



REIMAGINING SCHOOL PLACES AND SPACES

ASSESS AND MITIGATE COVID-19 RISKS TO ENHANCE STUDENT, TEACHER, AND COMMUNITY RESILIENCE

EDUCATIONAL SERVICE DISTRICT 112
CONSTRUCTION SERVICES GROUP
BRIEF

June 15, 2020



Reimagining School Places and Spaces

Assess and Mitigate COVID-19 Risks to Enhance Student, Teacher, and Community Resilience

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Most of us spend 90 percent of our daily lives within a built environment. We have also learned that the built and cultural environments essential to our educational mission propagate the spread of COVID-19 through viral exchange and transfer via airborne respiratory droplets.

School occupant density is influenced by the spatial configuration of school building spaces and programs, occupancy schedules; the flow of students in shared hallways, dining, gym, other commons spaces; and indoor and outdoor activities including transportation. We know occupant density facilitates concentration of the COVID-19 virus, when the virus is present.

To support a safer return to face-to-face K-12 education, ESD 112's Construction Services Group (CSG) has identified the following current and emergent best practices for the reader's review and information. The following information is expressly intended to complement the efforts of OSPI's committees and enhance the content of OSPI guidance published on June 11: [Reopening Washington Schools 2020: District Planning Guide](#).

Increased Ventilation of Outside Air

To mitigate the airborne transmission potential of COVID-19, school districts are assessing current maintenance conditions and, when appropriate, installing enhanced filters and additional outside air ventilation. Mitigation of viral transmission through air delivery systems often relies on inline filtration media, but no filter system is perfect. While many school districts use MERV 8 filters, indoor air quality health professionals are suggesting using MERV 13, if they can afford it. Increasing outside air ventilation and outside air exchanges within a space per hour (diluting the indoor contaminants from air that is circulated within the built environment) will come with increased energy consumption, but is worthwhile as a temporary mitigation technique to support human health.

Not all existing air-handling systems in our schools have the capacity to substantially increase outside air and those that do may require more frequent filter-maintenance. Increasing air flow rates that only result in recirculating indoor air, without increasing the outside air fraction, could potentially increase the transmission of the virus. In Germany and Denmark, schools have reopened this spring with a simple solution to deliver outside air directly: by adding windows that open or opening existing operable windows and leaving classroom doors open to improve cross ventilation. As a result, in winter months, students in those countries are expected to be asked to dress more warmly, and mechanical systems may need to provide more heating to prevent discomfort for teachers and students and/or frozen ceiling piping. Ventilation from open windows and doors bypasses the mechanical system and ductwork but increases the amount of outside air and the exchange rates of outside air in indoor spaces.

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K-12 Workforce Protections

Teachers and staff will need to be protected, trained, safely prepared, and confident that they can perform their work whether on-campus, online, or within the community. Measures should be taken to ensure faculty, staff, students and all members of the K-12 community have appropriate protective plans, supplies and guidance to safely return to work. The involvement of school nurse representatives in developing and managing these processes is critical.

Opportunities for open dialogue and discussion of critical protection measures with school district leaders should take place to reassure teachers and staff that their health and safety are paramount. Ensure faculty, staff and students have access to the same basic information. This includes training regarding personal preventative measures to protect against COVID-19 transmission and the mitigation measures implemented by the school district. Consistent and concise communications (internal for teachers and staff and external for families and the community) have never been more critical.

Space Use Considerations

- Maintain a recommended six feet between occupied staff workstations and student seating. Place barriers (solid or transparent) in shared spaces where people must face each other or are otherwise unable to be at least six feet apart.
- Place transparent material barriers and hand sanitation stations in high-traffic areas such as reception areas and check-in points.
- Place simple, clear and unobtrusive signage at central building entrances indicating the protocols specific to visitor, teacher and student behavior.
- Plan and identify furniture locations in each area (perhaps using diagrams similar to fire exit plans) to ensure physical distancing in work preparation, conference, classroom, meeting, and waiting areas. Identify allowable occupancy in order to manage student flow in and out of spaces.
- Ensure face coverings - including the potential use of transparent face shields or masks with transparent areas for those teachers who prefer direct facial communications with their students and/or for the hearing impaired - are made available by the school district throughout a school campus for regular attendees or people visiting the school building and grounds. Secure and monitor inventories of PPE for teachers and students.
- Provide State of Washington Department of Health (DOH) approved guidance for staff about the differences in cleaning, sanitizing and disinfecting protocols and products. Ensure identification of the DOH-approved cleaning materials, specifically for K-12 site and building facilities, and conduct cleaning protocols in strict accordance with [DOH school guidelines](#) (Nancy P. Bernhard, MPH, REHS, CPSI, Program Director, DOH School Environmental Health and Safety, Nancy.Bernhard@doh.wa.gov) to ensure healthy indoor air quality for teachers, students, and staff.
- Provide enhanced handwashing protocols and incentives, develop queuing distance protocols in and around restroom areas, consider use of touchless or medical lavatory faucets, valves and fixtures; and review impacts of re-designation of existing restrooms as necessary to accommodate social distancing recommendations. Temporary hand washing stations are expensive, but if funding is available, those should be considered as well.

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- Consider alternatives to high-touch items such as magazines, common pens and pencils and markers, among other items.
- Plan and map the proposed flow of students in each building and site (including consideration of one-way circulation patterns, staggered breaks, indoor sports and dining impacts, etc.), given the likelihood of alternative schedules and changes in movement/flow of students during each day on a school campus.

CHALLENGES NOW

As we reimagine and plan for our re-openings, we need to remain mindful of the more general safety and security measures which remain critically important in our daily school district operations. These measures are outlined in the summary of the October 2019 ESD 112 CSG White Paper: [Safety & Security for our Future: A Framework for Developing a More Secure K-12 Built Environment in Washington.](#)

It is increasingly clear that safe and optimized use of our built environments for learning and teaching will change in the near term as we decrease our future vulnerabilities and increase our current and future safety and resilience.

CSG will continue to work with Washington's Department of Health K-12 public health specialists, OSPI's Technical and Citizen Advisory Committees, ESDs' industrial hygiene and school nurse corps professionals, OSPI's capital program staff and capital grant programs, WSSDA, WAMOA, and many others to support safe opening efforts. These groups must work together to develop innovative, efficient, and, cost-effective solutions.

CHALLENGES BEYOND REOPENING

The historic "high touch," interactive, mobile, densely-populated K-12 built environment is the perfect model of a setting with multiple risk factors for transmission of COVID-19. Until a vaccine for COVID-19 is 1). developed, 2). becomes widely available, and 3). is accepted and used (or until an effective preventive medical treatment is discovered), physical distancing (or "de-densification") with improved ventilation and consistent hand washing, viral testing, isolation, quarantine, and contact tracing appear to be the key strategies to control the spread of virus.

DOH K-12 public health officials have identified two critical prevention strategies for K-12 students, teachers, and staff during the pandemic: 1). stay home when sick, and 2). self-isolate for 14 days when you have been closer than six feet for more than a few minutes to someone diagnosed with COVID-19.

The realistic timeline to achieve a "recovery milestone" in this pandemic is not expected in weeks, but in many months, if not longer. School leaders will need to remain in regular and proactive communication with your local public health department to monitor the status of COVID-19 within the larger community, within the school population and to understand how the two populations interact.

Protecting our most vulnerable student, teacher and staff populations (including the medically fragile, uninsured or underinsured, homeless students, teachers, and staff members) remains a critical responsibility. Some of our most susceptible students, staff and teachers may need to

observe (and we will need to assist them with) ongoing self and group protection measures for a more prolonged period of time.

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End of Construction Services Group Brief