

# Facility Guidance for Reopening with COVID-19

CRAIG  
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● Architecture Planning Interiors

This issue brief provides a framework of strategies for reoccupying buildings that are in the process of transitioning from being fully closed to fully open. The mitigation measures offered come with the understanding that the risk of infection can only be “flattened” and not eliminated entirely. Solutions require a coordinated approach between building features and operational practices. This document focuses on those areas of architectural expertise where we feel we can add value to reopening plan development.

## WAYFINDING: (USA Today, CDC, AIA)

- Rethink Arrival/Departure Procedures:
  - Stagger arrival/departure times to assure social distancing at entrances/exits
  - Ensure ingress/egress pathways support clearly separated pedestrian directional traffic with ADA accessibility
  - Employ multiple entrances and exits to maximize social distancing wherever possible
- Increase Signage:
  - Add signage and mark stopping points for car lines to help control pacing and social distancing while minimizing the need for personnel to assist with car lines.
  - Install signage for one-way travel wherever possible. For example, floor markings with direction and spacing
  - Increase signage regarding hygiene and social distancing
- Rethink Student Travel (walking in lines, locker access, etc.) to maintain social distance
  - Minimize student movement throughout the building where possible (teachers rotating instead of students, moving as cohorts, meals in classrooms, etc.)
  - One directional hallway and foot traffic where possible
  - Incorporate outside pathways when possible
  - Restrict the number of people in common areas
- Reconsider outdoor space to allow for experiential learning opportunities without requiring close contact, and as relief for overcrowding in other situations.
- Establish procedures, including pathways, for immediate isolation of those feeling sick or exhibiting symptoms



Source: CDC.gov

## PHYSICAL MITIGATION: (Sources – CDC, AIA)

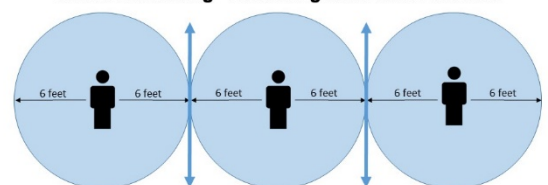
- Install physical barriers such as clear sneeze guards where possible when people must be in close contact
- Use temporary, movable partitions to subdivide large workspaces
- Provide cleanable, transparent films over surfaces such as elevator buttons, intercom call buttons, etc.
- Consider installing antimicrobial coatings/surfaces where human touch is required
- Replace manual door locks with touchless RFID entry systems where possible

## RECONFIGURATION Part 1 – Social Distancing and Defined Pathways:

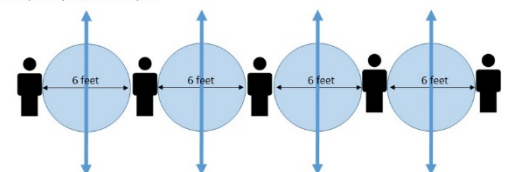
(Sources AIA, Dept. of Ed)

The common recommended measure for social distancing during the COVID-19 pandemic is to maintain six feet between yourself and others. This places a student, for example, at the center of a 6 foot radius circle. The area of this circle is approximately 113 square feet with many other immediately adjacent circles for other students. This area per student is greater than a 10x10 foot room! Therefore, we must find a way to balance the recommendations for social distancing with the practicality of classroom size and student learning. We must also consider pathway distance to allow movement around the room. For example, if two desks are placed six feet apart, but the space between the desks is a pathway, then that social distance of six feet has been compromised.

### Social Distancing – Balancing Ideal with Practical



The recommended distance of 6 feet would create a “bubble” around each student that would allow for pathways between students. However, this would require approximately 113 square feet per person – impossible in most classroom settings. Establishing six feet between students does not account for pathways to and from desks. We must balance ideal conditions with practical applications and seek to mitigate risk in a variety of ways for an overall plan.



- Reduce density and increase the spacing of furniture to allow for six feet of distance between students
- Organize and simplify classrooms to maximize desk and pathways space
- Social distancing cannot be accomplished by moving desks alone. You must also account for pathways in hallways, doorways, paths to sinks, restrooms, and teachers.
- Plan for movement and allow distance protecting defined pathways, taking into account number of doors, required interaction, etc.

### **RECONFIGURATION Part 2 – Rethink Class Set-up Through the Lens of COVID-19:** *(Sources AIA, CDC)*

- Eliminate soft surfaces that can't be cleaned effectively (bean bag chairs, floor pillows, decorative curtains, area rugs, etc.)
- Reduce high-touch practices at every level (paper handling, shared equipment)
- Avoid use of common equipment, books and supplies (assign student-specific materials whenever possible)
- Minimize or eliminate materials moving from school to home and returning

### **AIR FLOW / HVAC:** *(Sources AIA, American Society for Microbiology)*

Higher outside air intake and higher air exchange rates in buildings may help to dilute the indoor contaminants, including viral particles, from air that is breathed inside. Higher outside air fractions may be achieved by further opening outside air damper positions on air-handling units, thus exhausting a higher ratio of indoor air and any airborne viral particles present. There are some cautions to consider relative to these building operations parameters, including higher energy consumption. Make sure to consult your HVAC professional.

- Prioritize fresh air intake over recycled air where possible
- Open windows for outside air intake where possible
- Evaluate air flow to minimize recirculation
- Do not place students or staff directly under air vents that would propel aerosol droplets
- Consider a fixed maximum number of occupants by HVAC zone
- Assure operational efficiency and regular changing of all HEPA and other air filters, including prior to re-opening
- Clean ducts that have been dormant
- Keep HVAC systems running longer, if possible 24/7 (may result in higher energy costs)
- Monitor and maintain relative humidity levels, preferably to RH 40-60%
- Disable demand-controlled ventilation
- Consider portable room air cleaners with HEPA filters



Open windows and  
use an air conditioner  
for good air flow.

*Source: CDC*

### **HEALTH ROOM:**

- Restructure health facilities to allow for immediate separation between those with signs of illness and those seeking basic first aid or medicine administration.
  - Create an isolation area for anyone exhibiting symptoms of COVID-19
  - Make sure the isolation area for symptomatic students and staff is separate from a general health area for students coming to take regular medications or general school health issues
  - Dedicate a path to exit the building from the isolation room. This should be as close as possible to a dedicated exit or with a defined exit path that minimizes contact.
- Increase signage related to health campaigns about symptoms, hygiene, handwashing, etc.
- Have a “Close and Clean” Plan. Be prepared to close off areas of infection for a minimum of 24 hours with a robust cleaning and disinfecting plan per CDC guidelines when exposure to COVID-19 occurs.

### **DAYLIGHT:** *(Sources: CDG, American Society of Microbiology, Dept. of Homeland Security)*

UV rays can play a notable role in an overall sanitizing process with aerosol particles and surfaces. Encourage daylighting wherever possible to maximize sunlight, particularly onto high touch surfaces such as desks and learning centers. Natural sunlight is not only a sanitizing tool, it also has a proven, positive impact on student well-being and academic performance. This can be especially important as students return to school in the wake of the COVID-19 pandemic. Biophilic design supports

the social and emotional health of students and staff alike. Students perform better in strong, nature-centered design. Integrated biophilic design brings a sense of calm and supports improved focus and engaged learning. While valuable, daylight is never a replacement to disinfectants and thorough cleaning. Instead, daylighting can enhance a robust hygiene plan.

**WATER / SANITATION CONSIDERATIONS:** (Sources CDC, AIA, American Society of Microbiology)

- Assure Efficient Operations that Minimizes Touch
  - Turn off water fountains. Convert to touchless bottle fillers where possible
  - For buildings returning from extended closures, flush and test all potable water systems
  - Install touchless sinks, hand soap and towel dispensers wherever possible
- Minimize Restroom Interaction and Exposure
  - Due to the lack of close adult supervision in restrooms and the high possibility for germ spread, move to single occupancy restrooms, or one at a time use where possible
  - To encourage social distancing in restrooms, consider deactivating every other sink
  - Eliminate air hand dryers that can spread germs in aerosol
  - Provide adequate tissues, sanitizers, cleaners with easily accessible touchless disposal
  - Establish clear ingress/egress to/from restrooms to provide paths that maintain social distance
- Ramp Up Cleaning
  - Increase cleaning/sanitizing schedule
  - Consider school-day breaks for cleaning, especially of restrooms and high touch areas
  - Assure deep cleaning of restrooms and other high touch areas at the end of the school day



Source: Elkay

**SAFETY & ENVIRONMENTAL CONCERNS:**

- As students may eat breakfast and lunch in their classrooms for a period of time, consider the impact on landfills of one-use trays and other items when making material selection. Work to minimize environmental impact within safety guidelines.
- We must balance school safety with safe health practices. For example, interior doors can be propped open to avoid touching handles but remained locked to assure quick response to any security threat.
- The use of additional entrances and/or exits may require more adult supervision to maintain building safety

**CONSIDERATIONS FOR NEW CONSTRUCTION:**

The COVID-19 pandemic has opened a variety of questions that may change the way we approach new building design going forward. While this specific pandemic will pass, the issue of disease spread and the need to mitigate that spread in building design will remain. This learning experience can inform the approach and considerations for new facility design. Here are some areas to consider:

- Healthy Wayfinding – considering pathways, directions and ample space
  - Pathways with multiple entrance/exits to accommodate one way paths and social distancing where needed
  - Wayfinding that minimizes student traffic flow to encourage social distancing and minimize density
- The use of natural light and biophilic design to enhance the learning environment
- Choice of antimicrobial surfaces, especially in high touch areas
- Larger classrooms, with smaller class size. Expanding class size to balance ideal vs. practical
- Reducing high touch at every level:
  - Door selection and design
  - Elevator and intercom call buttons
  - Touchless restroom appliances that minimize aerosols
  - Touchless water bottle receptacles that replace water fountains
- Health room design that isolates ill students and provides a direct path to a dedicated exit without exposure to others

