

# MHN

## MULTI-HOUSING NEWS

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## Improving Accessibility Through Technology

*Architect Ariel Aufgang revealed how technology can improve home accessibility and why regularly updated regulations could help reduce costs for developers building such projects.*

By Evelyn Jozsa

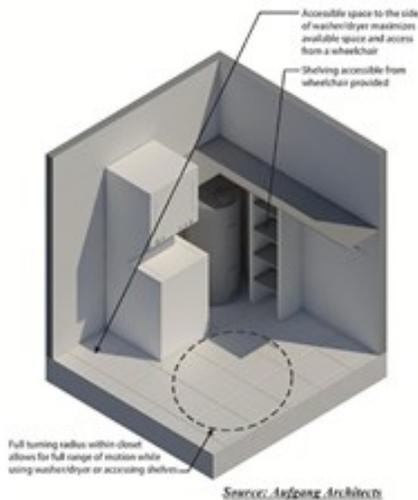
A home is supposed to be a comfortable and safe space. Yet, for people with disabilities, it might be a challenge to handle even simple tasks in a home that was designed with narrow doors or a kitchen in which cupboards are out of reach. Enhanced technology, however, allows for a practical and creative approach, helping architects design more accessible spaces. Ariel Aufgang, principal of Aufgang Architects, provides insights on how creative new designs enhanced by technology can help expand access for disabled residents.

**What are some of the less obvious challenges disabled people face when it comes to accessibility within residential properties?**



*Ariel Aufgang, principal, Aufgang Architects*

**Ariel Aufgang:** In our residential designs we address several less apparent challenges facing those with disabilities. For example, access to storage such as closets and shelves must be considered. How high should the top shelf be to allow access and how deep should it be? Flexibility in furniture placement allowing room to move around it is a factor. For residents with hearing impairment, visual indicators would be included for doorbells and HVAC system alerts and alarms. Similarly, accessible designs must consider the needs of those with visual impairment, such as a different flooring material near steps or doorways to indicate their proximity, as well as motion detector-activated audible signals.



*Closet with accessibility features*

need for a separate entrance by designing the main entrance with no physical barriers such as steps or columns.

For street and lobby access to multifamily buildings, we frequently specify paving material with varying textures to indicate to those with vision impairment that they are approaching the entryway from either side. We can avoid the

## What kind of technologies can be implemented to improve accessibility?

**Aufgang:** Access solutions for those with disabilities is expanding at a faster pace, spurred by imaginative new residential designs enhanced by technology. As architects, we can take more creative approaches to bring greater ease and convenience to the daily life of **individuals with mobility issues**. There have been important advances in technology applications for residential designs that are very useful in improving accessibility and the proliferation of such technology is lowering their costs. Recent advances utilize biometric technology for door access and environmental control, among other applications. Artificial intelligence applications are playing a growing role in improving accessibility, as well as motion sensors.

## What are some of the specific spaces where this sort of creative technologies and designs can be used?

**Aufgang:** Entryways are well suited for technology solutions. And certainly kitchens, with stove and oven controls, and in bathrooms where water temperature settings are important for comfort and safety.



Entrance, 424 West 55th St., Manhattan, New York

## What can you tell us about regulations and code requirements on this topic? What needs to be updated and/or changed?

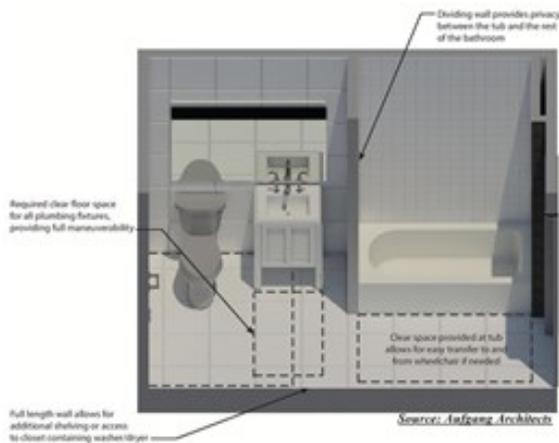
**Aufgang:** Architects should do much more than simply meet regulations and code requirements that specify dimensions for counter heights, door widths, power receptacles, light switches and thermostat heights. We must continually exceed those standards with imaginative design solutions. My colleagues and I strive to transcend required features in our designs in order to make the quality of life better for those coping with accessibility issues.

Regulations and codes should be kept pace with advances in technology, but this is not easy to achieve in some jurisdictions. For example, there are new and very cost-effective devices to anchor

weight-bearing grab bars that obviate the need for reinforcement strapping inside walls in anticipation of locations where grab bars may have to be installed for future residents. The latest anchoring technology can be installed at any time using small penetrations of sheetrock and they are as strong or stronger than strapping specified by code at a much lower cost. But codes have to be updated to allow the use of such devices.

## Tell us about the costs of designing and developing communities/homes that are more accessible for residents with disabilities. Does it cost more to include such features?

**Aufgang:** There should not be increased costs to develop homes and communities because of providing more access to residents with disabilities. Innovative designs that reduce barriers for those with disabilities are inclusive, benefiting all current and future residents who may be within a spectrum of mobility issues. In other words, such designs are better for everyone, including those without impairments, and since they would be universally applied, they create much greater flexibility



Bathroom with accessibility features

without the need for units specifically designated as accessible, which actually enhances the intrinsic value of projects.

**Could you mention a couple of projects that have implemented such technologies/designs?**

**Aufgang:** My firm has designed several **multifamily projects in New York City** that incorporate many of the design features and technology applications that enhance accessibility and mobility. For example, in a 49-unit rental building on Ainslie Street in Brooklyn completed last year, our innovative layouts of bathrooms enhance accessibility. By rotating the bathtub to be in line along the same wall with the sink and the toilet, it makes it easier to transfer from a wheelchair to the tub and back. It also allows use of the elongated wall opposite for easily accessible shelving and storage.

Also, our design for a 17-unit building recently completed on West 55th Street in Manhattan includes use of the latest technology in kitchens to maximize access by having the refrigerator, sink and dishwasher in a straight line, with ample counter space along that axis. In kitchen and bathroom designs, the locations of closets and the layout of shelves have to be more convenient for those with mobility issues, including impaired vision, to improve accessibility, without impacting on development costs.



*Kitchen, 424 West 55th St., Manhattan, New York*

*Images courtesy of Aufgang Architects*