interact for specific tasks. At the same time, employees don't have to be in the office all day long.** That means companies will need to attract people to come to the office, and you have to offer them something they don't have at home."

— Dror Poleg, a former real estate and technology executive

design elements, such as door hardware. These coatings are made of materials such as silver, copper or chitosan, which is derived from shellfish. Many are already in use in health care settings.

Longer term, **Dror Poleg**, a former real estate and technology executive, thinks office space will evolve to serve dual purposes.

"Companies will need offices to build culture or to train people or to allow them to interact for specific tasks," he said during a recent online discussion between real estate professionals in the U.S., the U.K. and France. "At the same time, employees don't have to be in the office all day long. That means companies will need to attract people to come to the office and offer them something they don't have at home."

To draw workers to a building, it will be critical to make the office experience richer and more convenient, said **Ronen Journo**, senior vice president-enterprise at WeWork.

"I think we're going to see people question the purpose of the office," he said during Poleg's panel discussion. "Not just workers but employers as well. Placemaking developed in the last decade. I think it's going to continue, and I think it's going to bring the relationship between occupiers, landlords and operators a lot closer. People are going to question why they commute when they can do what they need to do at home. We will see companies begin to offload space, and we will see people working from multiple places — not just from home." ■

Shawn Moura, Ph.D., is research director at NAIOP. **Trey Barrineau** is managing editor, publications, for NAIOP.

Coworking and Coronavirus: A Canary in the Coal Mine?

■ By Shawn Moura, Ph.D.

Prior to the coronavirus pandemic, the future of coworking and flex space looked strong. For example, a 2019 JLL study predicted that 30% of the office market will be flex space by 2030.

The coworking industry grew substantially along with the protracted bull market, and it's well documented that coworking was a primary driver of new office absorption across most major markets, especially during the past three to five years, said **Michael Kloppenburg** of Avison Young's flexible office solutions during a recent NAIOP webinar.

Coworking grew on average 26% per year from 2010-2018, and growth in 2019 was estimated to be 35% year over year before WeWork's failed IPO.

Prior to WeWork's troubles, much of the criticism of coworking and the flexible office business model focused on the challenges that coworking operators would likely face in a recession, when clients could easily end short-term memberships to conserve cash.

"Due to the structure of most coworking deals with landlords, primarily long-term leases, and the short-term nature of their client agreements, there is significant cash-flow exposure," Kloppenburg said.

However, he said that he's seen renegotiations happening during the coronavirus pandemic as operators attempt to leverage this crisis to secure more favorable terms, or convert leases to management agreements on a case-by-case basis.

"I have seen amazing support from many of these operators, providing resources to small businesses. So far, in talking with my colleagues, retention has been better than expected," Kloppenburg said. "I am bullish on the underlying demand for flexible office space, regardless of the current crisis."

Vulnerable by Design

WeWork and other coworking firms were often on the cutting edge of open-office design and were emulated by tenants in traditional leases. Because of that, their dense office layouts could be seen more as an asset than a liability.

Many coworking companies have opted for office layouts that encourage close contact between occupants to facilitate interaction. For example, WeWork intentionally narrowed office corridors so workers would be more likely to interact with each other.

In the face of the coronavirus outbreak, these design features are now a cause for concern. In response to the pandemic, WeWork rolled out new guidelines for its offices in April. These include reductions on meeting room capacity, "buffer seating" in public areas to keep six feet of separation between workers, one-way foot traffic paths, and more signage about hand-washing and social distancing.

Threatened by Subleases

In addition to member concerns about infection risks at coworking facilities, these spaces may also be vulnerable to growing competition from more traditional subleases. **Jason Hughes** and **David Marino** of tenant representation firm Hughes Marino expect that traditional office leases will struggle to compete with subleases offered at below-market rates by tenants with older multiyear leases, especially since many of these spaces are already furnished and technologically equipped. That makes them more attractive for companies interested in minimizing capital investment.

Commercial real estate professionals have long speculated that an increase in subleases during a recession could pose a threat to the viability of coworking firms. Subleased space competes directly with coworking and flexible office spaces, as both options appeal to firms interested in short-term commitments for furnished space. But coworking operators generally charge their members more on a per-square-foot basis than they would pay for a traditional lease, let alone a below-market sublease. As Serendipity Labs CEO **John Arenas** noted in June 2019, flexible office operators who rent entire offices or floors to enterprise clients are particularly at risk of competition from subleases, as these clients are well-positioned to take advantage of large sublease opportunities that become available.

Adapting to Change

Coworking and flexible office operators took a variety of steps to respond to the coronavirus outbreak. Washingtonian magazine reports that coworking operators in the Washington, D.C., area provided members with hand sanitizer and disinfectant, increased cleaning, replaced bulk food with individually wrapped snacks, allowed employees to work remotely and asked sick members to remain home.

Other coworking companies took steps such as restricting non-essential business travel, limiting member guests, terminating sick members who failed to self-quarantine, and offering a range of web-based services such as virtual offices and digital happy hours. Both Common Desk and Work Suites also allow members to use private offices that have not been rented out. Common Desk has removed chairs from its common spaces to allow members to distance themselves from each other.

Jamie Russo, executive director of the Global Workspace Association, said during a recent episode of the Everything Coworking podcast that in addition to having plans in place to improve hygiene and cleanliness, coworking operators need effective communication policies and should develop contingency plans in case they need to close. She observes that operators are taking steps such as putting together procedures to disinfect an entire location when an infection is detected and closing spaces to new member tours. She also notes that to mitigate impacts to short-term cash flow, some operators are asking those who want to cancel their memberships if they will instead accept a voucher or credit for later use.

Long-Term Implications

The coronavirus has severely impaired coworking firms' business operations and revenues. Larger firms such as WeWork, Knotel, Convene and Industrious have announced furloughs and layoffs since the outbreak began, and several operators have temporarily closed some or all of their locations.

However, it remains to be seen how people's experience with the virus will affect long-term demand for coworking after the outbreak ends. Some in the industry, such as **Jean-Yves Huwart**, are optimistic that coworking can thrive after the virus passes. In an article for Work Design Magazine, Huwart speculated that if companies become accustomed to staff working from home, they may see less value in returning to traditional centralized work arrangements and may be more open to distributed work models that include coworking.

Timothy H. Savage, a clinical assistant professor at New York University's Schack Institute of Real Estate and co-author of the NAIOP Industrial Space Demand Forecast, thinks that coworking could accelerate after the pandemic passes.

"We have to recognize that coworking, in the sense that it provides space for lease on a short term, is similar to instantaneous pricing," he said during a recent NAIOP webinar. "It's a little like distinguishing between bonds and equities. There is an option value to short-term leases. It is valuable both to the tenant and the landlord. The question is, does coworking accelerate through this process? Yes, quite possibly, if we recognize essentially that teleworking during the coronavirus pandemic is a form of coworking. The value of that optionality shouldn't be lost on the industry." ■

Shawn Moura, Ph.D., is research director at NAIOP. NAIOP Managing Editor **Trey Barrineau** and Senior Communications Manager **Brielle Scott** contributed to this report.

Pain Spreads Wide in Retail and Hospitality

The retail sector could struggle to recover from the coronavirus pandemic, especially small businesses.

Getty Images

The effects of the coronavirus hit these sectors earlier, faster and more deeply than other areas of commercial real estate.

By Shawn Moura, Ph.D., and Trey Barrineau

Fears of contracting the coronavirus, government bans on public gatherings, mandatory closures of nonessential businesses and social distancing measures pose ongoing challenges to the retail and hospitality sectors. Many stores have been forced to temporarily close their doors in response to government mandates or in reaction to sharp declines in foot traffic.

The coronavirus crisis could also hasten the failure of retailers that are heavily indebted or have poor cash flow. The Wall Street Journal noted in March that junk-bond-rated retailers that are particularly reliant on Chinese imports are most vulnerable to the effects of the virus. Healthier retailers may eventually recoup some of their losses after the outbreak when consumers return to stores to satisfy pent-up demand for goods and services.

Retail 'Is Really Going to Struggle'

Since the pandemic hit, the retail sector has struggled mightily, particularly small businesses. In mid-May, the Commerce Department reported that retail sales fell 16.4% in April, the largest decline ever recorded. Coresight Research

Getty Images

Because they were declared an essential service, grocery stores have endured during the coronavirus pandemic.

recently reported that foot traffic at U.S. retail outlets fell 60% in March, with much of that decline coming at the end of the month as social-distancing measures were put in place across the country.

And an April survey from the Harvard Business School found that an extended lockdown could force 65% of small businesses to close by the end of the year.

"There's going to be a lot of empty storefronts," said **Anirban Basu**, CEO of Baltimore-based economic consultants the Sage Policy Group, during a webinar for NAIOP Maryland. "And we already had so many retailers on the verge."

2019 was already a record year for store closings, Basu said. According to an analysis by Business Insider, more than 9,300 stores closed their doors permanently last year.

"That happened during a time when the economy was strong and consumers were spending aggressively," Basu said. "Now imagine what happens. The retail part of commercial real estate is really going to struggle."

Malls, especially those anchored by large department stores, are among the worst-hit properties. In January, real estate research firm Green Street Advisors noted that department store chains represent roughly 30% of all mall square footage in the U.S., according to an April report in the New York Times.

"The department stores, which have been failing slowly for a very long time, really don't get over this," **Mark A. Cohen**, the director of retail studies at Columbia University's Business School, told the newspaper.

In May, longstanding department store brands J.C. Penney and Neiman Marcus declared bankruptcy. Clothing retailer J. Crew did as well. And Pier 1 announced that it would close all its retail locations.

Many restaurants are also in jeopardy. The National Restaurant Association reports that U.S. eateries lost $25 billion during a three-week period in March, and around three million workers were laid off. About 44% of restaurants suspended operations during that time.

In May, Moody's Analytics predicted that effective rents for retail properties would fall 11% in 2020, nearly double the decline seen during the financial crisis from 2008 to 2011. Also in May, S&P Global Ratings reported that about 30% of the 125 retail and restaurant companies it tracks could be close to bankruptcy or liquidation.

"I think there's going to be a big uptick in online shopping, because **there's a whole class of people who have been forced to shop online and they're going to stay with it.**"

— Elie Finegold, a veteran entrepreneur and global property executive

Many Retailers See a Long Recovery

In April, McKinsey & Company researchers surveyed 98 U.S.-based executives in apparel, department stores, off-price stores, beauty, and big-box and small-box specialty retail about what they expect in a post-pandemic world. Some of the results:

- More than 80% of respondents closed some locations, and 44% shut down in-store operations entirely.
- About 36% of executives say it will take six months or more for store traffic to recover.
- Approximately one-third of respondents are considering permanently closing underperforming stores, and roughly the same number could put plans to open new stores on hold.
- Roughly three-quarters of apparel executives plan to improve online integration at their stores.
- Around 75% of respondents haven't developed any plans for store reopening. ■

E-Commerce's Moment?

While multi-trillion-dollar government stimulus packages could help restaurants survive the pandemic, e-commerce might be a deciding factor for many of them. Delivery and pickup accelerated after millions were forced to stay home and restaurants were ordered to halt sit-down service.

Between March 1-25, marketing firm NetElixir reported that online food sales surged 183% compared with the same period last year.

"I think the long-term impact is that the people who have been shopping online will continue to shop online," said **Elie Finegold**, a veteran entrepreneur and global property executive, during a webinar with real estate experts in Europe and North America. "But there's a whole class of people who have not been shopping online, at least for groceries and other basics. I think there's going to be a big uptick in online shopping, because there's a whole class of people who have been forced to shop online and they're going to stay with it."

Along those lines, **Hessam Nadji**, CEO of Marcus & Millichap, said the coronavirus pandemic is hastening trends that were already occurring across all of retail.

"As you know, e-commerce has profoundly changed brick-and-mortar retailing, and a lot of obsolete, older shopping centers, especially those that rely on department stores, have been hurt badly by what was already happening," he said in an interview with Bloomberg. "This is just speeding that up. But I think there's going to be more short-term pain because of it. There is no way around that."

Al Pontius, national director of office and industrial with Marcus & Millichap, thinks that the pandemic will diminish some retail concepts, or at least the number of units. But he also sees opportunities.

"There will be growth sectors or opportunities emerging that we're not contemplating right now," he said during a recent NAIOP webinar. "Retail has been a rapidly morphing area for years. It's certainly logical to assume that what we're learning and acclimating to in the online world is going to push change going forward."

Pontius said that many retailers have already determined that having physical locations in concert with online presence has been the best formula to drive activity. He expects that trend will continue, though he thinks it's too early to say if it will be any more significant than what was happening before the pandemic.

Antony Slumbers, a U.K.-based software development and technology strategist in commercial real estate, thinks that the pandemic could force technological advances into the retail market very quickly.

"Retail should consolidate its systems," he said during a webinar with real estate experts in Europe and North America. "You've got this omnichannel idea, but you end up with retailers who have one system to run their stores and another to

Getty Images

Shopping malls that depend on department stores as anchors could face challenges in the post-pandemic retail landscape.

run their online sales. These things need to come together."

Slumbers thinks that the pandemic will highlight the differences between retailers who have synchronized their online and offline systems and think as a one-system retailer and those who have an online option but don't really pay a lot of attention to it.

"We will still want retail stores, but we're going to want a really good human experience," he said. "Otherwise, why bother? I also think you're going to see a bifurcation of the really good digital stuff and the really good human-centric stuff. We need both."

Dror Poleg, a former real estate and technology executive, thinks that the big winners in e-commerce will be giants who are already hugely successful in that space.

He observed that major e-commerce players such as Walmart and Amazon began a hiring frenzy at a time when more than 30 million were out of work in the U.S.

"They're really taking advantage of their ability to be fully integrated, to make sure their supplies come in, to tie in their online and offline sales, and to automate some of the store experience to prevent their employees from being exposed to the virus," he said during a webinar with real estate experts in Europe and North America.

Bright Spots Beyond E-Commerce

Spencer Levy, Americas head of research and senior economic advisor with CBRE, said grocery- or pharmaceutical-anchored centers are pulling in record sales.

In March, as the pandemic started to grip the U.S., year-over-year traffic rose by 36% at Kroger stores and by 40% at Albertsons outlets, according to Placer.ai, a company that measures retail activity. Major pharmacies such as CVS and Rite Aid also saw spikes in traffic that approached 30%.

"Grocery chain H-E-B in Texas takes in about $1 million a week at a typical store," Levy said during a recent webinar for NAIOP Maryland. "In March, they were taking in about $1 million a day. That's a pretty good example of how strong the grocery space has been during this period."

Online grocery retailers saw a whopping 210% increase in sales from March 12 to 15 compared with the same period in 2019, according to Rakuten Intelligence.

Additionally, Nadji notes that fast-food restaurants and single-tenant retail where there is one store on a long-term lease are also surviving — and in some cases thriving. (These are often big-box stores such

Small-Business Pessimism About COVID-19 Impacts

A survey of 5,800 small businesses that was published in April by the National Bureau of Economic Research asked respondents this question: "Suppose that most COVID-19 disruptions continue for six months. What is the likelihood of your business remaining operational?" The responses, by percentages:

33%: All retail (except grocers)

27%: Hotels

22%: Personal services

15%: Restaurants and bars ■

"**People talk a lot about the death of retail, but I also want to point out the rebirth of retail.** We have so many examples of renovation, repositioning and retenanting of retail that have been wildly successful."

— Hessam Nadji, CEO of Marcus & Millichap

as Home Depot, many of which were deemed essential by state and local governments and allowed to stay open.)

Hotels Struggle

At the same time, prohibitions on public meetings have drastically affected businesses that serve conventions.

A report from Bloomberg shows that up to 80% of the 2,500 business trade shows and events originally scheduled for March to mid-May have been cancelled or postponed, resulting in losses of $22 billion to conference organizers, hotels, restaurants and other related firms. Bloomberg predicts that hotels will likely experience the effects of cancelled or postponed business meetings, conferences and personal trips through the first half of 2020.

"Over 50% of hotels have gone to almost total shutdown today," Levy said. "I am directly aware of lenders who have reached out specifically to hotel borrowers that have personal guarantees and told them that they would forbear on their loans for three months unsolicited. So people are going out of their way, certainly in the bank space, to help people in the hotel space."

Across-the-board declines in room reservations are leading many hoteliers to furlough or lay off most of their staff. Major hotel operators like Marriott, Hilton and Hyatt have cut thousands of staff, while smaller hotel chains have laid off 90%-95% of their workforce, according to the Wall Street Journal.

Looking Ahead

Federal stimulus is providing loan guarantees for hotels and retailers, including restaurants. However, some businesses in these sectors may no longer be viable, and it is unclear whether those that receive government support will employ as many workers as they did prior to the outbreak.

Despite that, many analysts think that the human desire for connection will help retail rebound.

"The day this is all over, you're going to see restaurants packed with people," Levy said.

Julia Cambage, chief executive of the Australian Institute of Architects, told Australia's Commercial Real Estate website that people will rediscover the importance of community after the pandemic, and bricks-and-mortar retail will return.

"My own personal view is that high street shopping precincts will become more relevant," she said. "I think people will want their community closer to them."

Despite that, health concerns will become a much more important consideration for customers.

"Until now, people just wanted a

"Retail has been a rapidly morphing area for years. It's certainly logical to assume that **what we're learning and acclimating to in the online world is going to push change going forward.**"

— Al Pontius, national director of office and industrial with Marcus & Millichap

Getty Images

Safety will be a major concern in the retail sector following the COVID-19 pandemic. Stores will have to ensure a sanitary experience for both customers and employees.

seat at that neighborhood restaurant and it didn't matter what was around them," **Carl Bialik**, data science editor at online review site Yelp, told Axios. "Now there will be a spotlight on how establishments are adhering to health standards. That's going to be more relevant than ever before." (**See related story, page 28**)

Along those lines, look for more "touchless" payment options such as Apple Pay and Google Wallet to reduce the use of pens or screens, which can be vectors for disease transmission. Stores and restaurants might also reduce occupancy levels so they can space out tables to meet "social distancing" guidelines, either voluntarily or because of government mandates. Other measures could include one-way foot-traffic patterns in grocery stores, plexiglass screens to protect workers, automated doors for touch-free entrance and exit, and moving more restaurant seating outside when the weather permits.

Regardless of what happens after the pandemic subsides, it seems certain that retail will adapt. With consumer spending representing about 70% of economic activity in the U.S., it might be an imperative.

"People talk a lot about the death of retail, but I also want to point out the rebirth of retail," Nadji said. "We have so many examples of renovation, repositioning and retenanting of retail that have been wildly successful."

Timothy H. Savage, a clinical assistant professor at New York University's Schack Institute of Real Estate, said retail has been evolving for more than 100 years.

"Arguably, Amazon is just a digital version of the Sears & Roebuck catalog," he said during a recent NAIOP webinar. "What we purchase isn't changing very much, but the mechanism by which it's distributed is changing a lot." ■

Shawn Moura, Ph.D., is research director at NAIOP. **Trey Barrineau** is managing editor, publications, for NAIOP.

UNIONWEST
CREATIVE VILLAGE
DOWNTOWN ORLANDO

Amazon Could Provide a Peek at Industrial's

The industrial sector has seen increased demand during the coronavirus pandemic as more people were forced to use e-commerce. Supply chain disruptions caused by the outbreak's early impacts on China could lead to more reshoring in North America.

Post-COVID Future

Getty Images

The e-commerce giant understands how to connect products and consumers.

By Ed Klimek

Commerce was changing before the outbreak of COVID-19, from the exponential trajectory of e-commerce, to the growth in consumer demand for more immediate goods, to the rise of urban industrial development to fulfill last-mile needs.

The unknowns of this novel virus have accelerated that change to a tipping point. The structures of commerce, and the development that supports it, may be altered for good. This crisis is proving the necessity of a resilient supply chain.

What will new commerce look like and how will industrial development respond to support it? Some answers may lie in examining the world's largest commercial enterprise — Amazon. Through the lens of Amazon's success, there is a

Getty Images

Many large retailers have struggled to meet a surge in online orders as they simultaneously adapt to COVID-19's effects on the workforce.

What will new commerce look like and how will industrial development respond to support it? Some answers may lie in examining the world's largest commercial enterprise — Amazon. **Through the lens of Amazon's success, there is a path forward for industrial development to be part of the resilient supply chain.**

path forward for industrial development to be part of the resilient supply chain.

First, the answer is far more complicated than consumers buying more goods online.

It involves a better integrated and more resilient form of commerce. Development that supports this new commerce will become more horizontally integrated between uses. The value of more localized goods, and a stronger market mechanism that connects to the consumer at the beginning and end of the supply chain, will replace the demand for immediate goods. Innovative infrastructure that is both digital and physical, and increasingly local, will help avoid reliance on a global supply chain.

Marketplace Mechanism

What began as an online retailer selling a single product has morphed into an online marketplace selling everything from clothing to groceries. Amazon generated $280.52 billion in net sales in 2019, up 20.5% from the previous year. And since the coronavirus crisis began, consumer spending at the e-commerce giant is up 35%

Industrial development must implement its own marketplace mechanism to better connect consumers with products and services, and to help eliminate friction from horizontal integration as new networks are created. This will mean rethinking warehouses that store goods outside the suburban and urban landscape.

compared to the same period last year according to Facteus, a firm that analyzes daily payment card transactions. Additionally, while the U.S. is facing staggering unemployment numbers, Amazon is on a major hiring spree. The company announced in April that it is seeking to hire 75,000 additional workers after it brought on more than 100,000 positions in March.

Demand for Cold Storage Heats Up During Shutdowns

Demand for public refrigerated warehouse companies and online grocers surged as consumers sheltered in place, according to an April report by CBRE, "COVID-19 Impact on the Food Industry & Implications for Industrial Real Estate." According to the report, COVID-19 will change the cold-storage sector in five critical ways:

- E-commerce grocery shopping will become more widely adopted, creating greater demand for cold storage capacity. However, the volume of perishable orders will need to grow to have a significant impact on cold-storage real estate decisions. In general, there is a recent consumption trend toward food that drives demand for temperature-controlled space, like frozen meat and processed poultry. Until recently, consumers were not ordering a lot of perishables online, but that likely will change in a post-COVID-19 environment.
- Since e-commerce is typically fulfilled by local grocery stores, retail footprints will include more storage and fulfillment space. As online orders rise, there will be a blending of retail and industrial space, as well as a greater need for infill temperature-controlled facilities close to consumers. Space requirements will vary among food retailers, but additional modern space likely will be needed considering that the average age of cold storage warehouses is 34 years.
- Restaurants may see a significant shift in dining formats with less dine-in options and more delivery or take-out that would require cold-storage capacity. Foodservice companies that supply restaurants may look to second-generation cold-storage space as a cost advantage in a limited dining environment.
- There will be further consolidation among major public refrigerated warehouse companies to gain more control over the cold-storage footprint in the U.S. This will lead to specialized development in major metros where large cold-storage operators will partner with developers to strategically build a network close to population clusters.
- Automation will increase in cold-storage facilities to efficiently fulfill orders and make up for a shortage of workers willing to work in the extreme conditions of these facilities. This will prompt higher-density, greater-height and smaller-footprint buildouts that will be required for around-the-clock operations. ■

Ron Derven is a contributing editor for Development magazine.

Getty Images

The coronavirus pandemic has shown the importance of rethinking warehouses that store goods outside the suburban and urban landscape, according to Ed Klimek, a partner with KSS Architects.

The infrastructure that will support new integrated development **will no longer have as its sole focus the 40-foot box of global trade.**

Amazon's entry into more markets has created a network effect: if everything is available on Amazon, consumers are more likely to buy there, making sellers more likely to sell there.

Harvard Business School Professor **Sunil Gupta** has noted that "in today's world, competitive advantage comes from connecting products and connecting consumers." This is one of the most crucial drivers of Amazon's growth — its continuous ability to bring customers back to purchase new products and services on Amazon.

Industrial development must implement its own marketplace mechanism to better connect consumers with products and services, and to help eliminate friction from horizontal integration as new networks are created. This will mean rethinking warehouses that store goods outside the suburban and urban landscape. Instead, development will favor true mixed-use developments where ideas are generated, companies collaborate, and the newest products are created and distributed at a rapid pace to a continuously returning consumer base. As opposed to traditional industrial development,

Just-in-time logistics has helped supply chains grow more flexible and responsive to market demand, and it is now allowing them to respond more effectively to disruptions associated with the outbreak by moving goods more rapidly.

these will be mixed-use marketplaces consumers will visit, where the integrated possibilities of commerce are spread out before their eyes.

Customer Proximity

Amazon takes the adage "the customer is always right" a step further. The company aims to improve customer experience at every opportunity. Intense consumer focus drives the company to adapt its supply chain in directions that at first seem disparate, like an online retailer producing movies, but then seem like a natural progression when seen through the lens of relentless dedication to customer satisfaction.

Commerce has grown accustomed to a completely globalized market. Yet, early on in the COVID-19 crisis, that highly interconnected supply chain collapsed, throwing a wrench in the ability to meet consumer demand and exposing an important weakness. The collapse underscored a critical element of the new commerce paradigm: being close to the customer matters. Close proximity to the customer means that things like movie studios belong in industrial development. Industrial development must have the ability to both produce and distribute in ways that are driven by the values and complexities of an increasingly localized market, even as it interacts with the remaining global supply chain. A client recently captured this well as he said, "You can get a whole lot more product out there if you can simply get components rather than rely on waiting for completed assemblies."

Infrastructure Agility

According to early Amazon employees, founder and CEO **Jeff Bezos** had clear ambitions for expansion from the company's beginnings. Despite not being profitable for its first 14 years, Bezos persuaded investors that Amazon was building an infrastructure that would enable it to gain scale, customers and business. He promised long-term profits and increased profit share. He eventually delivered, and then some.

Today, Amazon has 1,137 active facilities around the world, including 519 in the U.S., according to research from MWPVL International, a specialized supply chain, logistics and distribution consulting firm. The astounding evolution of Amazon has brought Bezos' vision to fruition, and it is all made possible by the groundwork laid in the company's early years.

The infrastructure that will support new integrated development will no longer have as its sole focus the 40-foot box of global trade. This typology will, of course, remain, but infrastructure will count on connection and connectivity through digital and physical means. For example, integrated industrial development will rely on a robust network that supports multisized vehicles working in multiple modes with increasing sustainability and decreasing friction. Industrial clients will begin to control an increasingly large portion of local transportation infrastructure, while still relying on externally controlled transportation infrastructure. It is possible that in the post COVID-19 environment we may have lost some of the obsession with same-day or within-the-hour delivery. But, regardless, we will expect a localized system of delivery that is better integrated within our daily lives.

As this crisis is still ongoing, we don't yet know the full extent of its impact and how we will need to react. However, it has clearly demonstrated the need and value of more integrated communities. We have blurred the lines between where we live and where we work, exposed the weaknesses of an overly global market, and demonstrated the value of local sufficiency and expectation. Development that recognizes this phenomenon, in ways that are frictionless, will add the greatest value in a post COVID-19 world. ■

Ed Klimek, AIA, NCARB, is a partner with KSS Architects.

Supply Chains Adapt to New Demands

Long-term trends toward globally integrated supply chains, just-in-time logistics and rapid deliveries by online retailers have driven the pace and shape of demand for warehouse and distribution centers for the past decade. However, by disrupting supply chains around the world, the coronavirus outbreak has led some to question whether these trends are sustainable. The virus has posed a challenge to every link in global supply chains, from factories and ports in China to manufacturers, warehouses, grocery stores and medical providers in the U.S.

Chris Caplice, Ph.D., is the executive director of the MIT Center for Transportation & Logistics and the founder and director of the MIT FreightLab, which is currently examining a range of freight-related research topics, including the effects of natural disasters on U.S. truckloads, global ocean transportation reliability and freight network optimization. Development magazine spoke with Caplice to explore how supply chains are adapting to the coronavirus outbreak.

Effects on Global Supply Chains

According to Caplice, seasonality helped to dampen some of the outbreak's initial effects on global supply chains. The beginning of extensive measures to contain the outbreak in China coincided with the Chinese New Year. Importers in the U.S. had already prepared for disruptions associated with the holiday by increasing their stockpiles. Many had also previously increased inventories before U.S. tariffs on Chinese goods took effect in 2019. These stockpiles helped to delay the effects of a supply shock to U.S. retailers and manufacturers.

"Essentially the slowdown in February was almost an extension of the Chinese New Year," he said. "February is not a big demand month, so there was a lag."

Now that Chinese manufacturing and exports are getting back up to speed, U.S. ports face the challenge of processing a surge of Chinese imports arriving on container ships. Caplice notes that U.S. ports are highly automated, but social distancing measures to contain the coronavirus could slow down their ability to process cargo. Some importers are responding to delays in shipping goods from China by shifting orders to air freight.

Shortages of medical supplies and slowdowns in manufacturing and construction as ports wait for shipments from China have prompted some observers to question whether it is time to rethink globally integrated supply chains. Although Caplice does not believe that U.S. firms will fully divest from Chinese manufacturing, he notes that the outbreak may reveal a greater need for dual-sourced supply chains and less reliance on China. China's reaction to the outbreak may also


Chris Caplice

lead to a long-term reallocation of the country's logistics capacity, with an increased emphasis on serving domestic markets instead of exports.

Disruptions associated with the outbreak have also prompted some, like U.S. Trade Advisor **Peter Navarro**, to advocate for relocating more productive capacity to the U.S., especially for medical supplies and other strategically important goods. Caplice believes that there may be some reshoring of supply chains where labor costs make up a small portion of a good's total cost or where it is important to have very short supply lines between production and the market. However, he notes that past predictions of an impending shift toward reshoring have yet to be realized.

"We've been saying that for 10 years now, and I think it makes sense because our cost of energy is lower now because of all the fracking and the availability there," he said. "I just haven't seen it in practice."

> **"That inventory is getting pushed closer to population centers because the only way you can provide one-day is to have more of it closer.** There aren't Hyperloop tubes or anything to go great distances that fast."
>
> *— Chris Caplice, executive director of the MIT Center for Transportation & Logistics*

> "You don't have to do social distancing for robots, and they don't have absenteeism."
>
> *— Chris Caplice, executive director of the MIT Center for Transportation & Logistics*

Shifts in Consumer Demand

Social distancing and other measures to contain the coronavirus are also affecting demand patterns and supply chains within the U.S. Caplice observes that manufacturing has slowed significantly, particularly for expensive consumer durables that now face limited demand.

Retailers and restaurants have also experienced a significant drop in business, and many were forced by state or local governments to close their doors to customers.

On the other hand, grocers have struggled to meet a surge in demand for food, cleaning and hygiene products. Caplice observes that this surge results in part from consumer hoarding behavior, but also reflects a response to restaurant closures.

"You're not able to go to restaurants so more people are eating at home, so you're seeing more volume going through groceries," he said.

Caplice notes that these shifts in consumer demand are also reflected in supply chains. For example, Tyson has repackaged a significant share of the chicken it would normally distribute to restaurants for shipments to grocers. Overall, short-term demand for distribution centers has grown as grocers and e-commerce retailers try to catch up to spikes in consumer demand.

The Wall Street Journal has also reported a surge in one-way truck routes. This is happening because retailers are demanding more shipments of consumer staples to areas where truckers are unable to find outbound freight orders that they might normally be able to book for non-staple consumer goods. Caplice sees the increase in one-way trucking flows as a sign that the market is responding correctly to an increase in demand. While carriers generally prefer to avoid one-way trips, a surge in demand can increase spot rates enough that they can profit from a trip even if they are unable to carry a load on their return.

Long-Term Effects on U.S. Supply Chains

Caplice believes that just-in-time logistics has helped supply chains grow more flexible and responsive to market demand, and it is now allowing them to respond more effectively to disruptions associated with the outbreak by moving goods more rapidly.

Caplice notes that although supply chains in earlier years relied more on inventories for redundancies, they were less responsive to changing market conditions, and larger inventories likely would have been insufficient to make up for disruptions associated with the outbreak.

There are also downsides to stockpiling. With larger inventories, it is easier for unsold or unused products to become outdated or perish.

As much as grocers have at least temporarily adapted their inventory practices to keep up with demand, online retailers that once offered one-day delivery are now seeing those orders delayed. Large retailers have struggled to meet a surge in online orders as they simultaneously adapt to the virus' effects on the workforce. However, Caplice observes that supply chains organized around one-day delivery are not necessarily more fragile than other supply chains; they are just more expensive to operate.

"That inventory is getting pushed closer to population centers because the only way you can provide one-day is to have more of it closer," he said. "There aren't Hyperloop tubes or anything to go great distances that fast."

Caplice does not believe the outbreak will significantly affect the long-term trend favoring distribution centers that are located closer to the populations they serve. However, he notes that rapid changes in demand may encourage large retailers and distributors to take advantage of short-term warehouse space offered by on-demand providers like Flexe.

Although the outbreak is unlikely to have a long-term effect on warehouse location decisions, Caplice believes it may lead to a broader adoption of automation within warehouses.

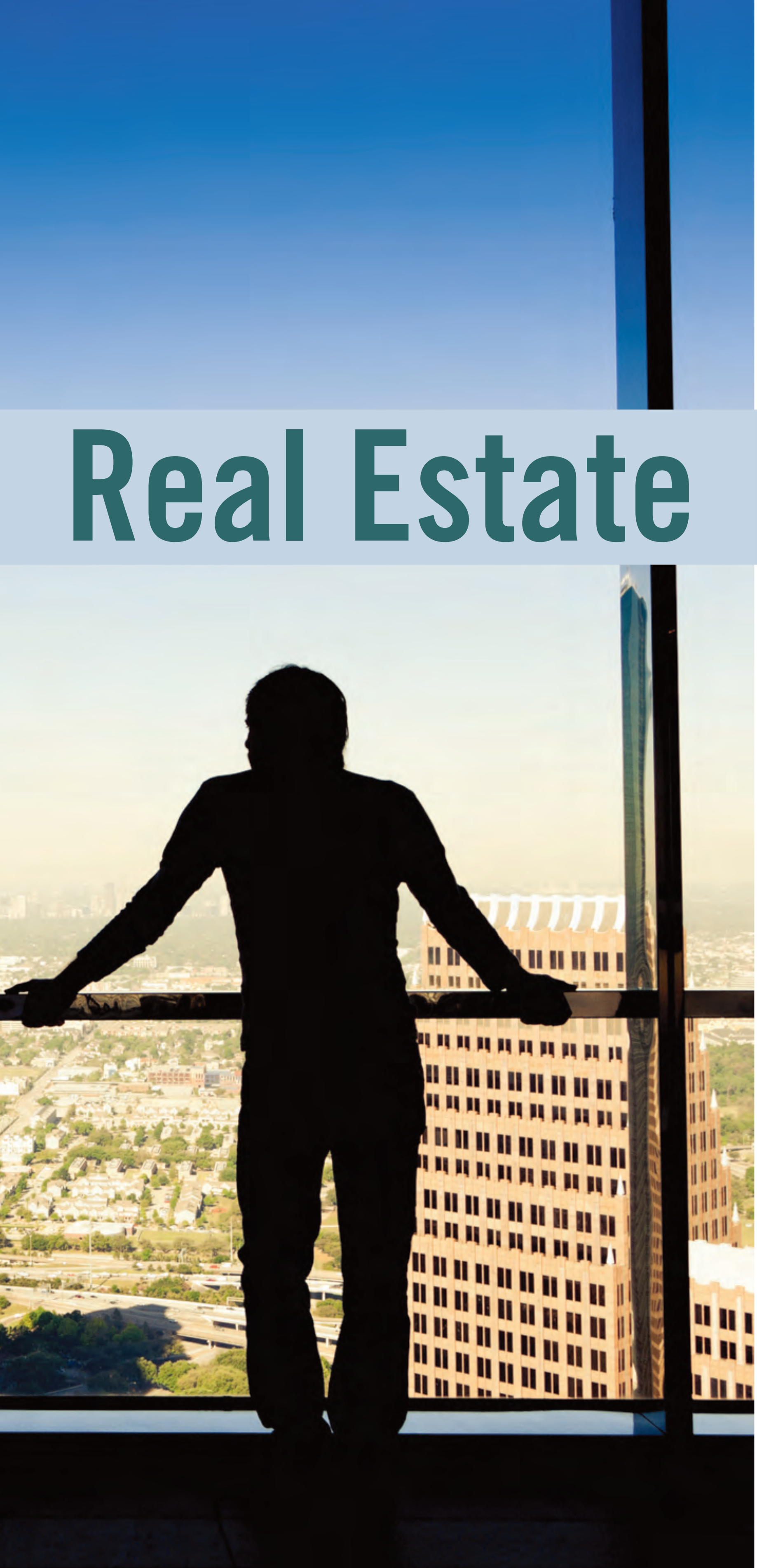
"You don't have to do social distancing for robots, and they don't have absenteeism," he said.

Automated operations within a warehouse can be ramped up or down despite a pandemic or other disruption to the labor supply. ■

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

SPECIAL REPORT

Experts Speak:
COVID-19's Impact on Commercial



Real Estate

Industry researchers respond to the crisis and take a look at what's on the horizon.

By Ron Derven

The COVID-19 pandemic is having a greater impact on commercial real estate than the global financial crisis of earlier in this century. That was a credit and liquidity crisis. The pandemic directly impacts the demand for space through quarantines, social distancing, shutdowns, supply chain disruptions, employment loss and a shattering of consumer confidence, according to real estate economic and research experts who spoke with Development magazine.

CRE and the overall economy will rebound, according to those interviewed. However, the speed with which the country and the industry emerge from the crisis depends on the ability to ramp up virus testing,

Meet the Industry Experts

John Chang, Senior Vice President and National Director, Marcus & Millichap Research Services

Emil E. Malizia, Research Professor, Department of City & Regional Planning, the University of North Carolina

Spencer Levy, CBRE's Senior Economic Advisor and Chairman of Americas Research

Raymond Wong, Vice President, Data Operations, Data Solutions, Altus Analytics, Altus Group

Maria Sicola, Founding Partner of CityStream Solutions, a consulting firm, and Integrity Data Solutions

development of a vaccine, patience with social distancing, the magnitude of monetary stimulus, and the relative health of the CRE property types, markets and individual projects.

Development: *How will commercial real estate emerge from this pandemic?*

Maria Sicola: CRE emerges from this pandemic looking different than it did before the emergency. Industries, regions and property types will recover at different speeds. Services such as property management, space design, construction, appraisal and analytics will become increasingly important. Brokerage will take a back seat to consultative advice and strategic planning.

Spencer Levy: The recovery will come in three phases — today, tomorrow and the distant future. Today, we are closely tracking rent collections in the top five asset classes — industrial, office, multifamily, retail and hospitality. The good news is that they are better than we expected in office, industrial and multifamily, which are tracking at about 90% in rent collections. Hospitality and retail are under-performing at around 20% to 40%. Tomorrow, which is likely to last for six to nine months, the assets will be reopened and will likely be reopened in phases, but further outbreaks could prompt local shutdowns. The distant future will find that the office will look a lot like it did in the pre-COVID-19 period, but with enhanced wellness features.

John Chang: The global health crisis poses a set of unique challenges and burdens on both the economy and real estate properties. Each property type faces unique challenges — some very severe, like the hotel sector, and some more mild, such as self-storage properties. All will face hurdles in the recovery process, and some may experience a substantive change, driven by new behaviors adopted during people's stay-at-home/work-from-home time. It's too early to assemble a clear picture on the ultimate outcome.

Development: *Which asset classes will emerge most quickly from the current crisis, and which will lag?*

Levy: The areas that look to lag at this time are those dependent on airline travel, tourism, and oil and gas. I don't think Houston and New York will have a materially different opening, but Houston will suffer longer than New York because of the oil and gas industry. Retail in secondary cities has been suffering for a long time, but is COVID-19 retail's death knell? I am not prepared to say that. I am prepared to say that trends that have impacted a lot of secondary cities have clearly gotten worse because of the pandemic.

Sicola: Data centers, research and development labs, disaster recovery operations and the industrial sector — particularly warehouse/distribution and last-mile delivery services — will emerge strongly, and office and retail will take longer. Multifamily will hold its own as the need for shelter remains inelastic much the same as the need for food, but we may see decreases in rents initially as renters struggle to make payments. Retail recovery will be mixed, with essential needs such as groceries, gasoline, health and beauty remaining strong, while other such as restaurants will struggle. Some will not survive.

"Ultimately, a full reopening will require a **COVID-19 vaccine.**"

— John Chang, Senior Vice President, national director Marcus & Millichap Research Services

"**Retail recovery will be mixed with essential needs** such as groceries, gasoline, health and beauty remaining strong, while other such as restaurants will struggle."

— Maria Sicola, Founding Partner for both CityStream Solutions, a consulting firm, and Integrity Data Solutions

Chang: The economy will likely reawaken in phases, but the speed of the real estate recovery will largely be dependent on how long the shutdown lasts. Hotel properties will probably be slower to recover because much of their business is driven by conferences, events and tourism — all things that will be slow to revive. Ultimately, a full reopening will require a COVID-19 vaccine.

Raymond Wong: Prior to the pandemic, there was a strong push for just-in-time delivery to minimize space needs. What this emergency has shown us is that we need a little extra space to react to these events, but I don't think that means double or triple industrial space.

***Development:** Although COVID-19 will impact all of CRE, do you see any areas of the country being hit harder?*

Chang: As demonstrated by the severe spread of COVID-19 in New York, New Jersey and Louisiana, the impact is less about geography and urban density than it is about population mobility, tourism and public policy. Cities and states that rapidly locked down, like the Bay Area in California, were less severely impacted and therefore will not face as steep of a climb to recover.

Sicola: The urban core markets — New York City, Los Angeles, Chicago, Philadelphia, Detroit, Washington, D.C. — will be hit harder in the short term.

***Development:** What happens to office design going forward? What about the coworking industry?*

Sicola: The open-office plan concept, as we know it today, will be a trend of the past. Issues with noise, inability to concentrate and numerous distractions were already creating issues with productivity. Square footage per employee was shrinking to levels that, in some cases, were precariously close to violating codes. The move toward efficiency and lowering costs — while still important to the corporate bottom line — will now give way to flexibility, resilience, employee satisfaction and productivity.

***Development:** What about the U.S. supply chain?*

Sicola: Reshoring of manufacturing was already happening in some respects as the cost of labor was increasing outside the U.S. This trend will likely gain momentum with products that can be sourced in the U.S. Consumer products for sanitization will be in high demand, and the need to get the goods to consumers more quickly could impact the supply chain as well. The last mile will become increasingly important and new modes of delivery will emerge, as we are seeing already.

Chang: Many companies were already in the process of restructuring their supply chains because of the trade war with China. However, the pandemic will cause companies to re-evaluate where products are manufactured and how they manage inventory. Just-in-time inventory practices make a lot of sense, but companies may reconsider adding a bit more slack to their highly efficient systems. In addition, some products may be deemed of national importance such as N95 masks, and they may increase domestic production of those products.

Levy: COVID-19 will impact the supply chain, but it brings up a

"Real estate is resilient. It may take time to come back, but it will come back."

— Raymond Wong, Vice President, Data Operations, Data Solutions, Altus Analytics, Altus Group

"COVID-19 proved that our supply chain is a lot more brittle ... than most people suspected."

— Spencer Levy, CBRE's Senior Economic Advisor and Chairman of Americas Research

much more important issue about globalization. Globalization is not one thing, but rather four: it is the trade of money, information, goods and services. The trade of money and information will continue to accelerate. The trade of goods and services will be called into question. COVID-19 proved that our supply chain is a lot more brittle — using that word as the opposite of resilient — than most people suspected. The word for the next 20 years will be "resilience." Maybe it is efficient and cheapest to have a single supply line from China, but for the future, businesses will expand supply lines to include the U.S., Mexico and Canada. We will also need more resilience at the local level where we saw shortages of cold-storage facilities needed for food deliveries.

Development: *Will working at home become the norm after the crisis, or will people return to offices in large numbers?*

Emil Malizia: There is intense speculation that everyone working at home during the crisis will want to continue to do it. However, the benefits of social interaction far outweigh the benefits of sitting in one's house and working remotely.

Sicola: Office space will need to become more personalized and less communal — we will likely not return to all-private offices and fancy conference rooms. But all space — personal and meeting — will need to be viewed with more breathing room. Enhanced janitorial and sanitization services are also key.

Development: *What happens to cap rates moving forward?*

Levy: Values on buildings are going to come down because of the impairment of rent rolls. The movement of cap rates is asset-dependent. If you have a core asset in a major market, you will see very little movement. If you are in a secondary market with weakness in the rent rolls, you will see a greater diminution in value.

Sicola: Cap rates are likely to rise as operating income declines.

Wong: Cap rates probably will not move up for core assets. Core assets are always in demand. Where we may have problems is with retail assets and with assets in secondary and tertiary markets. I don't think we will see a huge correction to prices.

Chang: Thus far cap rates have seen little movement, but the flow of capital and severity of the downturn could dictate trends. If many property owners face a severe financial impact, they may sell assets, creating a buyers' market that places upward pressure on cap rates. Because most investors have been well capitalized with comparatively low leverage, the probability of a severe distress situation remains low. However, there was considerable volumes of capital pursuing real estate assets prior to the pandemic. If this capital remains active in real estate, cap rates should see little movement in general. It's likely some assets will be sold at an elevated cap rate to clear the market quickly, but it's unlikely to be broad-based.

Development: *When will investors return to the market?*

Malizia: One investor told me that he cannot close on a building because he cannot get an appraiser to go out and look at it. If social distancing — I like to call it physical distancing — remains in place, "There is intense speculation that everyone working at home during the crisis will want to continue to do it. **The benefits of social interaction far outweigh the benefits of sitting in one's house and working remotely."**

— Emil E. Malizia, Ph.D., FAICP, Research Professor, Department of City & Regional Planning, The University of North Carolina

what does that do to occupancy, particularly office buildings? Does that have an impact on tenants' willingness and ability to pay rent?

Levy: Based upon our experience with prior crises, there will be a slowdown in transaction volume for several months until we have a better handle on price discovery and we have the physical ability to visit the asset. The other thing is that potential investors need more transparency into rent rolls.

Chang: Many investors remain active in the market, even during the shutdown period. Investors in a 1031 tax-deferred exchange, even with the extended timelines, continue to pursue assets, and local private investors remain active in many cases. However, logistics such as site visits, appraisals and even the signing of documents have been impaired, and they are slowing the processes. Full market activity will likely not resume until shelter-in-place restrictions are fully removed, air travel is fully operational, and people feel comfortable about traveling and interacting in person. This will likely require widespread vaccine availability.

Sicola: Opportunistic investors are likely already keeping an eye on the market to swoop in on distressed properties. The risk-averse will remain on the sidelines. There will likely be more acquisitions and takeovers if this turns into a prolonged or U-shaped recession rather than a V-shaped recession.

Wong: Real estate investors are continuing to look at projects online. They are doing the best they can to understand what type of asset is in the market. But real estate is a touch-and-feel asset. You have to see it and you have to see the other assets around it. Right now we are in a stall.

Development: *Do you anticipate permanent damage to the industry or to the country due to COVID-19?*

Levy: The economy will be much better in about a year. The bad news is behind us. The good news is in front of us. So things are much better a year from now, and two years from now we will be largely back to normal.

Chang: Generations are shaped by their common experiences, and the pandemic of 2020 will leave an indelible mark for years to come. The millennial generation in particular will carry a new reality with them that will shape future decisions ranging from health to social gatherings to financial matters. The ability to adapt is an inherent strength of people in general. Ultimately these challenges will make people stronger and hopefully better prepare society for the next black swan event, whether it be a health crisis or something else.

Sicola: The industry will be transformed as it has after other black swan events such as the S&L debacle, the tech bust, 9/11 and the Great Recession. There will be winners and losers. The depth and breadth of it depends upon the government's ability to bring public health back to some form of normality and restore confidence, and the length of the economic recession and recovery. Real estate lags the overall economy, so it will need to follow suit and determine how to reinvent itself to aid in the recovery and the growth of the nation. ■

Ron Derven is a contributing editor for Development magazine.