



June 2020

<https://bdmag.com/pandemic-prompts-new-thinking-in-residential-architecture/>

## Pandemic Prompts New Thinking in Residential Architecture

*Creative designs converge with new technologies to yield innovative solutions for seniors*

**BY ARIEL AUFGANG**

Enhanced access for seniors and others with mobility issues will expand at an accelerated pace spurred by post-COVID-19 influences on residential architectural design utilizing creative applications of new technology to protect residents' health and safety, while adding greater ease and convenience to their daily lives.



**Ariel Aufgang**  
Aufgang Architects LLC

Architects should strive to transcend regulation and code requirements in their designs to make the quality of life better for those coping with accessibility issues. A resident-centric design engenders a sense of well being, applying creativity and technical know-how to increase safety and improve access, utilization, and enjoyment for seniors and others across a full spectrum of mobility capabilities.

Moving forward, almost all aspects of society and our daily lives will have to be reimagined, based on post-pandemic realities and requirements that are quickly reflected in residential design that prioritizes the needs of our most vulnerable populations.

Technology, particularly artificial intelligence and voice controls, will be increasingly utilized in architectural design to safeguard health and improve accessibility for seniors and those with physical challenges.

Existing and nascent technologies useful in mitigating the spread of infections will quickly advance to commercial viability, and their proliferation will lower their costs.

These include:

- Anti microbial materials for doors, counters, and other surfaces.
- Automated thermal imaging systems to flag visitors with symptoms of illness.

- Voice and motion activated and other “no touch” controls for doors, elevators and appliances ranging from home kitchens and bathroom fixtures to shared laundry rooms.
- New automated methods for disinfecting and frequent routine deep cleaning of common areas, including handrails and mailboxes.

Innovative designs to reduce barriers for those with disabilities should not increase the costs of developing homes and communities. My firm’s designs incorporate many features and technology applications that enhance accessibility and mobility. For example, innovative layouts of bathrooms improve 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 the use of the elongated wall opposite for easy access to shelving and storage, which are designed with consideration of the height and depth of the top shelf.

Similar thoughtfulness is applied to kitchen layouts in residences for seniors and others with mobility challenges. These feature the refrigerator, sink and dishwasher in a straight line, with ample counter space along that axis. These creative designs do not increase development or build costs.

Another example is specification of new and very cost effective devices to anchor weight bearing grab bars that obviate the need for reinforcement strapping inside the walls in anticipation of where grab bars may have to be installed for future residents. This latest anchoring technology can be installed at any time with small penetrations of sheetrock. In addition, these features actually enhance the intrinsic value of projects. But codes must be updated to allow their use.

The impact on architectural design by the pandemic has historical precedents in which public health crises influenced residential design. A bubonic outbreak in mid-nineteenth century China changed the designs of door thresholds, gutters, and downspouts and building foundations. Earlier in our history, malaria and yellow fever spread by tainted water spurred the installation in Lower Manhattan of underground pipes to distribute fresh water. Sections of these pipes, made from hollowing out logs, can be seen in museums today.

In our post pandemic era, architects should give more thought to such needs as fitness and health maintenance at home in case another health crisis and lockdown keeps people in their homes. A dedicated floor space to fit a yoga mat, with nearby wall mounted handles, to facilitate exercise can be included in homes and apartments at little incremental cost. Installation of more robust Wi-Fi with ample bandwidth is a requirement in new construction and renovated residential spaces as people increasingly work and study from home, as well as stream entertainment such as movies and music.

As we reimagine life in a post pandemic environment, access improvement in residential designs, combined with features to mitigate risks of the spread of infections, will expand at a faster pace. Architects that embrace technological innovations in their designs will not only make the quality of life better for seniors and others for whom accessibility is an issue, they will help everyone including those without impairments. When such features are universally applied, they create much better flexibility without the need for units to be specifically designated as accessible, which actually enhances the value of projects.

*Ariel Aufgang, AIA, is the principal of Aufgang Architects LLC, an architectural and urban planning firm headquartered in Suffern, New York*