

# URBAN DEVELOPMENT

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## Creativity is hallmark for 555 Tower

- ***Efficiency, predictability and safety: Construction innovations at 555 Tower in downtown Bellevue.***

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Creativity and innovation are prevalent throughout Vulcan Real Estate's 555 Tower in Bellevue. The myriad of logistics involved in constructing a 600-foot-tall, skyline-piercing building of world class caliber is indeed impressive.

As general contractor, Turner Construction has been tasked with the project's careful orchestration, managing the entire jobsite, trades workers, and subcontractors and along with Vulcan, developing relationships with neighborhood stakeholders, the city of Bellevue, and others. Leading a project of this scale and complexity requires tremendous organization and attention to detail, which is where smart systems and technology have been brought in to help bring the project to completion as efficiently as possible.

We are utilizing a number of new and advanced construction technologies with the intention of increasing productivity while also collecting data to inform future development projects.

### CRANE VIEW

The crane hook is easily one of the most important pieces of machinery on any jobsite. A single crane makes about 80 to 100 picks per day and is frequently the only method for moving materials and equipment from the street level to the upper floors of the building. A tool with that much utility holds the key to critical insights into utilization, productivity and the flow of materials.

We are using Crane View by Versatile to capture crane movement and data, which is then turned into actionable steps that will improve performance of this and future projects. This technology is essentially a camera that tracks all the crane's picks throughout the project. Analyzing how much time is being spent on a particular type of task, our team is able to better plan and sequence the construction schedule.

As we learn more about how the crane is used, we become more and more efficient, allowing us to complete crane-dependent activities such as steel erection more quickly, saving both time and costs associated with large scale development.

555 Tower is Turner's first project in the Pacific Northwest to use this technology — Crane View was previously used on Vulcan's 520 Westlake project in South Lake Union — and will likely show up on future project sites thanks to the incredible benefits it provides.

## SKYBUILD

Efficiencies are being built into 555 Tower through the use of Otis' SkyBuild, a "self-climbing elevator system." In addition to a traditional temporary construction lift located on the exterior of the building for construction purposes, SkyBuild uses what will ultimately be the permanent service elevators for vertical transportation.

As the building is constructed, Otis installs traveling rails in the elevator shaft so that SkyBuild essentially climbs the tower as each floor is erected. Advantages include hauling materials and labor to the upper floors much faster and smoother than traditional construction elevators, while also sheltering workers and materials on rainy days. This also allows the removal of exterior man lifts earlier in construction, enabling us to button up the curtain wall sooner.

But SkyBuild's benefits extend beyond faster and more efficient project construction. Because the elevators are inside the building, they are silent, reducing construction noise impacts on our neighbors. From a safety perspective, this advancement is much more structurally sound, offering added protection to labor and materials as they move up and down the building safely and quickly. Once the building is complete, Otis will be able to put the final touches on the elevators quickly since many of the permanent components are already in place.

## EMERGENCY ELEVATOR SYSTEMS?

One of the most important considerations for the design of high-rise buildings is the safe evacuation of people in the event of an emergency. To take advantage of updates to the International Building Code in 2009, 555 Tower was designed with occupant evacuation elevators as an innovative and forward-looking approach to safe egress. This is directly opposite of the traditional guidance to take the stairs in the event of a fire emergency. Historically elevators have been reserved for first responders for firefighting and rescue operations.

555 Tower will be one of relatively few buildings in the world to incorporate occupant evacuation elevators, and the first in the city of Bellevue. Code permits the use of elevators as an alternate to an additional exit stairway that would otherwise be required for high-rise buildings over 420 feet high. This is not only a significant benefit to those challenged by age, health or restricted mobility for self-evacuation, but it also provides occupants another way to exit more quickly and easily than stairs alone.



Image courtesy of Vulcan [\[enlarge\]](#)

**Turner is using a number of new and advanced construction technologies on 555 Tower.**

The familiar elevator lobby sign stating “In case of fire, use stairway to exit. Do not use elevator” will be replaced in 555 Tower’s elevators with “In case of fire, use elevator or stairs” with accompanying visual and audible messaging to instruct occupants in an emergency.

Using the passenger elevators for the code-required “additional means of egress” in lieu of an additional exit stairway also affords more flexibility for tenant space with increased access to daylight and views. This is especially advantageous in very tall buildings where floorplates typically reduce in size as the building increases in height due to limitations such as prescribed zoning regulations, structural design and other design constraints.

## **BUILDING FOR THE FUTURE**

The need for commercial office space in the greater Seattle area is at its all-time high with technology companies and others hiring at astounding rates and the region continuing to attract companies and workers seeking the region’s high quality of life. Market fundamentals continue to be strong, suggesting there are no immediate signs of slowing. A recent survey conducted by Axios found the Seattle Metro Area (which includes Bellevue) as the most desired destination among recent college graduates.

555 Tower is helping to lead the way for future development in the Pacific Northwest. From time-saving construction techniques to safe and efficient building features, the caliber of execution within this project raises the bar for the region and champions a path for smarter, stronger building practices.

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