Station Design: Why Go Vertical?

Architect Christopher Kehde spoke to Station Design Conference attendees about how building upward can maximize the potential for a station project when site space is limited.

JOHN KOSIK MAY 15, 2019

FIREHOUSE.COM NEWS

Christopher Kehde with LeMay Erickson Wilcox Architects speaks at the Station Design Conference on Tuesday, May 14, 2019.
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The design and construction phases of renovating or building a new fire station are bound by the space you have to work with, whether it's on an existing property or a new land acquisition.

While most may have a tendency to envision building out their project, the benefits of building upward may be the best course of action, particularly if you have an architect on board from the beginning who can help turn these more complicated projects into a functional reality.

During his session at this year's Station Design Conference entitled "Why Go Vertical? Single Story, Multi-Story and Mixed-Use Facilities," Christopher Kehde with LeMay Erickson Wilcox Architects offered a few case studies in which building vertically yielded some great—and unique—results.

Why go vertical?

The reasons you may choose to build vertically can be various, but it's often simply a matter of accommodating the available space. Perhaps there isn't enough land available where you need to build or your budget has limitations on what can be acquired.

Some common reasons for looking upward in your design phase include:

- Site size relative to your program
- Site availability or property values
- Response path and program density
- Shared facilities
- Modernization or renovation
- Mixed use development
- Private public partnership

The key thing to remember when confronted with these challenges is that there is always a solution, and one which doesn't necessarily have to sacrifice any aspects of your overall vision when it comes to functionality and aesthetics.

Kehde, who has previously written for Firehouse on this topic, mentioned a case where a Washington DC firehouse was renovated in a partnership with a private developer. At the end of the project, the station occupied the lower floors of a massive structure that had a public athletic facility above it and several floors of residential condominiums above that.

Considerations were made for sound-proofing the building to separate its zones and keep the utilities separate, and neither the firefighters nor the residents of the upper structure have had any conflicts or complaints. The project proved to be a unique solution to an everyday space problem.

What to consider?

Although these unique solutions can prove interesting, the everyday work of the fire service needs to be the priority if design ideas create a hindrance to the fastest response possible.

An architect or project manager who has experience in the realm of public safety construction will know what is and is not feasible for your station. It's not enough to simply decide on an upper floor to house your crews. You also have to think about how quickly they can get from Point A to Point B when the call comes in. Choosing a designer who can take that into account is very important.

Some things to consider when making these hard choices:

- Site development potential
- Program adjacencies
- Horizontal and vertical response paths
- Cost comparisons

Smart Choices

A recurring theme at the Station Design Conference is that you'll have a hard time getting the most out of the space you have available for a project if you don't have the right people involved in the early phase. An architect who understands and has experience with emergency response facilities can help you make choices you may not know are available to you.

One project Kehde worked on involved land with an adjacent ravine that had a drop of 50 feet. The architects simply incorporated that tricky topography into their design, building a lower level parking area for the firefighters without the need for any excavation. It's a great example of how simple it can be to let the available space you have work for you in interesting ways.

You may not need to go vertical on your upcoming project, but it's always worth taking a look upward to see if such a design can work for you and your department.