

Industrial Goes Vertical

■ Jay Todisco, AIA, LEED AP, Ware Malcomb

Cultural shifts in society are leading to disruptive changes in ecommerce fulfillment. The turn towards just-in-time and 1-hour delivery is becoming mainstay in a market where a shipment cannot be fast enough. Simultaneously, uncertain and fluctuating fuel prices, among other changing market factors, are driving industrial back to urban areas. As delivery timelines continue to compress and trucking transportation costs rise, fulfillment facilities need to evolve to keep up. How? They are going vertical.

The concept of vertical warehouses is not new. Starting in colonial times, major port cities received shipments delivered by cargo ships daily. The confluence of transportation networks distributed the goods from the port to consumers. Goods were transported by trains to the suburbs and then delivered by horse and buggies to consumers. Items not distributed were stored in warehouses close to the port. Expensive and limited land availability spurred the inception of vertical warehouses. Over time as the prevalence of truck transportation expanded, warehouses moved out to rural areas where more land was available at a lower cost, and so began the emergence of single-story industrial distribution and fulfillment centers.

Today, we have come full circle with the need to go vertical once again. As the demand for faster delivery increases, industrial fulfillment centers in rural areas need to relocate closer to urban centers to provide quick, on-demand service. Vertical warehouses have been built in certain Asian markets due to high urban concentration and very limited land availability at ports and population centers, and the trend is now starting to gain traction in North America.

Location, Location, Location

How do you determine the best and most efficient location for the warehouse? The old formula-driven paradigm took rooftop numbers, zip codes, and population demographics into consideration. The



Ware Malcomb Prototype

warehouse and retail stores were then placed at a determined location to best serve that specific area's needs, largely based on population size.

Today, location is driven by clicks. The new data-driven paradigm is based on the click through rate of purchases, where the clicks are coming from, and data mining of buying habits and trends. As product demand increases, so does the need for rapid fulfillment. Vertical warehouses will fulfill the quick delivery demands necessary to get the purchased products to consumers. These warehouses will typically house the fastest moving SKUs to enable the company to deliver their best selling products the fastest.

Vertical Prototype Design

Ware Malcomb is currently designing some of the first multistory warehouse facilities in the United States which include ten facilities in key markets such as Los Angeles, New York, Vancouver, Hawaii, and Seattle, among others. Ware Malcomb has developed a 4D prototype that encompasses a holistic view of the entire project type. Our in-house architectural and engineering teams have partnered with major national developers, structural engineers, and general contractors to develop the prototype. We have analyzed the total project costs from site improvements, structural systems, building skin options, and the complex building code and planning issues these hybrid buildings will require. With these

powerful tools we have created, our clients will be able to evaluate sites in real time. By having the ability to quickly develop proformas based on accurate, local construction pricing and specific land values, tenant lease models can be generated. This prototype will solve the functional, construction, and financial puzzle of today's rapidly increasing industrial market demands. ■



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