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Digital Drivers of Real Estate Opportunity

Shifts in technology are contributing to a new landscape in the listed real estate universe.

As the global economy continues to reel from the impacts of the COVID-19 pandemic, notable casualties have been select segments of the real estate market, particularly those businesses and properties with brick-and-mortar retail exposure. Clearly, these are difficult days, as companies adjust to an extended lockdown and the number of bankruptcies among retailers and regional malls escalates. That said, the real estate market has also seen dramatic changes in recent years driven by technology—changes that may bring certain segments through the crisis in better shape than many anticipate.

Think of the trends that were in place even before COVID-19. The spread of mobile devices has accelerated the movement of many of our transactions, processes and leisure activities to the online world. With the promise of accelerating connectivity, advances such as artificial intelligence, autonomous driving and the "internet of things" are coming closer to fruition. Such changes are affecting underlying physical infrastructure and real estate, both in the destruction and devaluing of the obsolete and the creation of the new. The world may need fewer stores, but more logistical capability; less paper, but more data storage; fewer interstates, but faster digital highways.

We are seeing this transition occur in real time for real estate securities. Yes, technology has contributed to fallout for traditional players, but it has also fostered a dynamism that we believe should benefit select companies over time. In this *Insights*, we discuss real estate segments where technology is having a particularly meaningful impact.

Cell Towers: Connectivity Linchpin

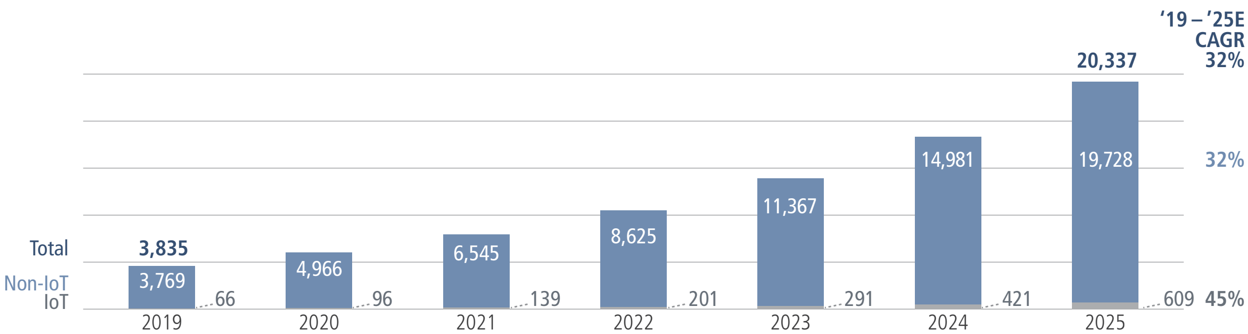
Back in the '90s, U.S. phone companies generally sold their cell tower assets to pay for fiber optic buildouts, and the majority are now owned by listed real estate companies. They rent out space to wireless carriers, which mount equipment such as cell transistors and antennas. With the growth of data from smartphones, the towers have seen explosive demand over the last decade. And they are typically geographically dominant, approved by local governments and protected by the "not-in-my-backyard" mentality of residents who want strong cellular service, but don't want to see additional, ugly infrastructure. As a result, cell towers enjoy high barriers to entry and pricing power, even as the number of major customers—largely the national carriers—remains low.

The transition to 5G will introduce new dynamics to the tower business. Past technology rounds have relied on lower frequencies that could travel longer distances—i.e., between cell towers. However, available bandwidth is now largely at high frequencies, which work best at closer distances, while the new generation of applications, including self-driving cars, requires densely packed signals to limit latency (or response time), reinforcing the need for many more, closely spaced signals. This will translate into a large number of "small-cell" antennas, which are likely to be placed not only on cell towers, but on traffic lights, bus stops, building walls and other "street furniture." Obviously, obtaining the necessary approvals from local governments across vast geographies will require considerable time and money, and many expect a full rollout of 5G to take as long as a decade.

The cell tower companies are applying various approaches to the 5G trend, with some diversifying significantly into small cells and fiber, and others taking a more wait-and-see attitude. Ultimately, 5G will wind up with a complementary set of capabilities, combining towers and smaller antennas. One risk involves the consolidation of the wireless industry. The recently completed merger of T-Mobile and Sprint would reduce the number of existing national carriers from four to three, although with the establishment of a fourth player, Dish Network Corp., to maintain competition. With T-Mobile (and Dish) aggressively competing with the top carriers, many analysts expect a sharp increase of capital expenditures to upgrade networks. This, in addition to an already enormous potential buildout of 5G infrastructure, turbocharged with enhanced use of digital networks tied to COVID-19, should help maintain the central role of cell tower companies in telephony and data for years to come.

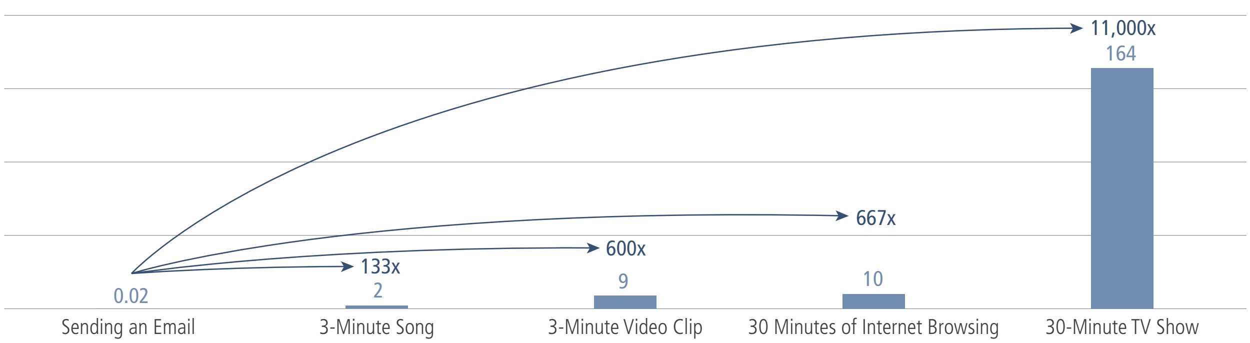
MORE BROADBAND WILL REQUIRE ROBUST CELL TOWERS

U.S. Data Traffic by Device Type (in petabytes/month)



Source: Cisco VNI 2016, Ericsson Mobility Report, June 2019, Altman Vilandrie & Co. IoT=Internet of Things. IoT is based on machine-to-machine (M2M) module connections, traffic and data usage; Non-IoT includes everything other than M2M modules (e.g., smartphones, tablets, laptops and feature phones). Forward-looking figures are estimates.

Average Data Used by Activity (in megabytes)



Source: American Towers company presentation, Altman Vilandrie & Co. research, Verizon, AT&T.

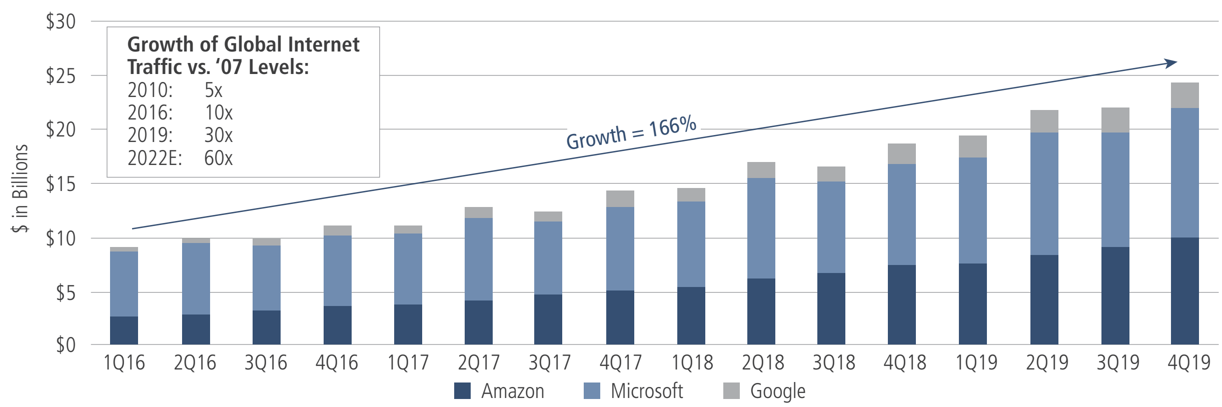
Data Centers: Where 'the Cloud' Gathers

Most people have a vague sense of the internet and cloud, but don't associate them with vast nondescript warehouses that house their physical backbone. Data centers provide infrastructure for tenants with various enterprise and computing needs, and hold millions of terabytes of data for individuals and companies. Although the profiles vary, they typically fall into two categories: wholesale and colocation. Wholesale sites are no-frills operations that provide large blocks of space at relatively commoditized prices. Colocation sites may have multiple tenants whose close proximity allows for connectivity advantages; they tend to offer more services at higher prices.

Data centers have proliferated with the growth of internet traffic and the advent of mobile devices, and rapid migration of data storage from local sites to the cloud has accelerated that growth. With this trend, however, have come new tensions between the data centers and their largest customers, a handful of mega-companies that provide "public cloud" services. As the share of these companies has expanded, data centers have experienced less contact with end customers and weaker pricing power. They have sought to offset this with M&A activity that is focused on highly valued "interconnection" assets located at key points on the digital map. All told, however, the continued growth of the cloud, business outsourcing, the 5G ramp-up, artificial intelligence, blockchain and myriad other data-intensive trends should contribute to accelerating demand for storage over the next decade.

CLOUD COMPUTING IS DRIVING DATA CENTER DEMAND

Revenue from Cloud Business



Source: Green Street Data Center Insights.

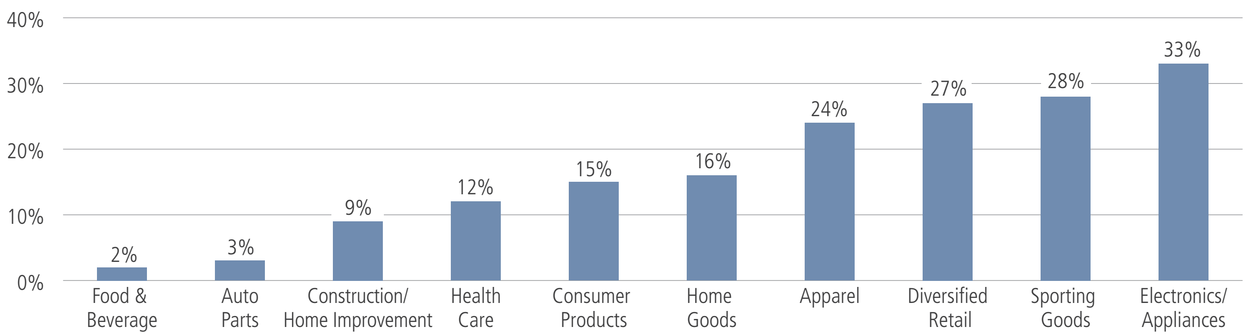
Fallout and Opportunity Tied to Retail

Even before the pandemic, the growth of digital commerce was having massive impacts on the retail sector, with a record 9,300 store closures announced in the U.S. last year. E-commerce (as measured by non-store sales) grew by 13% in 2019 compared to 3.6% for retail generally.[1] With the spread of COVID-19, most non-grocery mall-based retail has been shuttered, and a number of name-brand retailers are either contemplating or have already entered bankruptcy. The mandated closure of many retail locations has impacted cash inflows to retail REITs, many of which have struggled to collect rent from shuttered tenants.

Even the U.S. grocery sector, which prior to the current crisis had been stubbornly resistant to e-commerce penetration, is experiencing significant trial usage that may result in greater consumer acceptance once the current crisis abates.

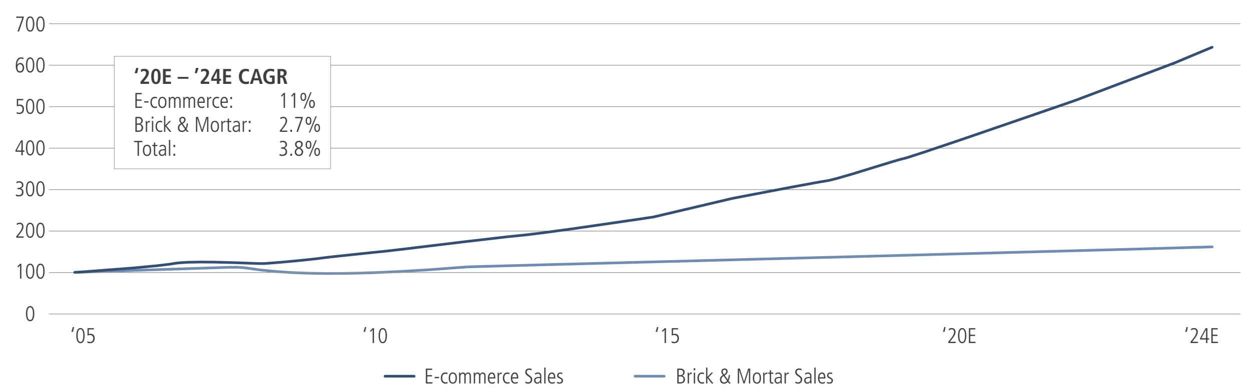
[1] Source: U.S. Census Bureau.

E-COMMERCE SHARE OF U.S. RETAIL SALES



Source: Euromonitor, U.S. Census. Data as of 2019.

E-COMMERCE VS. BRICK & MORTAR SALES GROWTH (INDEXED TO 100 IN 2005)



Source: Bureau of Economic Analysis, Federal Reserve, Oxford Economics and Green Street Advisors.

Without denying the severity of the situation, we see retailer and online operations as potentially complementing one another and anticipate strong players adapting to, and capitalizing on, the digital shift, even as the economy works through the impacts of the pandemic.

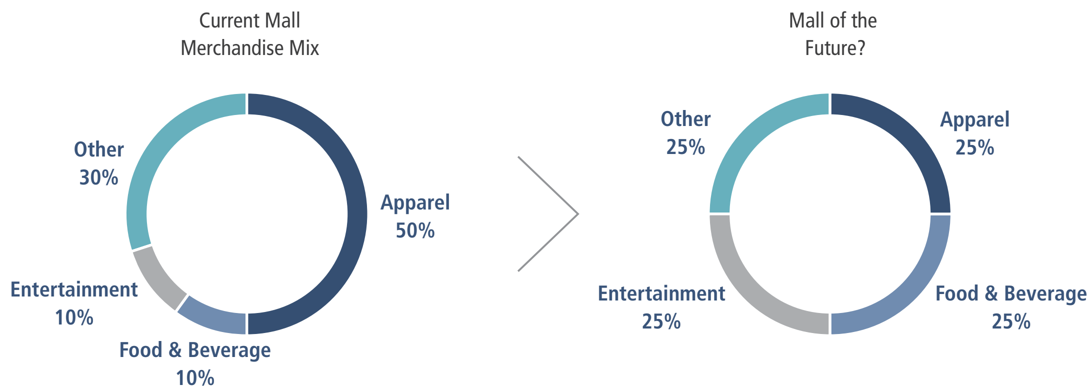
For example, stores and malls that enjoy prime locations can double as pick-up centers for goods bought online (known as BOPUS: "buy online, pick up in store"). A higher proportion of goods purchased digitally are returned as well; as lockdowns ease, customers should resume their pattern of taking their purchases back to a real person in a local store if they have the option.

Moreover, the rapid growth of deliveries is driving the real estate-intensive trend of "e-fulfillment," which is employing a range of assets, from warehouses to regional service centers to local self-service lockers and pick-up locations. Wider product choice, smaller orders and increased incidence of product returns mean that e-commerce also uses more of those assets than traditional retail. It is estimated that e-commerce requires three times as much real estate as "brick-and-mortar" retail. As a result, while retailers curb their physical store openings, many remain committed to the top locations, while leading U.S. online brands, notably including Amazon, have opened brick-and-mortar stores as well.

The best-located malls are also the ones better able to adapt their retail offerings to current pressures. For example, the primary mall in a large and thriving community should be able to swap out at-risk apparel stores for assets with more potential, including grocery stores (which have seen continued traffic in the pandemic), as well as restaurants, gyms and other leisure/entertainment offerings, which should gradually come back with reopening.

Consolidation has begun among the owners of the highest-quality regional malls. Over the past three years, three large regional mall portfolios have transacted and landed in the hands of stronger, better-capitalized owners. We have even seen large U.S. mall REITs team up to acquire and restructure two struggling retailers. In our view, the best retail landlords are not standing still; they are seeking to increase their market share and reshape their portfolios in ways that can help them succeed in the new multichannel retail environment.

MALLS FOR MODERNS



Source: Green Street Advisors.

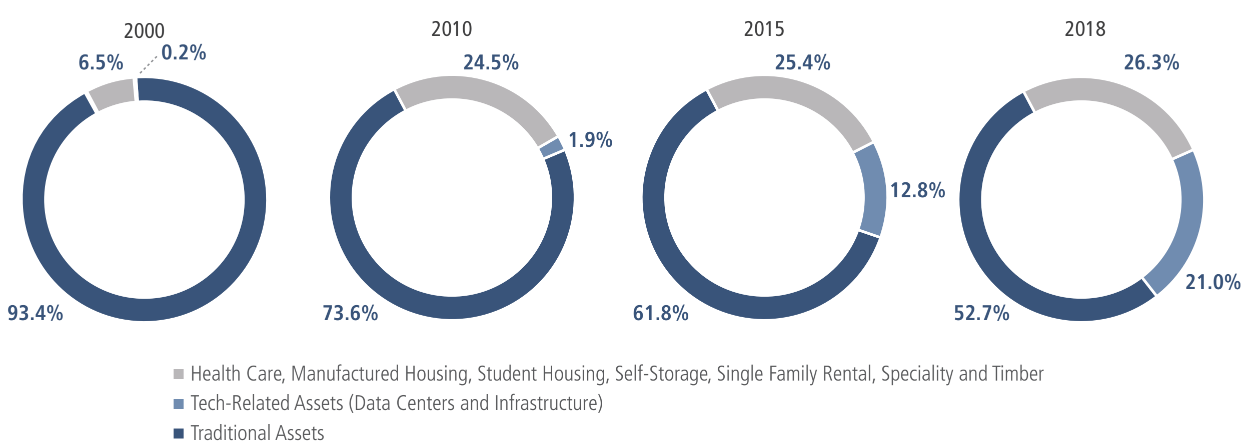
Real Estate's Changing Profile

The trends we've described represent a major transition in the listed real estate universe, which is reflected in the general makeup of the asset class in recent years. However, they don't necessarily indicate the end of more traditional real estate segments. Especially at reduced valuations, quality companies with strong balance sheets may offer significant long-term opportunity.

Moreover, the future has not yet been written in key areas. For example, with the experience of the pandemic, businesses may seek to reverse the trend toward office densification and open flooring arrangements to practice social distancing, even as they acknowledge the benefit of some work-from-home activity. Similar rethinking may affect health care facility design as well. Such dynamics suggest a potential offsetting demand for commercial space as economies emerge from weakness.

That said, the resilience of technology and e-commerce assets in the lockdown reflect their exposure to powerful long-term growth themes that appear to be accelerating. Combined with thorough research and careful portfolio construction, emphasizing these areas is likely to be an important element in seeking performance in the listed real estate market going forward.

U.S. REITS: AN EVOLVING MIX OF ASSETS



Source: FTSE Russell, as of January 1, 2019.

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