



Operations Planning Toolkit for Safe-Distance Learning at Public Schools

For 44 years of professional architectural practice, SLAM's Education Studio has assessed, planned, programmed and designed numerous PreK-12 schools. We have extensive, national experience in the design of educational facilities at all levels, from pre-schools and secondary through colleges and universities. We bring innovations and applications learned from each type of learning environment to every school project, offering a unique breadth of experience to our clients.

SLAM believes in creating a culture – internally and with our clients – that is safe, sustainable, fun, and gives back in times of need! We believe in wellness and mindfulness, in diversity of perspectives and the value of collaboration. We believe in listening. Innovation flows when ideas are shared. We are committed to sustainable processes and durable and long-lasting ideas. We believe in enhancing our clients' vision and values, in the hope that, together, we will create places that celebrate your culture and complement your achievements. We succeed when you succeed.

We hope you will consider our toolkit as a complimentary resource for you in creating an operations planning process that will help students, faculty, and staff return to school this fall!

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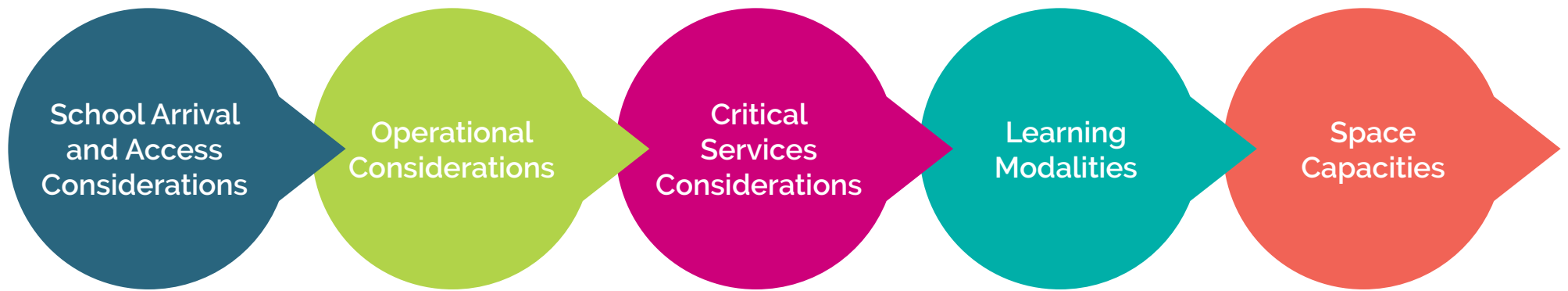
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Disclaimer:

This document is meant as a helpful resource, but the information should not be interpreted as legal or other professional advice. Due to the rapidly changing scientific, legal, and regulatory landscape related to the COVID-19 outbreak, this document may at any time be out of date, and SLAM does not guarantee its accuracy. Contact the relevant government agencies and/or an attorney in your location for current laws and regulations and seek the advice of SLAM or another appropriate licensed professional on custom strategies that meet your unique needs.

Contents



Student Arrival and Access Considerations

Bus Transportation Considerations

- Siblings sit together
- Seating every other seat, or every two seats
- Number the seats and dismiss by seat number (front to back, and back to front)
- Increased disinfecting procedures



Do schools open based on geographical locations to minimize bus distance, time and cost?



Student Arrival and Access Considerations

Drop-Off and Departure Considerations

- Identify appropriate traffic flow and patterns for all vehicles;
 - Buses, parents, deliveries, etc.
- Organize increased numbers of drop-off and departure vehicles approaching, queuing and leaving campus;
 - Separation of arrival paths (vehicles vs. pedestrians)
 - Secure Drop-Off while limiting access
- Define student travel path to homeroom/classroom to minimize the congregation of large groups
- Define student travel path and gathering for end of day departures (bus groups, individuals with parent pick up, etc.)



Do 'neighborhood schools' with high numbers of student walkers open first?



© viralvideouk.com

Student Arrival and Access Considerations

Outdoor Play Areas Considerations

- Ballfields open for competition play? Spectator requirements?
- Hard-top courts open for group play?
- Play structures?
- Open space play?
- Can campus space(s) be utilized for outdoor learning? (Environmental Science, Art, etc.)



How does Parks and Recreation use overlap school facilities use?



Operational Considerations

Who is allowed back to school (students, faculty and staff)?

- Testing per household? How often?
- Provide temperature taking stations?
 - At a single entry point?
 - At multiple entry points?
- What PPE is required for students, faculty, and staff?
 - Masks
 - Face shields
 - Gloves



What graphic building materials can be used to support social distancing?

- floor patterns
- wall graphics
- window mullions



Operational Considerations

Required Supplies

- Food (including non-perishable)
- Paper goods, toilet paper, paper towel, etc.
- Hand Sanitizer, soap
- Custodial Cleaning Supplies
- Technology hardware, software, updates, replacements and components

?

Should districts begin to stockpile some of these items? Where will that inventory be stored?

What additional custodial hours and budget are required?



Operational Considerations

Fire and Safety Drills

- Identify traffic flow patterns
- Identify student gathering areas
- Review bus drill procedures
- Review lockdown drill procedures

?

Do we forgo safe-distancing protocols during emergency drills? (except for masks and face shields)



Operational Considerations

HVAC Considerations

- Airflow
- Filtration
- Space Pressurization (ventilation)



What modifications can be made for each systems type? What are the cost impacts of each? (energy use vs. first cost)

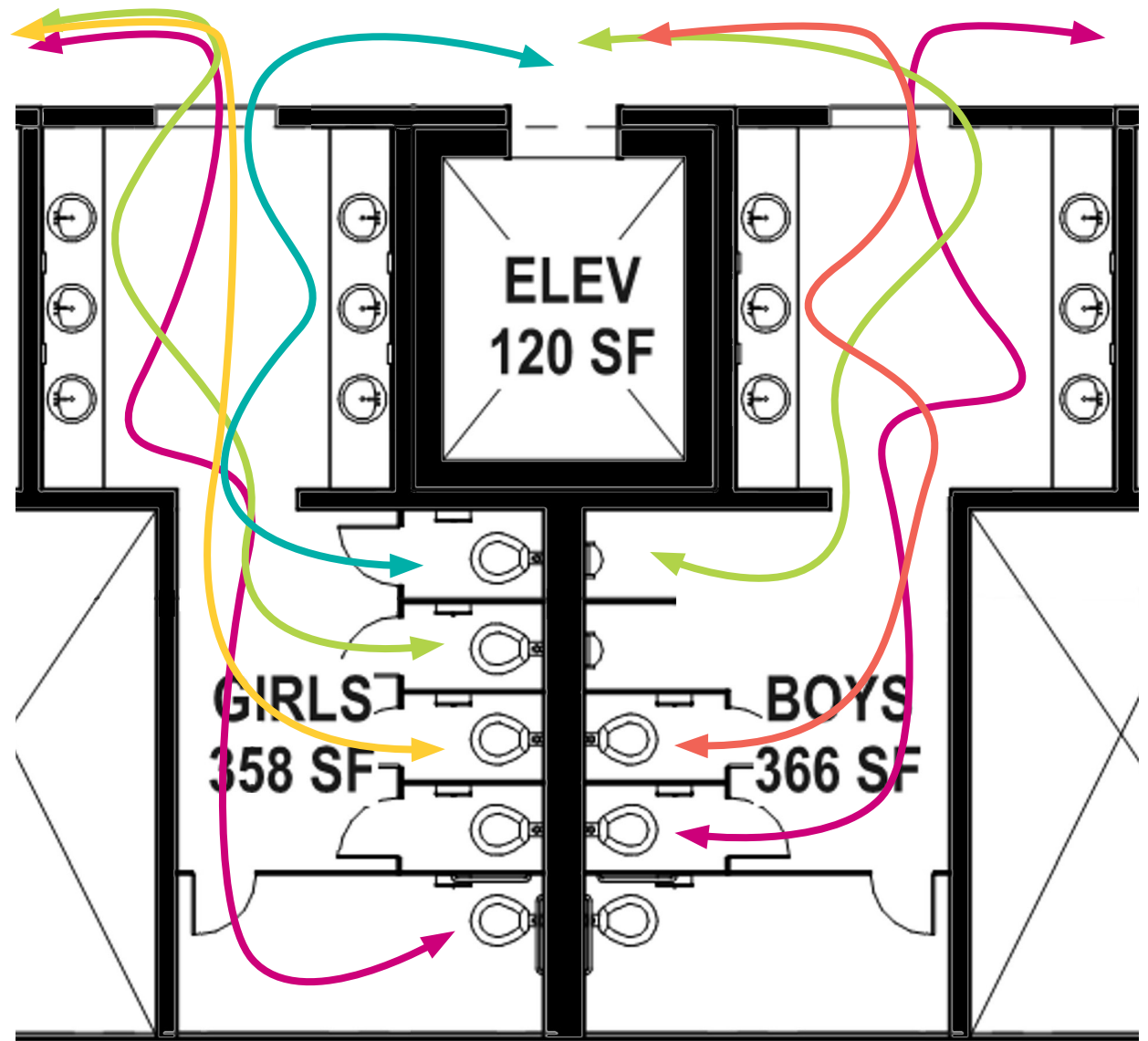
Do operable windows help?



Operational Considerations

Restrooms

- Capacity / scheduling
- Cleaning
- Keeping bathrooms supplied with soap and paper goods
- Implement bathroom supervisors
- Install touch-less fixtures
- Remove room doors if appropriate



Operational Considerations

School Circulation

- Implement a staggered in-school schedule per grade; minimize the number of students in the halls at a time;
- Identify a deliberate, one-way traffic pattern through halls and stairs;
- No bells; provide a simulated work environment; (example: Canyon View High School)
- Minimize floor to floor circulation between classes
- Teachers circulate to different classrooms; students remain in designated cohort/classroom;

?

Should students have access to in-corridor lockers? How will that access be scheduled?



Critical Services Considerations

Health Services:

- Identify an 'isolation room' for students that exhibit signs of the virus;
 - Access to private toilet room
 - Observation from the outside room
 - No carpet, blinds or curtains on inside of room
 - Hand-wash sink or hand sanitizer just outside room
 - Minimal contents in room for ease of cleaning
- Locate a first aid location for treating every day cuts and scrapes and medicine distribution; access to a sink is required; (locate away from isolation room)

Staff Workstations:

- Locate all staff workstations at least 6ft away from each other;
- Provide transparent panels in locations where direct conversations take place (receptionist, librarian, nurse, etc.);



Critical Services Considerations

Food Service

- Continue 'grab and go' and in-person meal services
- Do pick-up locations change seasonally?
- Elementary & Special Ed meals:
 - Delivered to and eat in classroom; dedicated trash brought to classroom, removed and discarded after lunchtime or...
 - Boxed meals picked up by students
- Middle & High School meals:
 - Additional lunch waves with student furniture spaced apart or seats labeled with 6ft spacing;
 - Delivered to and eaten in classrooms; dedicated trash brought to classroom, removed and discarded after lunchtime or...
 - Boxed meals picked up by students



Are dividers between students during meals required?



Critical Services Considerations

Community Use Shelter Services

- Weather shelter
- Bathroom and shower facilities
- Meal services
- Warming/Cooling stations
- Charging stations

Community Use Gathering Venue

- Voting location
- Health/Dental drives
- Government/Town Meetings



Learning Modalities



Visual Learner

- Learns by seeing, may think in pictures.
- Needs to see body language & facial expressions.
- Sits close to visual displays & demonstrations



Auditory Learner

- Learns by hearing. Can recollect information in sounds.
- Lectures & discussions.
- Listens to tone of voice, pitch and speed of speech



Kinesthetic Learner

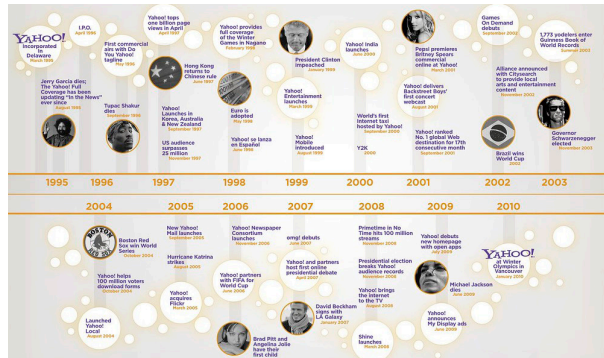
- Learns by feeling and experiencing.
- Active, hands-on approach
- Needs activity and exploration to learn.

Learning Modalities



Visual Learner

- Takes notes, translates to graphics & reorganizes information
- Learns well Virtually and in Lectures with visual aids or demonstrations
- Notices details
- Likes quiet, passive surroundings for study



Timelines, Facts, Lists



Tables and Charts



Color Coding



Online Learning



Post-its



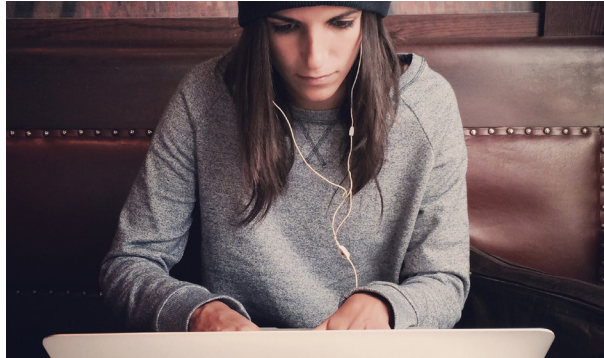
Note Taking

Learning Modalities



Auditory Learner

- Has strong oral communication skills
- Prefers to hear and discuss content than read it
- Reads & speaks slowly; explains content well;
- Likes quiet, passive surroundings for study
- Likes studying in a group



Studying with Music



Podcasts



Discussions



Studying in Groups

PLEASE	P	PARENTHESIS
EXCUSE	E	EXPONENT
MY	M	MULTIPLICATION
DEAR	D	DIVISION
AUNT	A	ADDITION
SALLY	S	SUBTRACTION

Mnemonics



Presentations

Learning Modalities



Kinesthetic Learner

- Remembers by recalling experiences
- Prefers to demonstrate instead of verbally explaining it
- Likes to use a hands-on approach to learn new content
- Like lab/hands-on classes
- Likes studying in a group



Practicing



Role Playing



Discussions



Studying in Groups



Pacing While Studying



Simulated Activities

Space Capacities

Education Delivery Methods

Planning for reentry to school for all grades has different implications depending on the district requirements, technology capacity and facility size. This toolkit has been developed as a guide **to determine the capacity of school facilities** during safe-distancing, as re-entry to in-person learning begins again.

During a time when learning in-person is encouraged but providing the right amount of space is challenging, perhaps taking the students outside to learn may be an alternative. Is this an option for classroom discussion, role-play scenarios, independent reading or project-based learning?

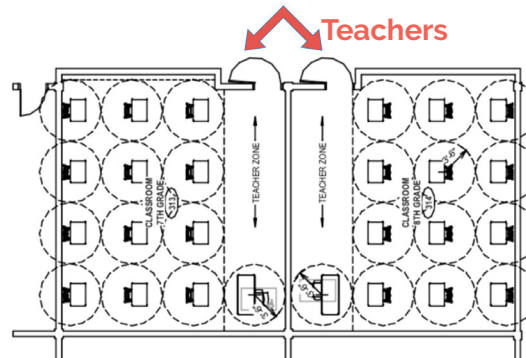
A variety of education delivery methods were considered when developing the metrics and diagrams included in this study. A few are illustrated here:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
A: In-Person	B: In-Person	A: In-Person	B: In-Person	A: In-Person
B: Online	A: Online	B: Online	A: Online	B: Online

Day On, Day In / Week On, Week In

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
A: Morning	B: Morning	A: Morning	B: Morning	A: Morning
B: Afternoon	A: Afternoon	B: Afternoon	A: Afternoon	B: Afternoon

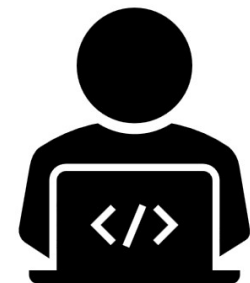
Revolving Shifts



No Class Change



In-Person Learning



Full Online Learning

2021																				
January					February					March					April					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
28	29	30	31	1	2	3	1	2	3	4	5	6	7	8	25	26	27	28	29	30
3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	4	5	6	7	8	9
10	11	12	13	14	15	16	16	17	18	19	20	21	22	23	11	12	13	14	15	16
17	18	19	20	21	22	23	23	24	25	26	27	28	29	30	18	19	20	21	22	23
24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	25	26	27	28	29	30
31																				
May					June					July					August					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
25	26	27	28	29	30	1	1	2	3	4	5	6	7	8	25	26	27	28	29	30
2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	1	2	3	4	5	6
9	10	11	12	13	14	15	15	16	17	18	19	20	21	22	8	9	10	11	12	13
16	17	18	19	20	21	22	22	23	24	25	26	27	28	29	15	16	17	18	19	20
23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	22	23	24	25	26	27
30	31														29	30	31			
September					October					November					December					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
28	29	30	31	1	2	3	3	4	5	6	7	8	9	10	28	29	30	31		
5	6	7	8	9	10	11	11	12	13	14	15	16	17	18	5	6	7	8	9	10
12	13	14	15	16	17	18	18	19	20	21	22	23	24	25	12	13	14	15	16	17
19	20	21	22	23	24	25	25	26	27	28	29	30	31	1	19	20	21	22	23	24
26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	26	27	28	29	30	31

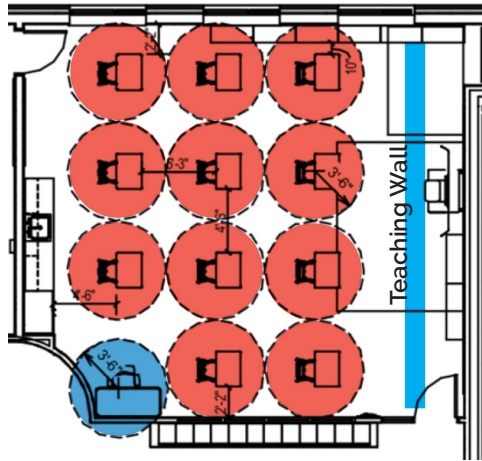
Year Round Learning

Space Capacities

Determining Classroom Seating Capacities

The development of the options for each space type utilized a 7ft diameter circle to illustrate the social distancing recommended by government agencies.



These studies yielded an average capacity per room size and a net square foot (NSF) per Student planning metric for each space size. Dividing each room area by the provided NSF per Student will establish an estimated capacity for the room.

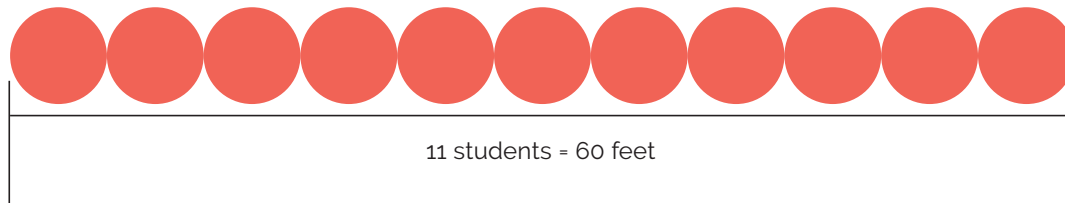
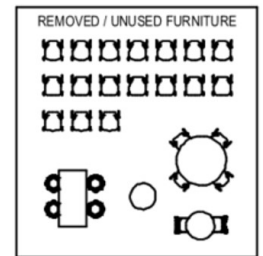
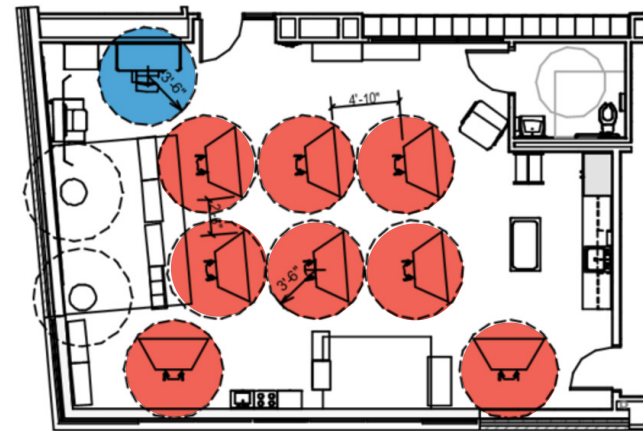


A 7ft diameter circle was used in this study to accommodate 'wiggle room' literally and physically when measuring for young learners.



To move 11 students safely distanced down a hallway - approximately 60 feet of hallway is needed!

-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance



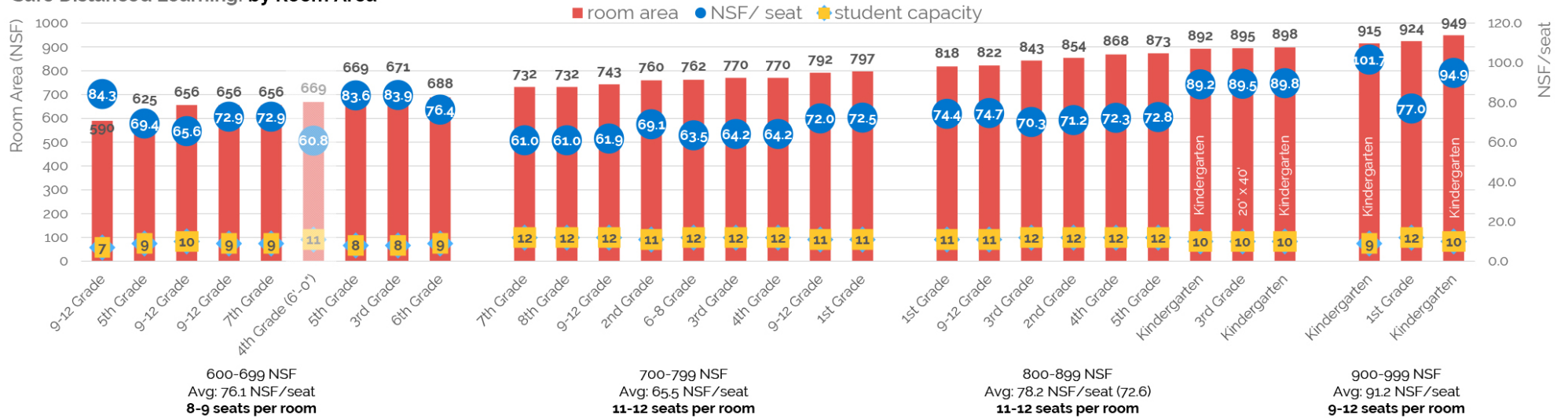
Space Capacities

Determining Classroom Seating Capacities

The seat capacity for safe-distanced learning seems to be determined by the size and, in some cases, the room layout. Our study tested 7'-0" diameter spacing in old and new facilities. The findings are:

Classroom Size	New Capacity	NSF / Seat
600-699 NSF	8-9	76.1
700-799 NSF	11-12	65.5
800-899 NSF	11-12	72.6
900-999 NSF	12	77.0

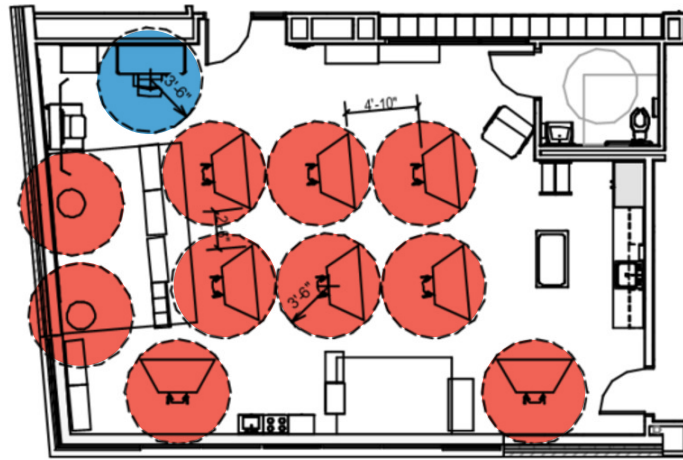
Safe Distanced Learning: by Room Area



Space Capacities

Classroom Anomalies: Kindergarten

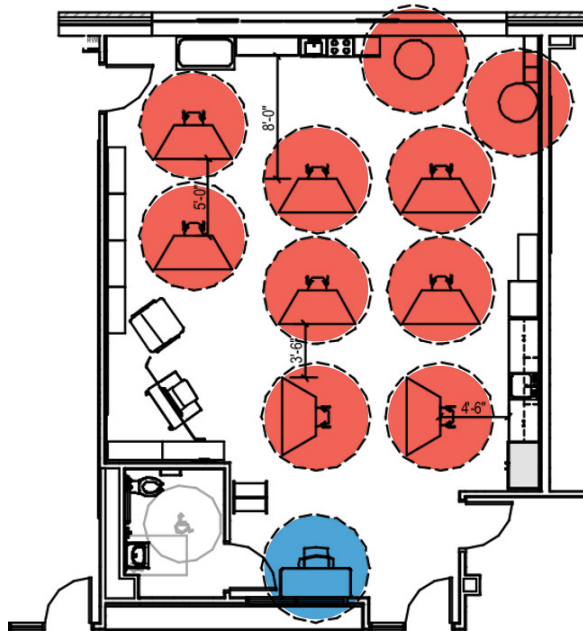
Kindergarten classrooms do not use traditional student desk and chair stations. For this study, these classrooms were spaced using common stations found in a kindergarten room while maintaining other supplemental furniture such as bookshelves, carpet area, water station, etc.



Room Area:
949 NSF

Capacity:
10 stations
1 teacher



94.9 NSF per station



Room Area:
898 NSF

Capacity:
10 stations
1 teacher

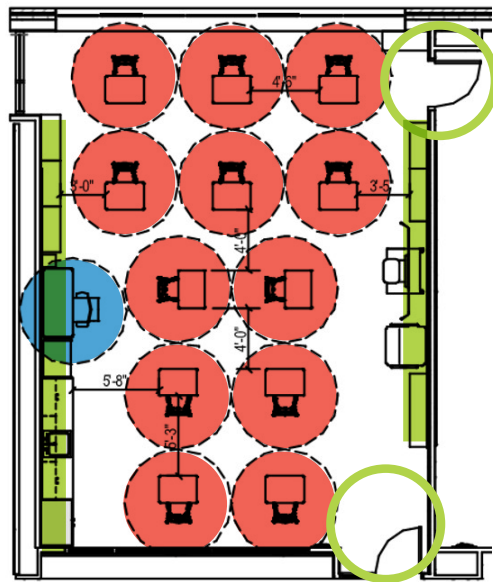
89.8 NSF per station




-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance

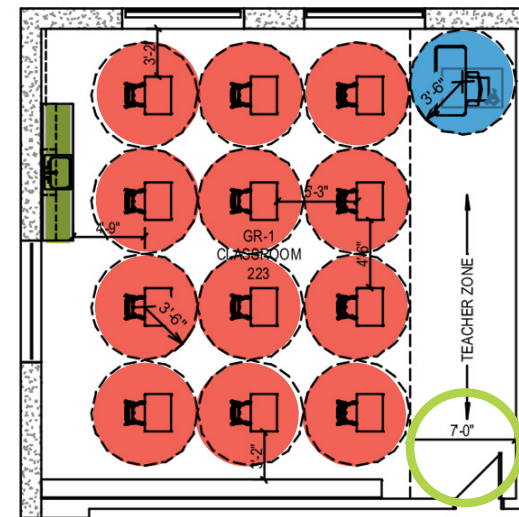
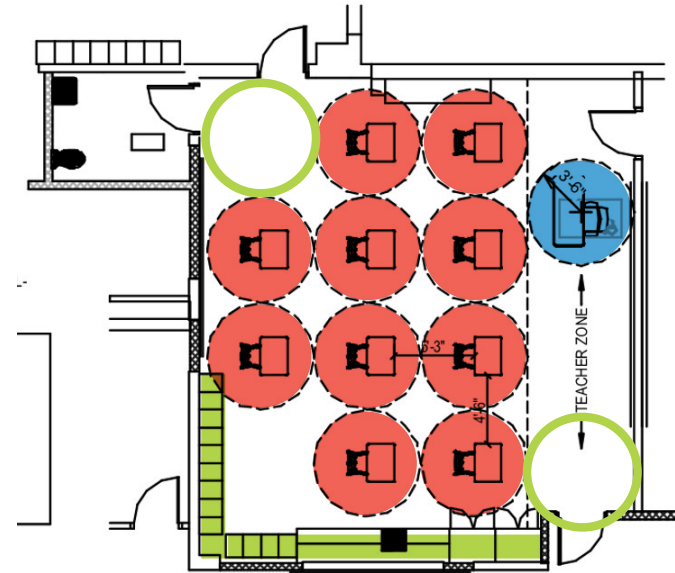
Space Capacities

Classroom Anomalies: Cabinetry and Door Access

Rooms with full walls of cabinetry and sinks, will yield less student stations as a clear circulation path will need to be maintained to provide access to the cabinetry and sinks. Clear circulation space at any door will need to be maintained as well.



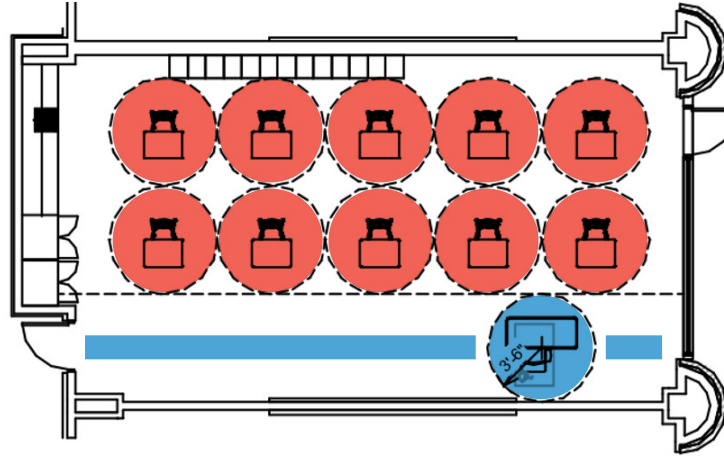
-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance
-  Clearance at Cabinetry and Doors






Space Capacities

Classroom Anomalies: Narrow Proportions

Rooms with very narrow proportions will yield less 7'-0" diameter student stations since a longer teacher zone will be kept clear for the instructor to walk along the long teaching wall.

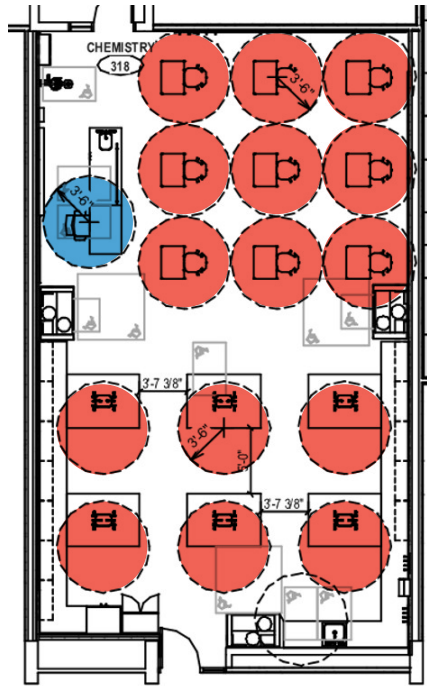


-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance
-  Teacher Zone

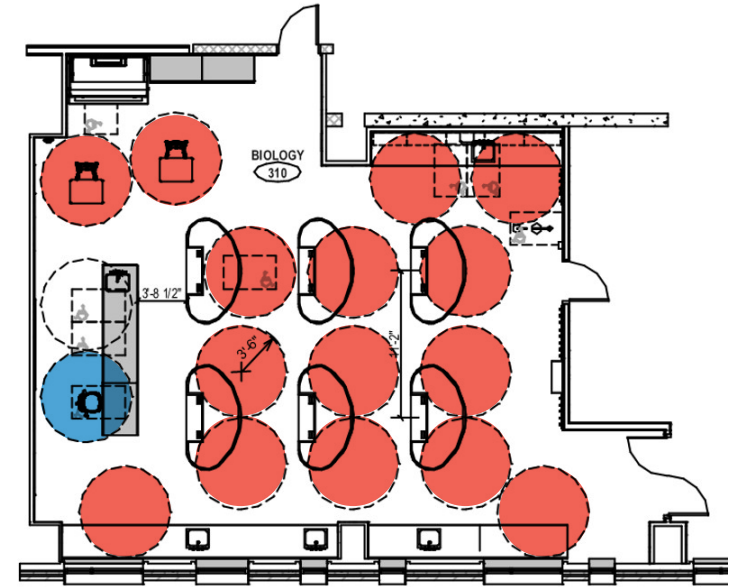
Space Capacities

Science Labs (fixed lab stations)



Maximize seating locations with alternative station types including the fixed stations.



15 Stations



15 Stations

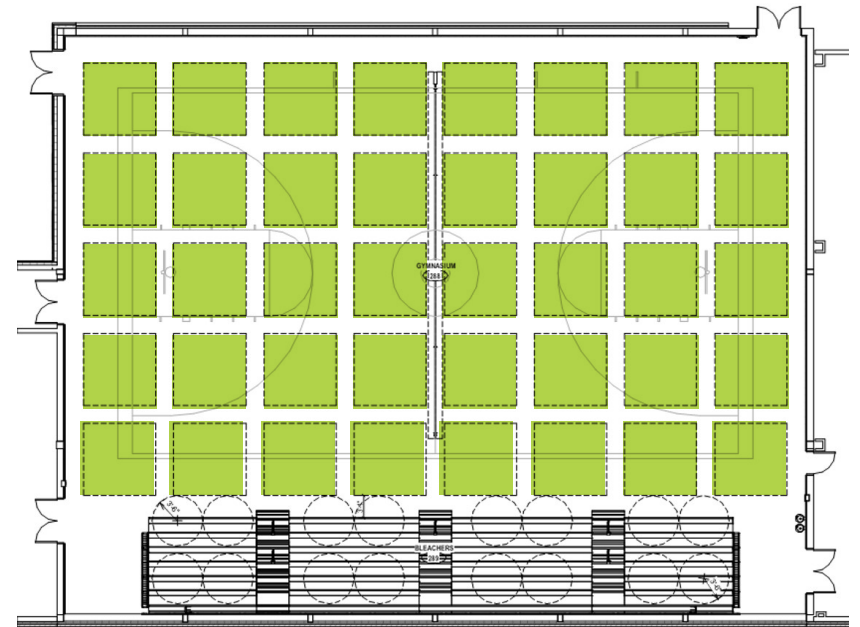
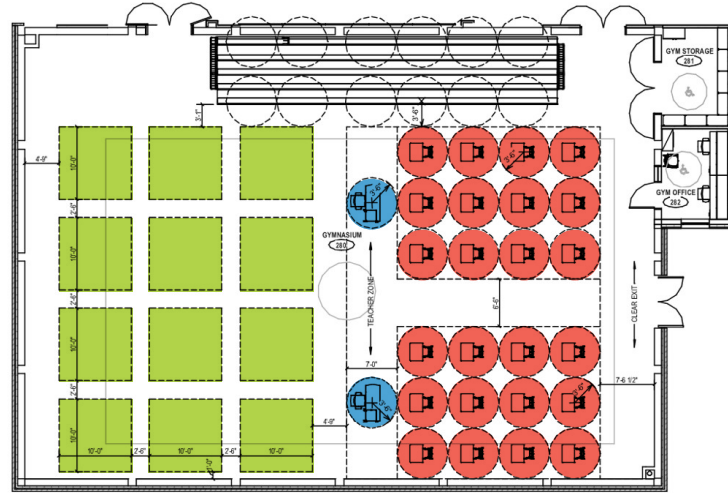
-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance




Space Capacities

Community Space Analysis: Gymnasia

10'x10' Individual Activity Zones can be used for yoga, Mindfulness, stretching, etc.

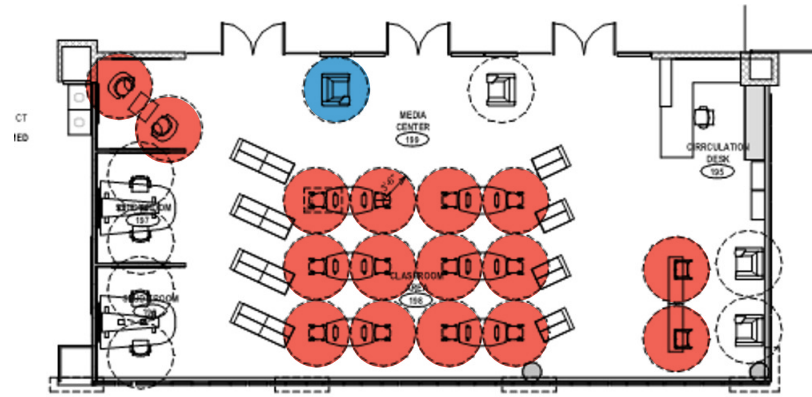
Classroom set up can be organized for Special Ed, testing, alternative learning environment.



-  Teacher Station w/7' Clearance
-  Student Station w/7' Clearance
-  10' x 10' Activity Zones

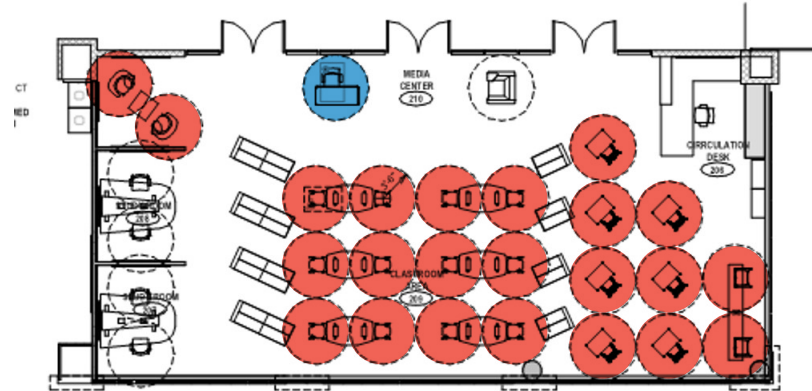
Space Capacities

Community Space Analysis: Library / Media Center



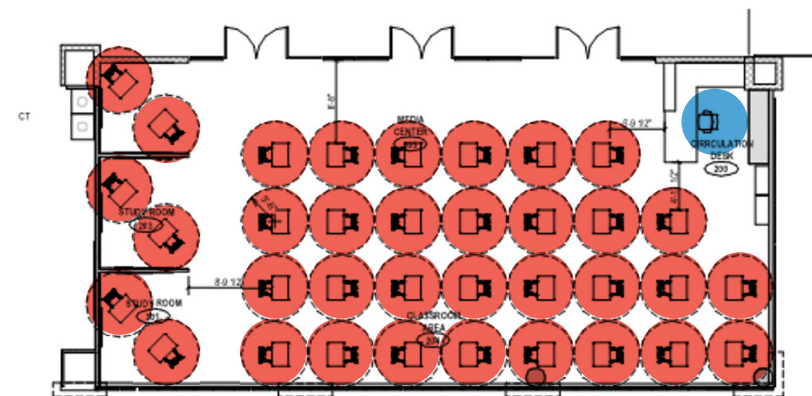
Original

Study and Soft-seating
Layout



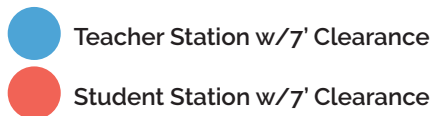
Alternate 1

Add classroom desks
to create an additional
learning environment.



Alternate 2

Replace all library
furniture with classroom
desks.

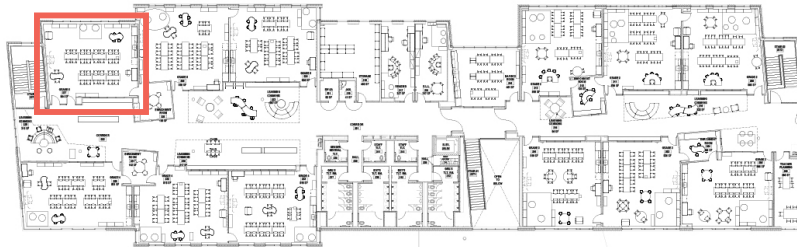


Space Capacities

Determining Building Capacity: Elementary School Case Study

In the floor plans, at right, furniture is shown as typically planned for engaged, in-person learning. This school has 18 classrooms in grades Kindergarten through 5th and one Intense Academic Support Classroom, totaling 19. **These 19 instructional spaces have a seating capacity of 486 seats to accommodate 482 students.** In addition to general instruction, the facility provides areas for instruction of the arts, physical education, English, as well as areas for academic support throughout. Together with enrichment rooms and informal small group learning areas, these supplemental spaces total 25 with a seating capacity of 319 to provide flexibility in scheduling their use.

After applying the Safe-Distanced Metrics from page 20, the new capacities yield 210 seats in the same 19 classrooms and 156 seats in the specials and other academic support spaces. **The new safe-distanced capacity for the building is 367 across 44 individual spaces for the same enrollment of 482.** (This calculation includes the addition of the cafeteria dining area as another learning space.)



Second Floor
12 Classrooms

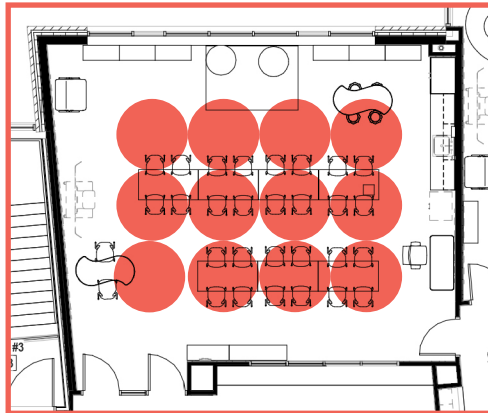


First Floor
7 Classrooms

Space Capacities

Determining Building Capacity: Elementary School Case Study

	# of Spaces	Seat Capacity	School Enrollment
Original Capacity Plan			
General Classrooms (K-5th)	19	486	482
Specials/Academic Support Spaces	24	319	
Original Totals	43	805	
Safe-Distanced Capacity Plan			
General Classrooms (K-5th)	19	210	482
Specials/Academic Support Spaces	25	156	
Safe-Distanced Totals	44	367	



Grade 5 Classroom

Room Area:

864 sf

Original Capacity:

28 seats

Safe-Distanced Metric (from page 20):

72.6 NSF per seat

Safe-Distanced Capacity:

12 seats