

COMMERCIAL

The Impact of Technology on Commercial Real Estate Assets

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In commercial real estate development, obsolescence and new technology drive consumer behavior and ensuing demand. Return on investment for developers and property owners depends critically on foreshadowing and adjusting to these demographic changes through building design, considering how location, layout and function itself is impacted by imminent revolutions such as driverless cars, ubiquitous e-commerce delivery and commuting hubs. Lenders, in turn, will see an increase in opportunity to finance these new assets while simultaneously mitigating risk due to obsolescence.

As commercial real estate stakeholders look to the future, their primary consideration for asset valuation should be real estate layout, design and location. The most successful commercial buildings of the future will integrate technology seamlessly into optimized function and be located conveniently for transportation, population shifts, delivery and lifestyle.

Presented below are four technology considerations that will have the most impact on building design in the coming decades.

DRIVERLESS CARS

No technology will have more impact on how we use our roadways, public transport, parking lots and gas stations than driverless vehicles. This transportation evolution will

fundamentally affect what commercial real estate assets perform well.

Desirability of location is a direct derivative of transportation capabilities. The oldest eastern seaboard cities were established when ports and water transportation were the only option. The advent of rail systems expanded populations to outer cities like Dallas and Denver. But the proliferation of automobile ownership after the Second World War expanded accessibility to outer suburbs and exurbs of distant cities and towns. The driverless car will further revolutionize tolerance for a long daily commute. Being able to eat, sleep or work on the way to the office changes the conventional wisdom of a desirable location, and may drive consumers to choose quality over proximity for the home or office! Interestingly, these forces may counter or slow the continued migration to livable, walkable urban centers.

Driverless cars will also change the role that public transport plays in the design of our cities. In the future, autonomous Uber-like services will serve as (a far more convenient) alternative to trains and buses, which may diminish the appeal of clustered, public-transport-oriented development.

Driverless cars will also create new opportunities for developers and governments

...Technology continued on page 38

Technology continued from page 25...

to improve obsolete assets. Obsolete urban parking structures and gas stations can be converted into higher value assets through adaptive reuse projects. A more efficient use of roads (since autonomous vehicles can drive more compactly together) could facilitate conversion of some roads into parks or other more useful updated commercial assets.

With driverless cars, developers will no longer be restricted by stringent parking requirements, which will expand. Already, landlords in San Francisco can be exempted from parking regulations by offering tenants Uber vouchers or other transport alternatives! In place of parking, there will probably be a need for ample space around commercial

properties for rideshare services to pick up and drop off passengers.

E-COMMERCE AND AUTONOMOUS DELIVERY

E-commerce is rapidly transforming the need for and use of traditional “brick and mortar” stores. Increasingly, actual sales are taking place online, and for many retailers, having a physical store is a necessary marketing expense to provide a place for customers to see, feel or try on products, and to provide strategic exposure for a brand in the right location. The spatial requirements of these “showroom” assets will change accordingly.

Distribution centers are also enormously affected by the evolution

of e-commerce. Delivery services keep getting faster—many retailers now offer next- or same-day delivery of online purchases, and Amazon Prime Now can now deliver goods within hours of placing an order. This puts undue pressure on a variety of businesses to compete for fast delivery, making “last mile” logistics an important aspect of commercial building layout and location, particularly for the industrial sector. More abundant, centrally-located distribution centers with storage systems that allow for superfast product sorting might replace major suburban distribution centers. Many of these were built near freeways and train lines only a few years

...Technology continued on page 39



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Technology continued from page 38...

ago, but must now adapt to avoid becoming obsolete.

The impact of technology has even infiltrated grocery shopping. Amazon is pushing change in the grocery market with Amazon Pantry and Amazon Fresh, offering its Prime members fast delivery of goods ordered online. This 800-pound gorilla of e-commerce is having a direct impact on the commercial real estate industry as it will need hundreds of strategically located warehouses, (refrigerated) distribution centers and transport networks to support its fast-growing grocery delivery business.

The impact of delivered goods has reverberated across the grocery business. Online ordering and one-hour delivery of groceries is rapidly gaining popularity in major cities around the country, competing with traditional in-store sales for a share in the \$700-billion U.S. grocery market. The leader in delivered groceries—Instacart—has just been valued at \$3.4 billion. Even a relatively small percentage drop in revenue for the traditional grocery business will have a substantial effect on this industry.

Grocery stores recognize it is in their interest to adjust internal and external layouts to facilitate the most efficient collection and distribution of online orders. While grocery will continue to be a viable model for a very long time to come, physical stores will need to adapt to stay competitive. They may decrease physical footprints, provide some retail space to sub-tenants like banking kiosks, expand these smaller locations for faster and more

ubiquitous delivery, or be re-designed to efficiently accommodate grocery delivery, in-store dining or even drive-thru.

SMART CITIES AND SMART BUILDINGS

Smarter buildings are the result of technology that makes it possible to collect huge amounts of data from multiple sources, which can be used to expedite or even automate critical functions and management decisions; resulting in improved efficiencies and reduced down time. Heating and ventilation systems, lighting, distributed power, security, elevators systems, CCTV, communications, parking, utility grid meters, vending machines, water management, landscaping/irrigation, digital signage and voice communications can all be operated and optimized through centralized management systems. This interoperability of building systems leads to better managed, more efficient assets. Owners can optimize ROI by lowering operating costs through efficiency, and improving marketability and value.

Networked physical systems will play an important role on a broader scale by enabling the real-time collection of data related to health, pollution, energy usage, traffic, water usage, and waste disposal. The city of Amsterdam in the Netherlands is an example of a smart city, with a wide array of interconnected systems, products and initiatives, many of which are government-sponsored.

...Technology continued on page 40

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Technology continued from page 39...

Among these is Mobypark, an app which allows owners of parking spaces to rent them out to people for a fee (kind of like AirBnB for parking). The city then uses the data generated from this app to determine parking demand and traffic flows. Other city-run initiatives include flexible street lighting which allows municipalities to control the brightness of street lights and pedestrian traffic, and smart traffic management systems, which monitor and broadcast traffic in real time to advise motorists on the fastest routes to take.

Recently the City of Los Angeles announced that it is installing the first city-wide cloud and mobile based lighting control system. Using mobile chip technology embedded into each fixture, the LA Bureau of Street Lighting remotely controls lighting fixtures, and monitors the energy use and status of each light.

CYBERCONNECTIVITY FOR MORE EFFICIENT REAL ESTATE

These commercial real estate developments place enormous pressure on wireless networks, which must also continue to evolve to keep up with ever-growing mobile data performance demands. For example, 5G is the ultra-high-speed and high-capacity successor to 4G networks that are currently widely used, and will be a critical component to enable ongoing innovations and developments in the networked society of the near future.

The transition to smart cities and buildings could have an impact on our built environments. Efficiencies

in municipal energy and water management may reduce city costs, which could facilitate reinvestment in the infrastructure. Networked parking meters could be used to optimize urban parking, thereby minimizing the parking requirement for urban real estate, to allow increased building densities. Some cities have even applied IoT principles to waste hauling with “smart” municipal trash cans that signal when they’re full, saving a trip to a half empty container.

Smarter, better operated buildings will yield higher returns. Investing in technologies to improve energy efficiency, IT and connected building systems has potential to significantly increase the marketability and value of assets. As smart-building technology continues to evolve, it is crucial for commercial real estate stakeholders to stay ahead of market demands and applications relating to new technologies to ensure their investments accommodate for changing demographics and needs to deliver rather than disrupt returns.

EFFECT ON LENDERS

The advent of these technologies brings lenders risk and opportunity. Most lenders have a hard time underwriting the risk of building obsolescence. These changes often take a while to manifest, but the speed of change is only accelerating. As building owners look to invest in assets to keep up with or even lead changes, there will be opportunities for lenders to provide the capital.

