



EMERGENT K-12 School MODEL

In the Age of Pandemics



PMA Consultants

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With a portfolio of 96+ K-12 projects and programs managed for school clients in the prior 10 years, PMA is passionately and very much professionally invested in the future of K-12 education. Thus, through our many K-12 school experiences, and particularly with a focus in the last few months, we have devoted ourselves to envisioning a nearly all-encompassing Emergent Model for America's K-12 schools that addresses new pandemic considerations and adaptations. Please, consider this model as a small token of our appreciation for your continued trust in our project management professionals.

[Because web sources come and go, hard copies of all the Web references are available in this link.](#)

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Executive Summary

To Concerned Educators,

Seeking economic recovery by reopening schools without fundamentally overhauling our *pre-pandemic* schools normal would be a regrettable, dangerous mistake. Yet, that seems to be the thinking of the current administration, several state governments, and even some school districts. We are hopeful that more enlightened professionals understand this current climate far better than those pushing for this untimely move.

We would like you to first consider that merely enforcing wearing masks and social distancing is not going to keep educators and students safe. In a nutshell, for schools to continue their crucial mission—while centrally upholding the health, safety, and well-being of students, families, educators, staff, and service providers—an *entirely new emergent schools model* must be developed and implemented! Such an emergent schools model must mindfully and thoroughly include school leadership, parents, teachers, and staff in the solution; embrace effective synchronous in-person/online educational programs; not require all students to commute to class every day; upgrade the nurse's office to also serve effectively as an isolation facility; modernize or retrofit unsafe and unclean facilities that otherwise act as virus incubators, along with building operating systems that needlessly transport the virus; provide teachers with teaching assistants to better handle an in-class + online teaching load; overhaul technology, school athletics, transportation, student nutrition, child care, and facilities cleaning protocols; and most certainly incorporate CDC guidance for planning, preparing, and responding to COVID-19 events.

The enormity of the undertaking to recreate schools (and colleges and universities, for that matter) to reduce exposure to COVID-19 risk is a cosmic challenge. Please, consider our thinking a proposed approach on how to take on this monumental task. If assistance from a passionate, knowledgeable, on-the-ready consulting firm is an option, we are available at your convenience to discuss how your organization and PMA may team up for such a crucial undertaking.

Best regards,

Gui Ponce de Leon, PhD, PE, PMP
Chief Executive Officer

Frequently Asked Questions About COVID-Resistant Schools

- a. What forms of governance will foster shared goals, responsibility, and accountability?
- b. What is the cost of setting and managing budgetary limits and schedule deadlines?
- c. What funding sources might be available for a COVID-resistant schools' program?
- d. How is parents' input best obtained; what should school administrators be asking?
- e. If teachers and staff are to be surveyed, what should school administrators be asking?
- f. What guidance exists on synchronous in-person/online educational programs?
- g. What crucial class changes should be considered to minimize crowding and contact?
- h. How can teachers be supported to prevent them from experiencing burnout?
- i. What facility modifications are entailed? What might the modifications cost?
- j. Is an isolation capability even feasible? Where should it be accommodated?
- k. What are feasible options to develop an on-site contact tracing capability?
- l. How extensive should school facilities be modified to minimize surface contact?
- m. What changes are recommended for HVAC systems to minimize viral spread?
- n. What is the right bandwidth for Internet connection?
- o. What are the requirements for student devices and access to Internet?
- p. How will facilities operation and maintenance need to change?
- q. What guidance is available for high school athletics in the age of pandemics?
- r. Is there CDC guidance for planning, preparing, and responding to COVID-19 events?
- s. How far should commuting and transportation be modified in COVID-resistant schools?
- t. What has been learned about cleaning/disinfecting to slow the spread of the virus?
- u. What might be students' nutrition strategies that support COVID-resistant schools?
- v. What are options for on-site day care strategies that support COVID-resistant schools?

Overview

Assumptions¹

- a. The health, safety, and wellness of students, families, educators, and staff in K-12 school communities in the [Age of Pandemics](#) requires nothing short of an *emergent* schools model²
- b. Online learning cannot completely replace a student's experience with classroom learning
- c. Regular testing for COVID-19 to enter schools will be implemented as soon as feasible
- d. This guidance is an intended starting point for adjustment by stakeholders working collaboratively
- e. Economic recovery is not feasible unless a [majority of unemployed parents get back to work](#)³
- f. Parents cannot go back to work and leave their children at home alone during the school day
- g. Parents can't work effectively from home while [also juggling tutoring and homework help](#)
- h. Lower income parents, even if working, depend on schools for technology, meals, and day care
- i. The emergent change required to reopen schools is beyond the financial capacity of any state

Vision

K-12 school districts, centrally upholding the health, safety, and wellness of students, families, educators, and staff, implement an emergent delivery of educational programs across all schools.

Mission

School districts embrace synchronous on-site/online educational programs while reducing the risk of exposure⁴ to the COVID-19 virus 1) through screening, social distancing, PPE wear, and hygiene measures when at school; and 2) by modifying building operating systems to mitigate the transmission of COVID-19.

Implementation Schedule

1) Establish Governance, 1 week; 2) emergent K-12 schools model planning, 3 weeks; 3) secure funding and obtain educational and budgetary approvals, 1 week; 4) proceed on accelerated schedule, 6 weeks; and 5) schedule reserve, 2 weeks. Target date for start of fall semester, September 12.

Funding

[Education Stabilization Fund](#)⁵, savings from the lockdown, and philanthropic funding.

¹Plans for safely reopening America's K-12 schools abound. This guidance focuses on modifications to specific aspects of the delivery of K-12 educational programs that have the greatest potential to mitigate the impact of COVID-19, and any other pandemic that may follow, on children's learning in-the classroom and from home as well as on the health, safety, and wellness of students, families, educators, and staff.

²Goldstein defined emergence as: "the arising of novel and coherent structures, patterns and properties during the process of self-organization in complex systems. [Wikipedia Emergence](#).

³[How Can Anyone Talk About "Opening Up America" When the Schools Are Still Closed?](#)

⁴The risk of exposure can only be flattened and not eliminated entirely.

⁵Included in the CARES Act for states is the Education Stabilization Fund, which provides \$13.2 billion for K-12 schools.



I. Stakeholders

a. School Board

b. Chief Executive Officer, Chief Operating Officer, and high-tier departmental administrators

c. Teacher representatives

d. Student representatives

e. Parent representatives

f. School support staff representatives

g. Unions as appropriate



II. Governance

a. Consider governance recommendations in [Return to School Roadmap](#)

b. Establish Return to School Steering Committee

1. Chief Operating Officer
2. State Superintendent of Schools representative
3. Chief Health Officer
4. Chief Communications Officer
5. Head of Teaching and Learning
6. Head of Special Education
7. Faculty representatives: elementary schools, middle schools, and high school

c. Establish Return to School Working Committee

1. Chief Procurement Officer
2. Chief Equity Officer
3. Budget Director
4. Chief Information Officer
5. Chief Human Resources Officer
6. Chief of Safety and Security
7. School nurse
8. Daycare Director
9. Parent Teacher Organization
10. Inspector General
11. Union representatives

d. Evaluate recommendations in published recovery plans for K-12 schools

1. [A Blueprint for Back to School](#)
2. [A broad strategy for schools during the COVID-19 pandemic](#)
3. **[A PLAN TO SAFELY REOPEN AMERICA'S SCHOOLS AND COMMUNITIES](#)**
4. [MARYLAND'S RECOVERY PLAN FOR EDUCATION COVID-19 RESPONSE AND THE PATH FORWARD](#)
5. [Coronavirus \(COVID-19\) Guidance for Schools](#)



II. Governance

- e. Make strategic decisions impacting** vision, mission, scope, budget, schedule
- f. Establish a district-level** Pandemic Response Committee
- g. Competitively procure school districts’** Program Manager (Emergent K-12 Schools Model)
- h. Finalize and administer constituents’ surveys** (consider [K-12 Schools and Childcare Programs FAQs for Administrators, Teachers, and Parents](#))
 - 1. Parents’ survey
 - 2. Teachers’ survey
 - 3. Supporting staff survey
 - 4. School bus drivers’ survey
- i. Evaluate survey responses and** agree on actionable strategies
- j. Develop comprehensive communications plan** to reach teachers, parents, and the community
- k. Institute a regular governance** virtual meeting schedule
- l. Perform a review/lessons learned** within 2 weeks after schools reopen

III. Emergent K-12 School Facilities Operation Planning

a. Provide effective facilities maintenance during lockdown

b. Consider the following ASHRAE guidance

1. ASHRAE recommendations for [HVAC system operation during building shutdown](#)
2. [ASHRAE Epidemic Task Force Schools & Universities, Updated 5-5-2020](#)
 - i. Summer checklist for fall start of classes
3. Maintain proper indoor air temperature and humidity to maintain human comfort, reduce potential for spread of airborne pathogens, and limit potential for mold growth
4. Proceed with scheduled maintenance on buildings and operating equipment

c. Develop policies for staff and contractor PPE requirements for completing work at school facilities

d. Consider the following classroom social distancing guidance

1. [School practices to promote social distancing in K-12 schools](#)
2. [MDH Guidance for Social Distancing in Schools](#)
3. [Minimum Classroom Size and Number of Students Per Classroom](#)

e. Review the following returning to school guidance

1. [Guidance on Preparing Workplaces for COVID-19](#) OSHA Document 3990-03-2020
2. [Re-occupancy Assessment Tool](#) The American Institute of Architects

f. Consider changes to the operation of HVAC systems as transmission of the Coronavirus through the air is sufficiently likely that airborne exposure to the virus should be controlled

1. Increase outside air to indoor spaces and treat outdoor air
2. Ensure mechanical filtration of the air supply
3. Maintain interior humidity between 40%–60%⁶

g. Consider changes to building operations to support social distancing, safety, and hygiene

1. Classroom and common area modifications for social distancing, hygiene, and safety
2. Automated, touchless doors, fixtures, elevator controls, dispensing units

⁶Many viruses and bacteria carried in droplets are less infectious in this midrange RH zone; conversely, when indoor air is dry, droplet infectivity is higher. Relative humidity between 40%–60% is the range that optimizes the ability of our immune system to fight viral and bacterial infections. When indoor relative humidity is lower, our respiratory immune system is less able to protect us from infectious microbes, even when we maintain perfect hand and surface hygiene.

III. Emergent K-12 Schools Facilities Operation Planning

3. [Effective social distancing floor marking strategies](#)

4. Scope entrance/exit doors, PPE stockroom/s, cleaning/sanitizing room/s

h. Consider guidance for nurse's office in ASHRAE Epidemic Task Force Schools & Universities

1. Evaluate the appropriate nurse-to-student ratio in the age of pandemics

i. Evaluate new students' nutrition strategies in the age of pandemics

1. Antimicrobial considerations where food preparation takes place

2. Kitchen/server room hygiene

3. Social distancing in cafeterias

j. Evaluate new day care room strategies in the age of pandemics

1. Caregiver-to-child ratio

2. Day care room entrance/exit modifications and screening

3. Day care room/s modifications for social distancing, hygiene, and safety

k. Evaluate new transportation strategies in the age of pandemics

1. School bus driver survey

2. School bus driver protocols

3. Plan for retrofit of school buses

4. Transportation protocols to accommodate increased traffic

l. Consider performing remediation and decontamination work to potentially improve indoor environmental quality as well as site and grounds work

1. Clean/disinfect building surfaces and secure spaces from access until cleaning is complete

2. Undertake asbestos abatement work, if applicable

3. Undertake lead paint abatement work, if applicable

4. Undertake repairs to walkways and ramps, ADA upgrades, handrail repairs

5. Undertake grounds work: improvement of water drainage away from buildings

m. Evaluate contact tracing options

1. Scope an on-site [digital contact tracing](#) capability

2. Evaluate contact trace case management firm/s

n. Evaluate [sanitation tunnel](#) equipment

III. Emergent K-12 Schools Facilities Operation Planning

o. Evaluate thermal sensing equipment

1. [FDA Enforcement Policy for Telethermographic Systems](#)
2. [Temperature verification kiosk with antimicrobial powder coat finish](#)
3. [Microwave and infrared measurement system](#)
4. [Thermal cameras](#)
5. [Infrared cameras](#)

p. Develop PPE and thermal sensing equipment standards

q. Finalize list of PPE supplies and sensing equipment

r. Competitively procure PPE vendors and issue POs

s. Consider [CDC Reopening Guidance for Cleaning and Disinfecting](#) and CDC guidance for [Cleaning and Disinfecting Your Facility](#)

1. Determine what needs to be cleaned
2. Determine what needs to be disinfected
3. Develop list of cleaning and disinfecting products⁷

t. Competitively procure cleaning/disinfecting vendors and issue POs

u. Finalize Emergent K-12 Schools Model Program

1. Vision and mission, scope, budget, schedule
2. Secure funding and internal approvals
3. Secure School Board approval

v. Develop work packages, scope, budget, schedule

w. Competitively procure architectural/engineering consultants and award contracts

x. Competitively procure construction service providers and award contracts

y. Finalize and issue Emergent K-12 Schools Model Program schedule

⁷Review EPA list of disinfectants to be used against COVID-19, including [Disinfectant Use and Coronavirus \(COVID-19\)](#) and [List N: Disinfectants for Use Against SARS-CoV-2](#). Evaluate [virus vaporizing](#) using an electrostatic spray.

IV. Model Parent Survey

RE: The Challenges of Online Learning

- a. **What concerns do you have for your child's** safety when returning to learning on-site (LOS)?
- b. **Are you a proponent of schools reopening** with 100% learning on-site when it is safe to do so?
- c. **In your view, is/are your child/children being successful** thus far *learning from home* (LFH) during the school lockdown? Why and/or why not?
- d. **If a group of students rotate LOS Monday** through Wednesday and LFH Thursday and Friday (the balance does the opposite), would you or another adult be home when your child is LFH?
- e. **Assuming students rotate LOS and LFH** on alternating weeks, would you advocate for longer school days while LOS and shorter school days while LFH? Why and/or why not?
- f. **Would accomplishing the needed minutes** of class subject matter instruction Monday through Thursday with Friday off be feasible for your household? Why and/or why not?
- g. **Are you in favor of [year-round schooling](#)?** Why and/or why not? If you are, would you favor a 45–15 plan (45 days on and 15 days off), a 60–20 plan, or a 90–30 plan?
- h. **Are two-hour segments of in-person math class** every other day feasible? Why and/or why not?
- i. **Would you advocate for students to attend** math classes when LOS vs. when LFH?
- j. **In your view, would your child/children benefit** academically from [looping this year](#), whereby their current teacher would remain as their teacher for the 2020–2021 academic year?
- k. **What technical/educational support is required** from teachers for a successful LFH experience?
- l. **Based on the LFH experience during the school** lockdown, do you anticipate that a teacher on her/his own can effectively handle synchronous in-person/online learning?
- m. **Would [teaching assistants](#) positively impact LFH** in synchronous in-person/online learning?

IV. Model Parent Survey

RE: The Challenges of Online Learning

- n. **Where class size leads to 10 or more students LFH**, would dividing the students between the teacher and a teaching assistant/s be more conducive to effective online sessions?
- o. **Given your workload in/out of the home**, is routine online learning feasible in your household?
- p. **Is helping with homework given your current workload** a realistic expectation for your family?
- q. **Does successful LFH require the school district** to offer online homework help and/or tutoring?
- r. **Should parents or teachers take the lead** in helping students with homework/tutoring?
- s. **Should the school district make counseling** available to students who feel isolated or who suffer from separation issues?
- t. **Do you have adequate technology at home** (e.g., laptop, Chrome, webcam, color printer, etc.)?
- u. **If you have two or more school-age children**, do you have adequate technology and working space for simultaneous LFH?
- v. **What is your download Internet connection speed?** 0–10 Mbps, 11–25 Mbps, 26 Mbps–50 Mbps, 51 Mbps–100 Mbps, or faster than 100 Mbps?
- w. **Is your child shielded from household** distractions and noise while LFH?
- x. **Are on-demand vs. group online** learning sessions preferable?
- y. **Are you able to monitor/enforce your** child’s adherence to a teacher’s guidance?
- z. **What measures are you using/considering** to incentivizing your child to log in/stay logged in?
- aa. **Have you witnessed or has/have your child/children** reported any cyberbullying or other inappropriate engagement with peers or others while attending classes online?
- bb. **Is staggering the start of the school** day feasible for your household?
- cc. **Would you support the school district** following CDC guidance pertaining to [returning from international travel](#)?

V. Model Teacher Survey

RE: Educational Delivery In The Age of Covid-19⁸

- a. **Are you in favor of schools reopening with 100% learning on-site (LOS)** when it is safe to do so?
- b. **In your view, are your students being successful** thus far *learning from home* (LFH)?
- c. **Which one of these two rotations would yield better results** for your students?
 1. LOS Monday through Wednesday and LFH Thursday and Friday (alternating weeks)
 2. LOS Monday and Tuesday and LFH Wednesday and Thursday (alternating weeks); Friday is for planning and professional learning
- d. **Assuming students rotate LOS and LFH in** either scenario, would you advocate for longer school days while LOS and shorter school days while LFH? Why and/or why not?
- e. **Have you provided/are you able to provide** guidance to students to be successful while LFH?
- f. **Based on the LFH experience during the school lockdown,** do you anticipate effectively handling synchronous in-person/online learning for your class?
- g. **Do you support online homework time?** What schedule? Should logging in be mandatory?
- h. **Would you advocate having a teaching** assistant cover online homework/tutoring time?
- i. **Would teaching assistants positively impact** LFH in synchronous in-person/online learning?
- j. **Where class size leads to 10 or more students LFH,** would dividing the students between the teacher and a teaching assistant/s be an imperative?
- k. **Should teachers or parents take the lead in** helping students with homework/tutoring?
- l. **How should classrooms be equipped or** outfitted to best support simultaneous LOS with LFH?
- m. **What technology must be available** for students in LFH scenarios?
- n. **What do you consider appropriate social** distancing between the teacher and students?

⁸Assumption is that School Working Committee develops supporting staff survey by modifying teacher survey.

V. Model Teacher Survey

RE: Educational Delivery In The Age of Covid-19

- o. Would you favor facing students behind a plexiglass shield** or facing the direction students face to reduce transmission from talking, coughing, sneezing (i.e., virus-containing droplets)
- p. How many students can effectively** participate *simultaneously* in class from home?
- q. What are technical and equipment concerns** with LOS and LFH that should be addressed?
- r. Are you tracking attendance of students** when LFH? What challenges have you experienced? Have you experienced your students [staying logged out](#) or randomly missing classes?
- s. Are you in favor of year-round schooling? Why and/or why not?** If you are, would you favor a 45–15 plan (45 days on and 15 days off), a 60–20 plan, or a 90–30 plan?
- t. Are two-hour segments of in-person math** class every other day feasible? Why and/or why not?
- u. Would you advocate for students to attend** math classes when LOS vs. when LFH?
- v. Would you support continuing as your** students' teacher for the 2020–2021 academic year?
- w. From your perspective, does LOS** offer any inherent advantages to LFH?
- x. What measures can be taken to help** students overcome the challenges of learning online?
- y. How often should teachers be in** contact with students when they are LFH?
- z. Should counseling be provided to students** who feel isolated or who suffer from separation issues?
- aa. Is P/F grading more suitable** to online teaching/learning?
- bb. Would you favor staggering the start** of the school day? Why and/or why not?
- cc. Would you support the school district** following CDC guidance pertaining to returning from international travel?

VI. Emergent Model Synchronous

In-Person/Online Learning Educational Program

- a. Determine the number of desks in each** classroom based on chosen social distancing standard
- b. Review guidance when selecting rotation for** elementary school, middle school, and high school
 - 1. Consider parents' input regarding days that they can better accommodate LFH
- c. Consider static class changes (i.e., students stay in classroom, teachers change classrooms)** to avoid the need to disinfect classrooms after each new student group use
- d. Consider whether to allow any student/s** to learn solely in-person or solely online, assuming teacher and parent concurrence and preserving social distancing in the classroom
- e. [Art & Music](#), [Health & Physical Education](#), [Labs](#), [Media Center](#), and [Career Technical](#)**
 - 1. Research and develop online learning sites for these curricula for LFH
 - 2. Develop social distancing standards, including circulation
 - 3. Develop disinfecting standards for instruments, tools, and equipment
 - 4. For Career Technical, develop disinfection standards for equipment and workspaces
 - 5. For Career Technical, consider providing transportation for students to career centers, worksites, and community colleges
- f. Special Education**
 - 1. Consider the visual framework for the back-to-school transition and recovery program in the [Continuity of Learning Provisions for Students with Disabilities after the Extended School Closure due to the COVID-19 Pandemic Flowchart](#)
 - 2. Research and implement [new strategies](#) in special education as kids learn from home
 - 3. Schedules, sensory supports, and close collaboration with families can help smooth the transition to online learning in special education during a pandemic scenario
 - 4. Develop guidance for individual special education programs to reflect the change to LFH; [California's Special Education Guidance for COVID-19](#) provides answers to FAQs
- g. Develop professional development and** training programs on online learning for teachers

VI. Emergent Model Synchronous

In-Person/Online Learning Educational Program

h. Develop protocols to use US Postal Service for delivery of lesson plans to students LFH

i. Technology

1. Consider providing Wi-Fi bandwidth of 4 Mbps per student for adequate connectivity
 - i. [FCC recommends](#) minimum 1 Mbps per student (high bandwidth) and 1+ Mbps (very high bandwidth) if video and rich media are crucial to learning experience
2. Consider applying for the [E-Rate Program](#) offered under the direction of the FCC
3. Consider providing laptops, iPads, and/or Chromebooks, and color printers for use at home to students who are eligible for free and reduced-price meals
4. Consider issuing hot spots to students who are eligible for free and reduced-price meals
5. Draft and establish policy for using video chatting services in online learning
6. Install webcams on teachers' laptops and desktops, if also using classroom computers
7. Evaluate using state-run public television channels [to air lesson plans](#)
8. Consider deploying WI-FI enabled buses strategically placed in low income areas where students receive free and reduced-price meals
9. Evaluate additional IT staff needed to support increases in devices and technology
10. Audit the school district's information, cyber, and private security protocols

j. Evaluate and implement new on-site day care strategies in the age of pandemics

k. Evaluate and implement new transportation strategies in the age of pandemics

VII. Facility Modifications

- a. Provide Bus “B” automatic sliding entrance doors** for students who arrive to school via bus⁹ and Commute “C” automatic sliding entrance doors for students, teachers, staff, and other visitors who get to school by their own transportation; ensure ADA accessibility at each entrance point
 1. Provide permanent outdoor sun/rain covering to allow queueing outside of doors
 2. Mark the ground of entrance outdoor sun/rain covering with stripes 6 feet apart
 3. Select placement of sanitization tunnel and thermal sensing devices at C entrance
- b. Provide separate Bus “B” and Commuter “C” automatic sliding exit doors**, allowing for ADA accessibility, to maintain separation of pedestrian flow
- c. Purchase and install security cameras** at all building entrances
- d. Install touchless glove and face covering dispensing stations** at all building entrances
- e. Display SAFETY & HYGIENE posters throughout** the buildings with rules for social distancing, elevator riding, walking direction, coughing and sneezing in elbow, no handshakes or hugs, etc.
- f. Convert elevators to a contactless call system** (e.g., voice-activated, phone app, or holographic)
- g. Modify all doors to touchless operation** (i.e., entrances, classrooms, restrooms, stairways, etc.)
- h. Install lighting fixtures with occupancy sensors** that go ON/OFF when a person enters/exits
- i. Modify to touchless operation: plumbing fixtures**, paper towel dispensers, trash containers
- j. Replace water fountains with water filling stations** that dispense water automatically when sensing a container (e.g., bottle, cup, etc.) and stop automatically when the container is full
- k. Make vending machine touchless** or eliminate them
- l. Retrofit nurse’s office as provided in ASHRAE Epidemic Task Force Schools & Universities**
 1. Design a separate triage for other student illness or injuries and a separate contact tracing office, each with a dedicated bathroom; both spaces on standard building HVAC systems

⁹Assumes that students bused to school undergo a temperature check before being allowed to step onto the bus.

¹⁰ Teachers enforce hand hygiene and use of face covering when students are in the classroom.

VII. Facility Modifications

m. Modify classrooms

1. Install a *fully touchless* hygiene station in every room: sink with hot and cold tap, soap dispenser, disinfecting wipes, paper towels, and trash containers¹⁰
2. Mark social distancing zones on classroom floors (i.e., 6-foot, 7-foot, or 8-foot diameter zones) and anchor a student desk in the center line off each zone
3. Position student desks to face in the same direction
4. Add to touchless classroom doors overhead GO (green)/STOP (red) signs that switch to STOP for 5 seconds after the prior entrance or exit
5. Mark floors with one-way circulation arrows or like visuals and with stripes 6 feet apart
6. Teacher instructs behind plexiglass shield or desk faces the direction students face
7. Provide individualized cubbies, containers, or lockers for children's personal belongings
8. Provide closets for sanitizing supplies

n. Day care room modifications

1. Build separate drop-off and pick-up child stations and place thermal sensing equipment
2. Provide 2 restrooms, single occupancy, each with a *fully touchless* hygiene station
3. Mark 6-foot diameter social distancing zones on day care room floors and mark floors with one-way circulation directional arrows and with stripes 6 feet apart

o. Convert female restrooms to single occupancy and male restrooms to one toilet station and one urinal, located 6 feet apart

1. Convert restrooms to touchless fixtures
2. Add touchless disinfecting wipe dispensers
3. Confirm toilet exhaust ventilation system is set to ON
4. Install locks on operable windows to limit opening only by authorized personnel
5. Install toilets with sensor that opens the lid when someone is standing in front of it and closes the lid and flushes when the person moves away, or install waterless toilets
6. Install urinals that self-flush when the person moves away or install waterless urinals

p. For any kept multiple occupancy restrooms, provide separate ingress/egress and reconfigure to provide for social distancing and touchless fixtures, doors, dispensing units, etc.

VII. Facility Modifications

q. Modify stairways to alternating one-way circulation and mark floors with stripes every 6 feet

1. Maintenance crews switch direction of circulation signage on stairway walls 2 hours before the beginning of the school day and 2 hours before the end of the school day

r. Mark hallway floors with stripes 6 feet apart and one-way circulation arrows or like visuals

s. Consider ASHRAE Epidemic Task Force Schools & Universities new/modified facility design recommendations for improving indoor air quality and to slow transmission of viruses

1. Increase outdoor air to spaces; treat return air and supply air via mechanical filtration; and maintain indoor comfort as per the design temperature and relative humidity
2. Temperature and relative humidity design criteria
3. Ventilation design criteria/guideline
4. Filtration design criteria/guideline

t. Operation and scheduling guideline for existing AHUs during the pandemic

1. Cooling and heating equipment: run dedicated outdoor air system units 24/7
2. Exhaust fans: turn on 24/7 and run dedicated outdoor air system as make-up air
3. Dedicated outdoor air system: create minimum transmission sequence of operation
4. AHUs (SZ and VAV) and packaged roof top units (PSZ, PVAV)
5. Local HVAC units (fan coils, WSHP, GSHP, Mini Split, VRF, unit ventilators, radiators/baseboards)
6. Space air flow: Ensure airflow patterns in classrooms are adjusted to minimize occupant exposure to particles; maintain supply high, return low

u. Consider criteria in [Guidance for Building Operations During-the-COVID-19-Pandemic](#)

1. Increase outdoor air ventilation to enhance the effective dilution ventilation per person
2. If the fan is rated for continuous use, keep furnace or AC systems running longer hours, if possible 24/7¹¹; inspect ductwork for leaks, install high-efficiency motors to avoid increasing electric consumption, and change filters per manufacturer's instructions
3. Open minimum outdoor air dampers as high as 100%; in mild weather seasons, this will not affect thermal comfort or humidity but may pose challenges in extreme weather
4. Stop demand-controlled ventilation

¹¹Leaving the fan ON ensures cleaner air as the air is pulled through the filtration and UV light system, if installed. Special attention shall be given when running HVAC system 24/7 as fans operating with outside air dampers open and cooling disengaged (i.e., there is no heat load, exterior or interior) can be dumping humid air into the building. On the other hand, morning cool down and cooling coils are engaged and could help with flushing the building.

VII. Facility Modifications

5. Improve central air filtration to the MERV-13 or to the highest compatible with the filter rack; seal edges of the filter to limit bypass
6. Consider portable room air cleaners with HEPA filters

v. Consider filtration upgrades in ASHRAE Epidemic Task Force Schools & Universities

w. Further, consider filtration and disinfection guidance in [ASHRAE EPIDEMIC TASK FORCE](#)

1. Vent toilets separately where possible
2. MERV 14 (or ISO equivalent) filters are preferred
3. HEPA filters sealed properly in filter racks are more efficient than MERV 16 filters
4. Ensure system can handle filter upgrade without causing increased pressure drop; due to pressure drops, HEPA filters may not be able to be retrofitted into the HVAC system
5. The UV spectrum is capable of inactivating microorganisms (100-280 nm wavelength); 265 nm UV-C energy has the most germicidal effect
6. Banks of UV-lamps installed inside HVAC systems or associated ductwork should always be coupled with mechanical filtration; the highest MERV filter is recommended
7. Consider UV-C upper air disinfection at heights 7 feet and above where there is limited or no mechanical ventilation; ventilation should maximize air mixing
8. HVAC technologies that can be effective: mechanical air filters; electronic air filters/cleaners; and UV-C systems
9. Other emerging technologies: UV-C LEDs; photocatalytic oxidation; and bipolar ionization (carefully consider manufacturer data for this emerging technology)

x. Consider modifying HVAC systems to maintain interior relative humidity between 40%–60% as recommended in [Indoor humidity regulations will reduce burden of COVID-19](#) and [ASHRAE Position Document on Infectious Aerosols](#); ASHRAE Epidemic Task Force Schools & Universities relative humidity design guidelines are 50% in the winter and 50%-60% in the summer¹²

y. Install security/video cameras throughout that record 24/7 so that all spaces can be monitored

z. Install building security/surveillance center that can view any space in any building at any time

aa. Build PPE stockrooms

¹²With relative humidity in this range, infectious aerosols released from a symptomatic person quickly settle out of the air and can be wiped away from surfaces; many viruses and bacteria carried in droplets are less infectious in this zone.

VII. Facility Modifications

bb. Expand cleaning stock rooms to include storage of sanitizing supplies

cc. Refer to ASHRAE Epidemic Task Force Schools & Universities for checklist for start of fall classes and start-up checklist for HVAC systems before occupancy

dd. Further, refer to [ASHRAE recommendations for returning the HVAC system to normal operation](#); for buildings that have been shutdown, scope/perform building recommissioning

1. HVAC systems: Follow the requirements of ASHRAE Standard 180-2018; change filters; clean ducts before flush-out
2. Airside systems, cooling systems, heating system and building automation system
3. Plumbing systems: Flush and test potable water systems; turn on fixtures to ensure water quality before using; keep water above 140°F to avoid microbial incursion
4. Electrical systems: Plug in all unplugged appliances to avoid phantom electrical loads
5. Special systems: sprinkler, fire alarm, emergency lighting, and other life-safety systems
6. Check cooling and water tower condensate for bacterial growth
7. Perform a building [flush-out](#) before occupancy

VIII. Instructional Programs

Before School Opens

- a. Build a return-to-instruction working group led** the Chief Academic Officer, Director of Teaching and Learning, or equivalent, and composed of a diverse team of administrators and teachers
- b. Identify the most** vulnerable populations
 1. Students with disabilities and special needs, English-language learners, students who are homeless or living in temporary housing, and migrant students
 2. Students living at the poverty threshold or whose families face other challenges
 3. Students with a death or job loss in their family due to COVID-19
- c. Timely negotiate issues with unions related to** teacher's workload and other issues stemming from a synchronous on-site/online delivery of educational programs
- d. Confirm teachers' availability** to return to teach
- e. Recruit teachers both to staff classrooms and** to ensure a slate of substitute teachers for a teacher who is sick or who stays home to care for a family member/s
- f. If provided in the Emergent K-12 Schools Model,** recruit teachings assistants
- g. Create long-term virtual professional development** plans to support teachers and to encourage the effective use of digital tools
- h. Advise parents, teachers, and staff to seek medical** advice and self-isolate if they 1) have any COVID-19 symptom; 2) are caring for someone who is symptomatic or ill; or 3) have come in contact within the past 48 hours with anyone who has a COVID-19 diagnosis or symptom
- i. Provide faculty and staff timely, factual** information regarding returning to work on-site
- j. Staff nurse's office, including** contact tracing capability¹³
 1. Guidelines for isolation room: [Guidance on K-12 School Isolation Rooms amid COVID-19](#)
- k. Develop business intelligence data and** software to evaluate thermal sensing equipment data

¹³Refer to [School Nurse Workload: Staffing for Safe Care](#) and [How to Deploy School Nurses During Coronavirus](#).

VIII. Instructional Programs

Social Distancing and Health/Safety Etiquette

- l. Commuter arrivals: Security directs students, teachers,** staff, and visitors to the designated queue access lane to the C main entrance doors and waves the person at the top of the lane to enter the sanitization tunnel (if provided) and then to have his/her temperature sensed
 - 1. Security guard directs anyone registering a temperature above 100.4°F on the thermal sensing equipment to contact the nurse's office for further screening
- m. Bus arrivals: Security directs passengers to** join the queue at the B main entrance doors
- n. Provide heaters for outdoor entrance covered** areas when warranted by the weather
- o. Enforce 4-person maximum in an elevator;** occupants maintain social distancing
- p. Reinforce social distancing** norms and safety etiquette
 - 1. Children store personal belongings in their named cubby, container, or area
 - 2. No sharing of writing utensils or office supplies between students, teachers, or staff
 - 3. Place hand hygiene supplies near shared equipment (e.g., printer/copier)
- q. Consider staggering class release times to** minimize the number of students in hallways
- r. Issue protocols for checking print** literature and media from the school library
- s. Implement social distancing measures** in physical education and music classes
 - 1. Where possible, hold physical education and music classes outside
 - 2. Use visual cues to demonstrate physical spacing and ensure students spread out
- t. Ensure playgrounds and** playground equipment remain off limits
- u. Implement transportation measures**
 - 1. Stagger bus arrival/departure times
 - 2. Stagger arrival/departure times for students who walk/are driven to school
 - 3. Prohibit ride sharing for students who don't reside in the same home
 - 4. Crossing guards wear disposable gloves and face mask and maintain social distancing
- v. Encourage students, teachers, and** staff to bring their own water container

VIII. Instructional Programs

Synchronous On-Site/Online Learning

- w. Deploy videoconferencing as tools to ensure** teacher and students remain connected
- x. Encourage teachers to launch a private** Facebook class page for students and their parents
- y. Consider the following guidance for** connecting teachers to their students when LFH
 1. Use the school district's cloud-based video platform as the first choice
 2. Consider web conference alternatives for families that do not have access to video conferencing
 3. Keep the phone or computer to be used plugged in or charge to 100% before class
 4. Allow students to actively participate or to just listen to the presentation; offer students the opportunity to share their screens to display their work
 5. Use the mute and unmute feature to eliminate background noise and to allow students to proactively reengage in the online meeting
 6. Include parents in decisions about how to effectively provide online instruction and support to their children who are LFH
- z. Start class sessions with teacher** presenting a "Safety & Hygiene Moment"
- aa. If provided in the Emergent K-12 Schools Model,** bring in teachers to individual classrooms as opposed to rotating kids through a shared space that must be re-sanitized
- bb. If provided in the Emergent K-12 Schools Model,** conduct online homework/tutoring sessions for all students participating in the class
 1. Online session must allow time for students who were on-site that day to get home
 2. Send online session invitations to registered students
 3. Record attendance
 4. When requested by a parent, consider one-on-one virtual tutoring with the student
- cc. Develop 10-question online quizzes for every class and** either administer the quiz right before the class ends or remind students to take it after the school day ends but before that next class
 1. Follow up with students who provided wrong answers to 3 or more questions
- dd. Implement lesson plans for students learning Art & Music,** Health & Physical Education, Labs, Media Center, and Career Technical through online learning
 1. Each teacher creates a hashtag to connect with students e.g., #ArtTeacher Ideas

VIII. Instructional Programs

2. Develop protocols for students to submit photos and videos of their artwork
3. Develop protocols for teachers and students to check out instruments and supplies
4. Encourage students to use household items or supplies to complete art assignments
5. For science projects, encourage teachers to provide students a video demonstrating the project that students will follow; likewise, encourage students to video themselves performing the science project for submittal to the teacher
6. Allow for disposable, single-use tools and instruments, where appropriate
7. Require students to thoroughly disinfect larger, commonly used tools and instruments

ee. Implement measures to accommodate the needs of children at risk for COVID-19-related illness

ff. Implement measures to connect with homeless students (e.g., mentors that connect students to resources and housing, drop-in centers that provide food, hygiene products, and laundry facilities)

gg. Encourage teachers to schedule regular “virtual office hours” for students and/or parents

hh. Require teachers, after 2 weeks of online classes, to schedule a teleconference with each student’s parent/s to ascertain challenges and successes with LFH

Special Education

ii. Virtual Individualized Education Plan (IEP) meetings

1. Notify all mandated IEP team members that, except as excused in advance, full attendance is required for the virtual meeting to proceed
2. Have the IEP or evaluations for the parent/s, signing documents and parental input
3. Confirm virtual meeting software ahead of time
4. Provide options to families for scheduling IEP meetings
5. Confirm ahead of time that both parties have solid Internet access
6. Have a digital agenda so that all team members know what will be discussed next
7. Enable the confidentiality feature in emails
8. Draft parent concerns letter and after-IEP meeting letter
9. Allow students to actively participate or listen to the presentation; offer the children opportunity to share their screens to display their work

VIII. Instructional Programs

Mental Health

jj. Weave social-emotional learning (SEL) into the online curriculum

1. Schedule regular check-ins with students and their families (Family engagement is critical for families struggling with stress, financial instability, or illness)
2. Share strategies with families for organizing, planning, and self-regulating
3. Read and discuss current events
4. Assign a project that encourages students to be “helpers” (this may ease anxiety and depression and give students means to build social awareness and relationship skills)
5. Share stress-reduction and mindfulness strategies (Some students need help developing strategies to reduce stress and cope with strong emotions)

kk. Hire staff with expertise in mental health to provide trauma and sensitivity training

1. Prolonged physical distancing, death and illness in families, and economic dislocation may leave many students and faculty with ongoing trauma and mental health issues
2. Organize and train crisis recovery team to provide emotional and psychological support
3. Communicate counseling support services available to faculty and staff
4. Communicate counseling support services available to students and parents
5. Work with faculty and staff on identifying families in need of long-term physical and mental health support and intervention and provide resources to families
6. Establish protocols for notice of remembrance and for memorial activities

Technology

ll. Recruit additional IT staff needed to support devices and technology increase demands; include substitute IT staff for an IT staffer who is sick or stays home to care for a family member/s

mm. Implement the technology framework in the Emergent K-12 Schools Model

1. Ensure end-to-end encrypted VPN tunnel setup for outside users needing access to the school network
2. Standardize video chatting application/s
3. Expand the school district’s asset management system to account for all hot spots borrowed and checked in by students, faculty, and staff
4. If Wi-Fi-enabled buses are deployed, implement a system to track users and passwords
5. Ensure equity of IT resources for all students regardless of income
6. Provide professional development to teachers and teaching assistants on online learning and how to best use the online learning tools adopted by the school district

VIII. Instructional Programs

pp. Encourage students to email the “IT Help Desk” to receive timely online technical support

High School Athletics

qq. Implement the NFHS [Guidance for Opening up High School Athletics and Activities](#)

1. Explains a three-phase plan and categorizes sports as high risk, moderate risk, and lower risk
2. Emphasizes use of cloth face coverings
3. Provides the groundwork for pre-workout screenings, limitations on gatherings, facilities cleaning, physical activity and athletic equipment, hydration, return to physical activity, and hygienics

rr. Consider the following locker room guidance

1. Require anyone registering a temperature above 100.4°F on the sensing equipment at the locker room entrance to contact the nurse's office for further screening
2. Mark locker room spaces and circulation for social distancing
3. Display SAFETY & HYGIENE posters with rules for social distancing, “Locker is Clean” signage, coughing and sneezing in elbow, no handshakes, no hugs, no bottom patting
4. Cleaning crew systematically disinfects locker room/s as delineated in paragraph IX.i and posts “Locker is Clean” on each locker after cleaning/disinfecting
5. Remind students to remove “Locker is Clean” sign immediately when choosing a locker
6. Wash and dry practice jerseys on high temp after each use

Meetings

ss. Conduct meetings remotely if possible; maintain 6 feet of separation in in-person meetings

1. Before the meeting, ask attendees whether ever isolated as a suspected COVID-19 case
2. Require in-person meeting attendees to wear a face covering
3. If someone at in-person meeting reports that s/he has been previously isolated as a suspected COVID-19 case, meeting organizer should inform participants and advise them to monitor for symptoms for 14 days and to take their temperature twice a day
4. After in-person meeting, provide school nurse list of attendees and contact information
5. Require any attendee who develops any COVID-19 symptom after in-person meeting to stay at home and self-isolate, to contact a physician, and to provide details of any recent travel and symptoms and otherwise collaborate in contact tracing

IX. Facilities Operation and Maintenance

a. Train building operations workers on new operating/maintenance protocols

b. Consider [Practical measures for building services operation](#)

1. Supply as much outdoor air as reasonably possible; if within the scope of the operating system guidelines, switch air handling units with recirculation to 100% outdoor air
2. Switch ventilation to nominal speed at least 2 hours before building usage time and switch to lower speed (do not switch off) 2 hours after building occupancy time
3. Nights and weekends: Do not switch ventilation off; switch systems to lower speed
4. In buildings without mechanical ventilation systems, use operable windows even if this causes thermal discomfort (e.g., open windows for 15 minutes or so when entering the room especially when the room has been occupied by others beforehand)
5. In buildings with mechanical ventilation, consider using windows to boost ventilation¹⁴
6. Avoid opening windows in restrooms as that may cause a reverse direction operating ventilation and contaminated airflow from the restroom to an adjacent room, but if necessary, open windows in other spaces to achieve crossflow throughout the building
7. Always keep exhaust ventilation of toilet systems on 24/7 and ensure that negative air pressure is created, especially to avoid fecal-oral transmission
8. Keep plumbing traps FULL by adding water at least every 3 weeks depending on climate
9. Inspect heat recovery equipment to be sure that leakages are under control
10. Switch fan coils to OFF or operate so that fans are continuously ON
11. DO NOT change heating, cooling, and possible humidification setpoint
12. DO NOT plan duct cleaning except during flush-out period
13. Replace central outdoor air and extract air filters according to maintenance schedule
14. Perform regular filter replacement and maintenance works with common protective measures, including respiratory protection

c. Additional guidance in [How to operate building services to prevent the spread of COVID-19](#)

¹⁴Consider the balance of air within the building envelope to ensure no infiltration of foul air from restrooms enters other parts of the building when doors are opened to gain access.

¹⁵Pay special attention when OAD (dewpoint) is above 58°F and cooling coil is not engaged to avoid dumping high moisture into the building and to avoid large energy impact. Further, above 80°F (maybe 85°F) OAT, the cooling coil cannot handle this OA load, which requires avoiding the risk of high humidity conditions in the building.

IX. Facilities Operation and Maintenance

1. Avoid recirculation¹⁵ as virus particles in return ducts can reenter a building in recirculation sectors; close recirculation dampers via the Building Management System or manually
2. When possible, turn off decentralized systems, such as fan coil units that use local recirculation to avoid resuspension of virus particles at room level
3. Consider temporarily turning off rotary heat exchangers during COVID-19-similar episodes¹⁶

d. Ensure maintaining temperature and humidity within RH 40% to 60% design criteria

1. Lower the RH setpoint below 40% to avoid condensation below about 35°F OAT, down to potentially 10% to 20% RH at 0°F (even lower or no humidification below 0°F); determine the final setpoint by turning the setback OAT vs RH curve for each building

Building Maintenance

e. Increase custodial staff to ensure sufficient disinfecting crews for the entire school day

f. Stock PPE rooms and cleaning/disinfecting supply rooms ahead of school reopening

g. Train custodian personnel on new operating/maintenance protocols

h. Consider “Equipment and System Specific Checks and Verifications During the Academic Year” in ASHRAE Epidemic Task Force Schools & Universities

i. Consider guidance on cleaning/disinfecting to slow the spread of COVID-19 and other viruses

1. Wear appropriate PPE when disinfecting/supplying bathrooms at scheduled times
2. When disinfecting surfaces, use cleaning products and virucidal disinfectant that are known to be effective agents for Coronavirus decontamination
3. Preclean surfaces prior to disinfecting to remove any excess dirt or grime
4. After disinfecting, let the surface air dry as recommended on the product label
5. Give attention to railings, lunch tables, countertops, door and window handles, sports equipment, musical instruments, toys, and teaching and learning aids
6. DO NOT open windows unless instructed by facilities management
7. Confirm water toilets flush only with closed lids
8. Confirm that relative humidity is within guidelines (e.g., 40%-60%)
9. If disinfecting food-contact surfaces or toys, rinse with water after they air dry
10. Workers disinfect their phones and other things frequently touched with their hands

¹⁶Heat recovery devices may carry over virus attached to particles from the exhaust air side to the supply air side. In rotary heat exchangers, particles deposit on the return air side of the heat exchanger surface after which they might be resuspended when heat exchanger turns to the supply air side.

IX. Facilities Operation and Maintenance

j. Implement measures for HVAC maintenance in support of COVID-19-resistant guidelines

k. Clean the inside of air handling unit cabinets; use recommended cleaning products on the coils

l. When feasible, disinfect filters before removal with a 10% bleach solution or another appropriate disinfectant approved for use against COVID-19; bag and dispose of filters (disinfected or not) in the regular trash

m. Require maintenance crews to wear appropriate PPE when carrying out maintenance

1. Silicone half mask respirators with N95 cartridges (or better) can be used instead of filtering facepiece respirators
2. Eye protection: safety glasses (side shields preferred), goggles, face shields
3. Disposable gloves: vinyl, rubber or nitrile can be worn under work gloves if necessary; double gloves reduce likelihood of cuts/punctures
4. Disposable coveralls, gowns, and/or shoe covers enhance overall protection
5. After maintenance activities, wash hands with soap and water or use an alcohol-based hand sanitizer; change clothes if soiled

n. Do not suspend HVAC systems maintenance for school buildings suspected to be contaminated with COVID-19, including filter changes, but consider additional safety precautions

1. Risks associated with handling filters contaminated with coronaviruses in ventilation systems under field-use conditions have not been evaluated

o. Workers performing maintenance and/or replacing filters on any ventilation system with the potential for COVID-10 contamination should wear appropriate PPE

1. A properly fitted respirator (N95 or higher)
2. Eye protection (safety glasses, goggles, or face shield)
3. Disposable gloves
4. Disposable coveralls, gowns, and/or shoe covers

X. Planning, Preparing, and Responding to Covid-19 Events

a. [Implement Interim Guidance for Administrators of US K-12 Schools and Child Care Programs to Plan, Prepare, and Respond to Coronavirus Disease 2019 \(COVID-19\)](#)

b. Require that any student, parent, teacher, staff, vendor, contractor, or visitor seek medical advice and self-isolate if they 1) have any of the [main symptoms of COVID-19 as updated by CDC](#); 2) are caring for someone at home who is symptomatic or ill;¹⁷ or 3) have come in contact within the past 48 hours with anyone who has a COVID-19 diagnosis or symptom¹⁸

1. Parents notify the teacher/s
2. Teacher/s and staff notify their supervisor and the nurse's office

c. Preparedness: Develop protocols for when there is NO community transmission

1. Review, update, and implement emergency operations plans
2. Develop information sharing systems with partners
3. Monitor and plan for absenteeism
4. Assess gatherings/events, consider postponing noncritical gatherings/ events
5. Consider requiring that students, teachers, staff, and service-providers returning from Level 3 countries not come to school for a period of 14 days from the time they left an area with widespread or ongoing community spread
6. Create and test communication plans for use with the school community
7. Consider [Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\)](#)

d. COVID-19 event: Develop protocols for a confirmed case in/entering the school

1. Isolate in the medical office isolation room anyone evidencing a symptom of COVID-19; if a student, notify parent/s
2. Coordinate with local health officials
3. For the period then-determined, students learn from home and staff work from home
4. Communicate with staff, parents, and students
5. [Perform disinfection after a confirmed case has entered the school](#)

¹⁷Refer to [Caring for Someone Sick at Home or other non-healthcare settings](#)

¹⁸People with any or a combination of these symptoms may have COVID-19: cough, shortness of breath or difficulty breathing, fever, chills, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell.

X. Planning, Preparing, and Responding to Covid-19 Events

6. Implement interim strategies to continue education and related support for students
7. Ensure continuity of meal programs (grab-and-go bag lunch or by appointment only)
8. Establish prerequisites and procedures for returning back to school

e. Mitigation: Develop protocols for minimal/moderate community transmission¹⁹ conditions

1. Coordinate with local health officials
2. Implement multiple social distancing programs
3. Take measures to accommodate the needs of children and families at risk for serious illness from COVID-19

f. Lockdown: Develop protocols for substantial community transmission conditions

1. Continue to coordinate with local health officials
2. Consider extended school dismissals

¹⁹[CDC Public Health Recommendations for Community Related Exposure.](#)



XI. Transportation

a. Evaluate issues with [school transportation](#) and with bus drivers in the age of COVID-19

b. Develop and administer a bus driver survey to ascertain

1. Bus drivers' availability to return to work
2. Personal bus driver concerns about COVID-19 risks that must be mitigated
3. Incentives to encourage drivers to return when schools reopen

c. Bus driver protocols

1. Schedule bus drivers for recertification as necessary and by appointment only
2. Recruit drivers to substitute for a driver who is sick or stays home to care for a family member/s
3. Train bus drivers regarding new protocols, including how to effectively disinfect buses
4. Provide and require bus drivers to wear masks and gloves
5. Require bus drivers to take a temperature check when entering the bus and to use their phone to send the nurse's office a picture of the temperature readout
6. Require bus drivers to take their temperature when allowing a child on the bus and to direct the parent of a child registering a temperature above 100.4°F to contact the nurse's office for further screening
7. Require bus drivers to seek medical advice and self-isolate if they 1) have a COVID-19 symptom; 2) are caring for someone who is symptomatic or ill; or 3) have come in contact within the past 48 hours with anyone with a COVID-19 diagnosis or symptom
8. Require drivers to clean/disinfect after use high-use areas of the bus, steering wheel, handles, seat backs, etc. following [Best Cleaning and Disinfecting Practices for Buses](#)

d. School buses

1. Schedule a safety inspection of school buses before transporting any children
2. Install a protective plexiglass shield in buses behind and alongside the driver
3. Prior to transporting students, disinfect any school bus used for food distribution
4. Provide touchless PPE dispensers for students in buses and require students to wear face coverings while on the bus
5. Install a touchless disinfecting dispenser at bus entrance doors
6. Disable/block from use every other window seat and every aisle seat in school buses

XI. Transportation

e. Transportation by school bus

1. Modify busing schedules to support staggered student arrivals and departures
2. Routers may need additional time to assign/reassign buses if social distancing requires districts to use more buses due to transporting fewer students per bus
3. Anticipate and resolve issues with overcrowding on some buses and a lack of students on others stemming from different grades LOS on different days
4. Prepare for an increased number of parents transporting their own children to and from school due to health concerns and/or parents being out of work or unemployed
5. Provide Lyft, Uber, or like rides to transport students with special needs
6. Revise transportation protocols based on the evolving nature of the pandemic

f. Reevaluate transportation of special needs students

g. Convey recommended guidance for delivery services; require deliveries by schedule only

h. Convey recommended guidance for taxi, Uber, Lyft, and other drivers-for-hire services



XII. Student Nutrition

- a. Ensure students' continuity of equity and access** to nutrition and the successful transition from pandemic emergency feeding models to school nutrition program model for reopening schools
- b. Consider installing antimicrobial coatings/surfaces²⁰** where food preparation takes place
- c. Install a fully touchless hygiene station at all kitchen/servery entrances:** sink with hot and cold tap; soap, disinfecting wipe, and paper towel dispensers; and trash containers
- d. Any cafeteria worker registering a temperature above 100.4°F** in the thermal sensing equipment at the kitchen/servery entrance door shall not enter the premises and shall contact the nurse's office for further screening
- e. Install fully touchless hygiene stations** at all interior entrances to cafeteria/s
- f. Kitchen/servery personnel wear disposable** gloves and masks and maintain social distancing
- g. Transition student nutrition from** made-from-scratch meals to prepackaged goods
- h. Avoid salad bars, buffets, and unless** touchless, self-serve drink stations
- i. Eliminate food trays and switch to** disposable plates and utensils and single-use condiments
- j. Install sneeze guards** at checkouts
- k. Prescribe water temp settings for** dishwashers and hand-washed items
- l. Repeatedly and thoroughly disinfect** horizontal surfaces after each use
- m. Replace cafeterias/servery with** prepackaged breakfast/lunch (disposable) boxes

²⁰ Wikipedia. Antimicrobial surface. Copper and its alloys (brasses, bronzes, cupronickel, copper-nickel-zinc, etc.) are natural antimicrobial materials that have intrinsic properties to destroy a wide range of microorganisms. Antimicrobial efficacy studies have been published regarding copper's efficacy to destroy *E. coli* O157:H7, methicillin-resistant *Staphylococcus aureus* (MRSA), *Staphylococcus*, *Clostridium difficile*, influenza A virus, adenovirus, and fungi.



XII. Student Nutrition

- n. Consider allowing students to remit food** selection by 6 PM of the day preceding a school day
- o. Distance cafeteria/servery lines and tables** 6 feet apart and mark lanes as one-way circulation
- p. Stagger lunch breaks every half hour** (e.g., first shift at 10:30 a.m. and last shift at 12:30 p.m.)
- q. Cleaning crew disinfects the kitchen/servery** after use as delineated in paragraph IX.i



XIII. After-School Day Care

- a. Consider [CDC Guidance for Child Care Programs that Remain Open](#) and** other childcare policy regulations and procedures concerning the health and safety of children and day care workers
- b. Facilities retrofit plan provides for each day care facility: 2 rest rooms,** each with fully touchless hygiene station; 6-foot diameter social distancing zones; and floors marked with one-way circulation directional arrows and stripes 6 feet apart
- c. Maintain an adequate staff-to-child ratio; plan and** recruit caregivers to substitute when a staff member is sick or stay home to care for sick family members
- d. Ensure caregivers and older children wear face masks** when feasible within the facility; DO NOT put face coverings on infants or toddlers under the age of 2 due to the danger of suffocation
- e. A childcare worker whose temperature registers** above 100.4⁰F in thermal sensing equipment shall not enter the day care room and shall contact the nurse's office for further screening
- f. Cleaning crews disinfect day care room/s as** scheduled and as delineated in paragraph IX.i
- g. Consider CDC guidance on planning and** responding to COVID -19 in [K-12 Schools and Child Care Programs](#)

XIV. References

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[Disease X: The Next Pandemic](#)

[Disease X: Which Plague is Coming Next?](#)

[Wikipedia Emergence](#)

[Jeb Bush: 'You can't open the economy if children are at home'](#)

[How Can Anyone Talk About "Opening Up America" When the Schools Are Still Closed?](#)

[Tips on how to juggle working, teaching, parenting from home during COVID-19 pandemic](#)

[How Much Will States Receive Through the Education Stabilization Fund in the CARES Act?](#)

[Return to School Roadmap](#)

[A Blueprint for Back to School](#)

[A broad strategy for schools during the COVID-19 pandemic](#)

A PLAN TO SAFELY REOPEN AMERICA'S SCHOOLS AND COMMUNITIES

VOLUME 2

[MARYLAND'S RECOVERY PLAN FOR EDUCATION COVID-19 RESPONSE AND THE PATH FORWARD](#)

[Coronavirus \(COVID-19\) Guidance for Schools](#)

VOLUME 3

[K-12 Schools and Childcare Programs FAQs for Administrators, Teachers, and Parents](#)

[HVAC System Operation During Building Shutdown](#)

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[ASHRAE Epidemic Task Force Schools & Universities, Updated 5-5-2020](#)

[School practices to promote social distancing in K-12 schools: review of influenza pandemic policies and practices](#)

[MDH Guidance for Social Distancing in Schools](#)

[Minimum Classroom Size and Number of Students Per Classroom](#)

[Guidance on Preparing Workplaces for COVID-19](#)

[Re-occupancy Assessment Tool](#)

VOLUME 4

[*Effective Social Distancing Floor Marking Strategies*](#)

[CONTACT TRACING Part of a Multipronged Approach to Fight the COVID-19 Pandemic](#)

[Digital Contact Tracing to Contain the Coronavirus](#)

[HOW TO SAFE FROM VIRUS & BACTERIA WITH SANITATION TUNNEL](#)

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[Meridian Personnel Management Kiosk](#)

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[How Infrared Cameras Can Help Prevent the Spread of COVID-19](#)

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[Reopening Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes](#)

[Cleaning and Disinfecting Your Facility](#)

XIV. References

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[Disinfectant Use and Coronavirus \(COVID-19\)](#)

[List N: Disinfectants for Use Against SARS-CoV-2](#)

[Zapping away the flu with the Virus Vaporizer](#)

[Research Spotlight on Year-Round Education](#)

[Loop \(Education\)](#)

[Wikipedia Teaching assistant²¹](#)

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²¹ For an extensive study on teaching assistants, refer to [**Teaching Assistants and Nonteaching Staff: Do They Improve Student Outcomes?**](#)

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