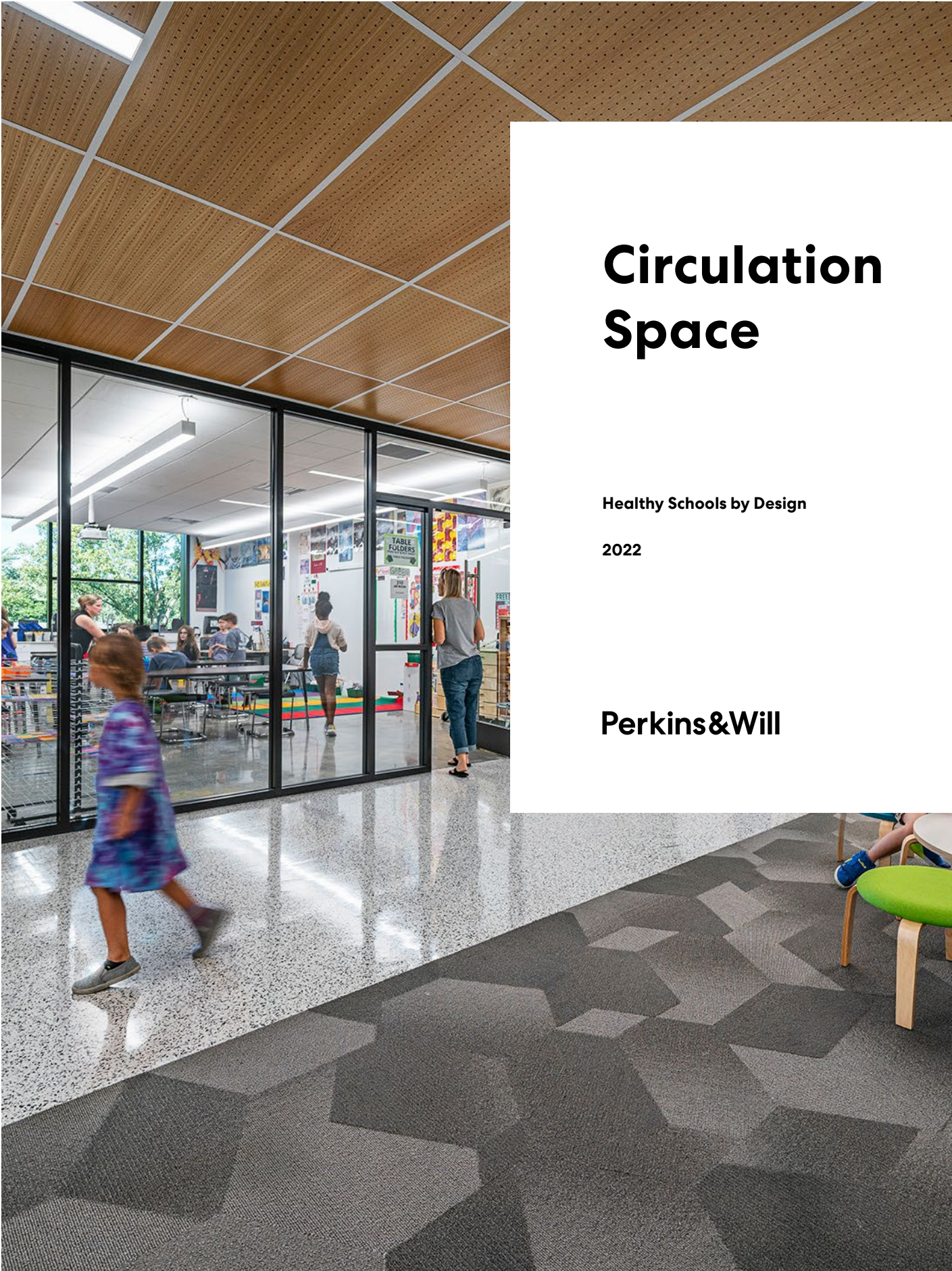


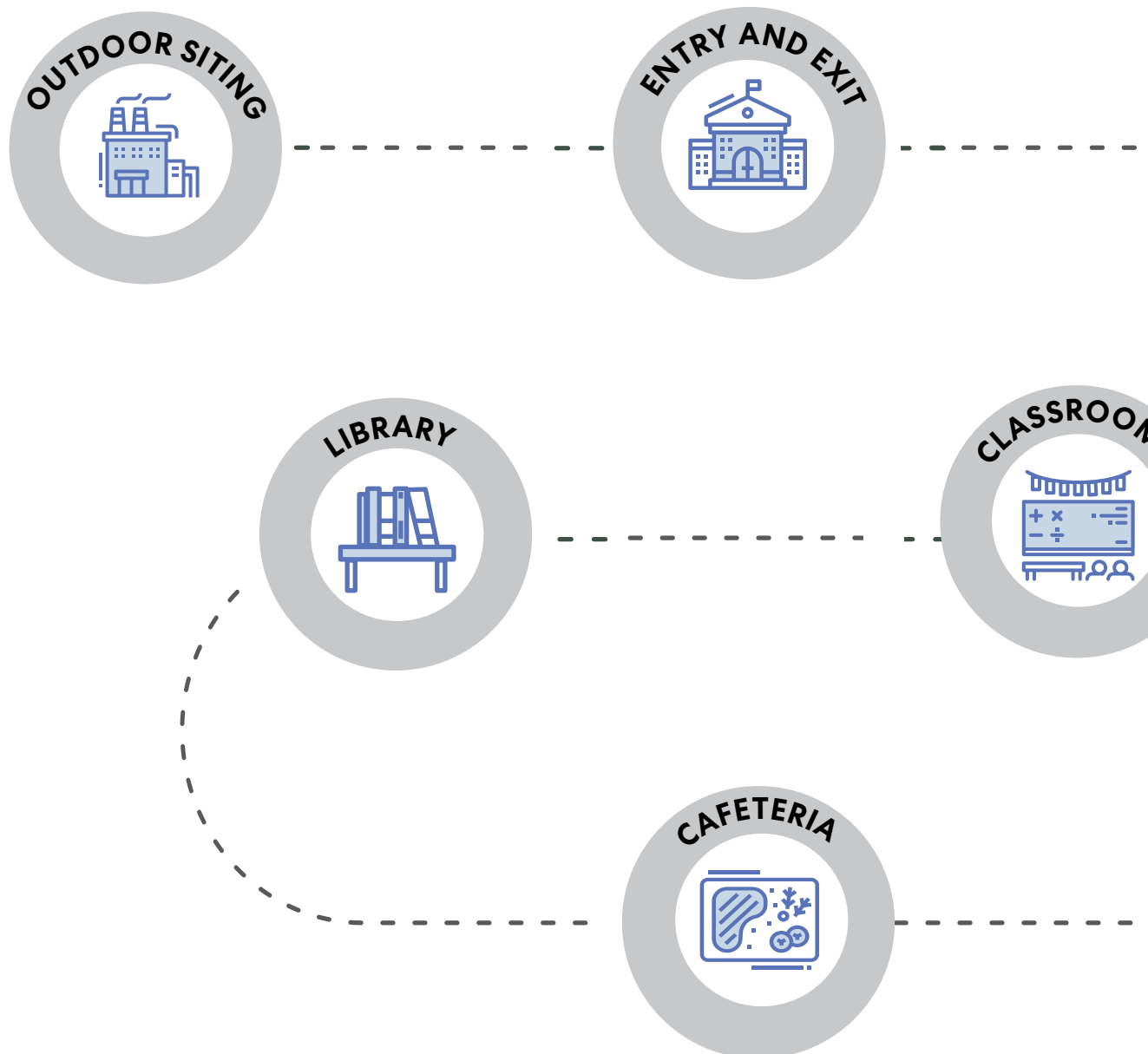


Circulation Space

Healthy Schools by Design

2022

Perkins&Will



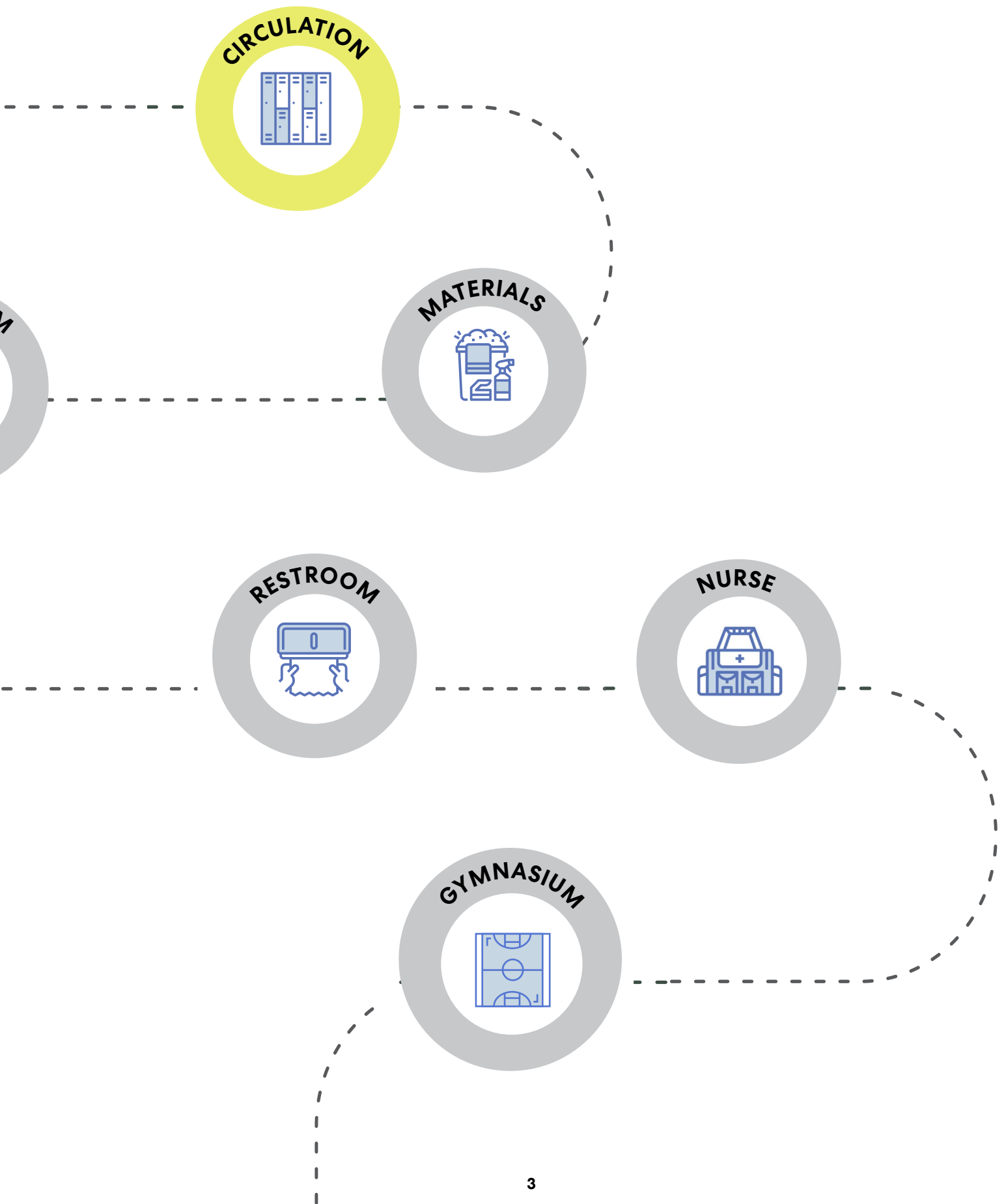
A DAY IN THE LIFE

Meet Riley

In the pages that follow, we invite you to imagine how these design interventions will impact Riley, an imaginary—but very real—student. We owe it to students like Riley to make school buildings as inviting, safe, and healthy as they can be.



Follow Riley's journey through school at
healthyk12.perkinswill.com/





Our goal.





This series is focused on translating research into practical design solutions that promote child and staff health in our K-12 Schools. These documents will continue to be updated to reflect novel findings and community input. This primer is not a comprehensive list, and some strategies may not be achievable in existing buildings. Our goal is to identify opportunities where design and operations decisions can improve human experience.

The guidance provided is based on the available information as of the date of publication and does not replace federal, state, or local public health recommendations. It aggregates best practices and innovative solutions at the intersection of buildings and school health. We encourage schools to reach out and seek expert advice on their unique circumstances.

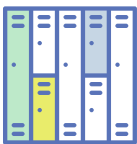


Project: Katherine Johnson Technology
Magnet Academy, DeSoto, Texas



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— Circulation Space

The stairwells, corridors, and elevators within our schools are spaces nearly every occupant uses. Riley (or any student) may not have class in room 203, but probably uses the hallway that passes by that classroom. Acting as connective tissue, thoughtful corridor and stairwell design can support social emotional well-being. By offering variety and flexibility we can give students agency, support collaboration, reduce density when needed, and reinforce school values.

In addition to being a pathway, circulation areas can extend classroom environments through planning, strategic signage, innovative furniture, and smart design.

Our holistic framework address the most critical issues affecting schools through three lenses: Educational Adaptation, Health Promotion, and Risk Mitigation. In the pages that follow we will apply this framework to circulation space.

Introduction



Circulation Space

RISK MITIGATION

Visibility within the school environment gives students, teachers, and staff the ability to see each other throughout space. This can be achieved throughout a school's hallway network by **limiting turns and alcoves that can create blind spots in natural surveillance**. Research tells us that long hallways with **greater visibility may allow adults to detect bullying and harassment more quickly and prevent students from participating in risky behavior** (Domitrovich, Syvertsen, and Calin, 2017). It has also been found that additional exits, curved hallways, and obstacles may reduce casualty rates during a school shooting (Jain, 2020). Also, by dispersing teacher and staff meeting areas and lunch spaces throughout circulation areas, the design of the space can foster passive supervision, collaboration, and support.

Did you know? A study from the National Center for Education Statistics showed that students between the ages of 12 and 18 reported nearly **twice as many bullying incidents in hallways and stairwells** (United States Department of Justice, 2016).

EDUCATIONAL ADAPTATION

Thoughtfully designed circulations spaces can support both structured **collaboration** and spontaneous human connection. This is important because, **developing collaboration skills is an essential for social development and has implications for future job performance, building healthy relationships, and conflict resolution** (Domitrovich, Syvertsen, and Calin, 2017). During the pandemic, remote learning limited socialization with documented increases in depression and anxiety (Loades et al., 2020). To help overcome this, **schools should be optimized for collaboration by activating spaces beyond the classroom such as hallways, breakout areas, learning pods, and co-teaching spaces**.

Did you know? A study published in the International Encyclopedia of the Social and Behavior Sciences indicates that **childhood friendships are good for kids' mental health** (Borner et al., 2015).

HEALTH PROMOTION

Wayfinding does not just mean signage. **Clever use of color, sound, branding, graphics, texture, and materials are ways to orient users without relying solely on signage**. These visual, auditory, and spatial cues help students understand where they are and where they need to go. **The value of clear wayfinding is associated with reduction in anxiety and increases in efficiency for students, staff and visitors**. Research shows that people-place cues and social wayfinding can improve psychological safety, and adult supervision can indicate that an area is safe to walk in alone (Dalton, Holscher, and Montello, 2019). Wayfinding strategies, such as unique landmarks, can improve a child's route learning ability, a skill important for navigation in the future (Lingwood et al., 2015). Also, during emergencies, it has been shown that people follow people when exiting a building. Therefore, well-marked egress pathways need to be accessible and available.

What we are reading: It's a Sign: The Vital Role of Branding and Wayfinding at Schools - Catherine Dalton, Perkins&Will



Did you know?

According to a study published in the American Journal of Public Health, a child's social and emotional skills in kindergarten might be the biggest predictor of success in adulthood (Jones et al., 2015).

Check out our article in Green Schools Catalyst Quarterly - **Recognizing the Holistic Role of K-12 Schools: Design Principles for Social-Emotional Learning**

Strategies

STRATEGY		CATEGORY	NEW/EXISTING	INCLUDED IN YOUR SCHOOL?
CS.1	Increase the width of corridors to allow additional space for social distance and movement. Limiting the number of lockers to less than 1 locker per student can provide more room for circulation. Students can sign up at the beginning of the year for a locker.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.2	Diversify space types within circulation zones to include individual nooks and areas that support medium and large groups of students to increase collaboration and offer additional square footage when needed.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.3	Locate stairs near entry to support physical activity and overall wellness. For individuals with mobility impairments, provide clear signage for elevator use.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.4	Increase the area within stairwells to offer additional space and to support one-way movement.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.5	Include intermediate handrails at stairs for safety and to promote one-way traffic . Encourage the practice of good hand hygiene.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.6	Include daylight in corridors and stairwells to shorten the survival time and transmission of infectious particles and support human health.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.7	Display signage with easy-to-understand language and symbols , positive messaging, and minimal text to promote healthy actions and support wayfinding. Be sure to account for students who are color-blind, language learners, or visually impaired.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.8	Include transparent design that supports clear lines of sight to reduces bullying opportunities in corridors and stairwells.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.9	Design for acoustics to minimize sound transmission across corridors and between corridor and classrooms for increased speech intelligibility, which may create background noise for learning or overstimulate students with Autism Spectrum Disorder (Williams et al, 2020).	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.10	Allow for classroom expansion into corridors through movable partitions and garage doors	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable

Circulation Space

STRATEGY		CATEGORY	NEW/EXISTING	INCLUDED IN YOUR SCHOOL?
CS.11	Incorporate variety of lighting to maximize visual acuity along a hallway and support wayfinding and safety. Use general and ambient lighting to illuminate the space and task lighting to highlight exits, wayfinding cues, and points of interest (e.g. student art).	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.12	Creating distinct landmarks can help young students navigate corridors. Use architectural gestures through form, color, or materiality to articulate the corridor and reduce monotony.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable
CS.13	Include accessible water fountains located near student spaces for maximum hydration.	Risk Mitigation Health Promotion Educational Adaptation	New Construction Existing Building	☐ Yes ☐ No ☐ Not Applicable



A Starting Point

Our aim is to support holistically healthy buildings, but we understand that each learning community is unique and has their own health priorities. Use these strategies as a starting point!

Circulation Space

Strategies in Action

CS.8

Include transparent design that supports clear lines of sight.

CS.1

Increase the width of corridors to allow additional space for social distance and movement.

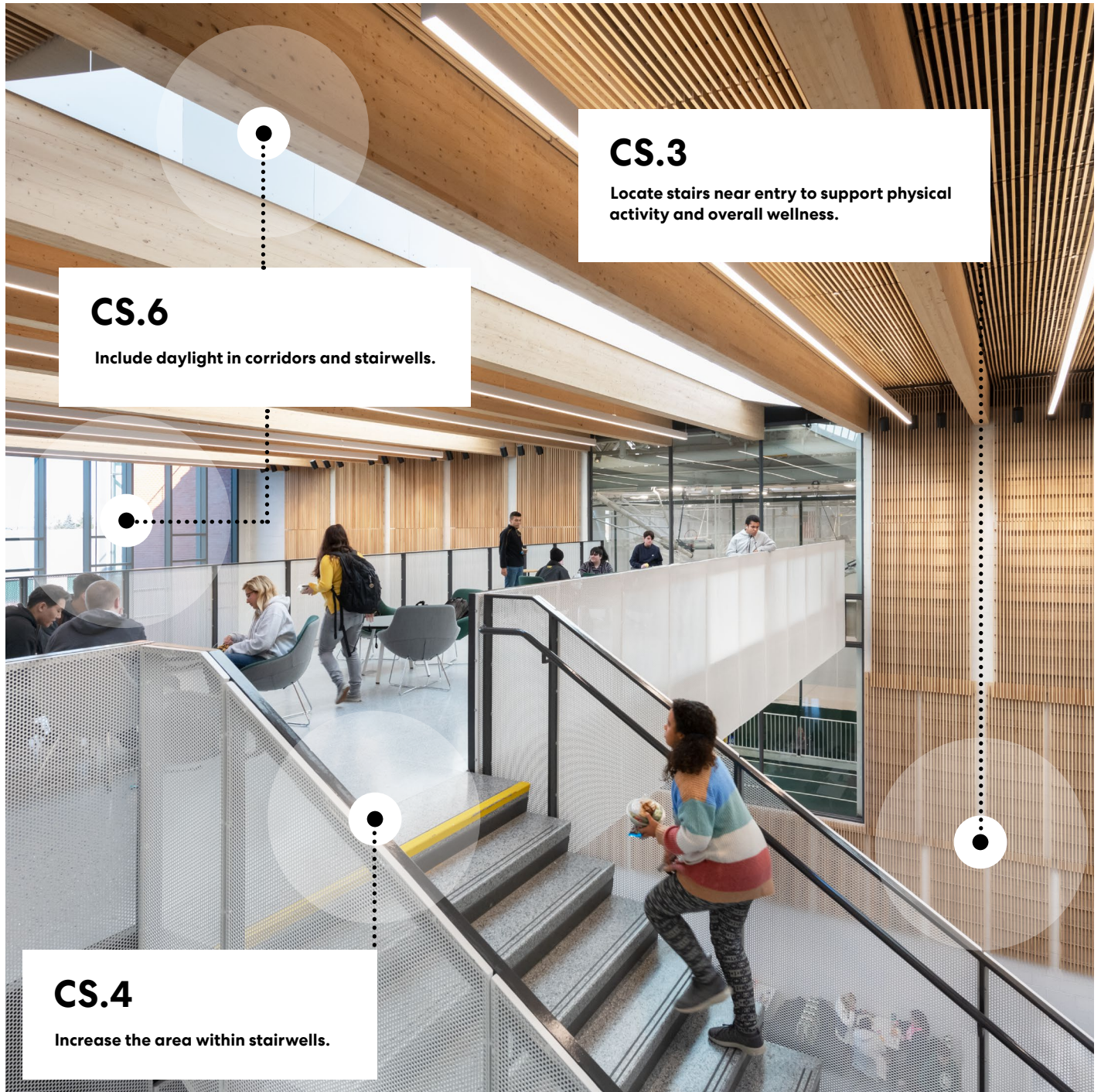
CS.9

Design for acoustics to minimize sound transmission

CS.2

Diversify space types within circulation zones

Strategies in Action



CS.3

Locate stairs near entry to support physical activity and overall wellness.

CS.6

Include daylight in corridors and stairwells.

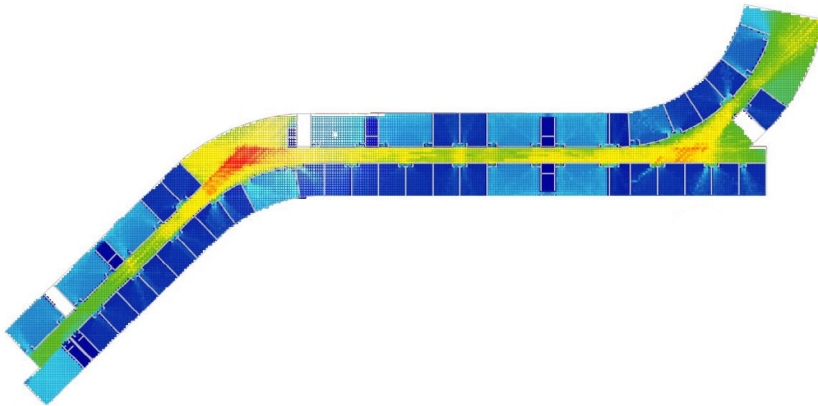
CS.4

Increase the area within stairwells.

Circulation Space

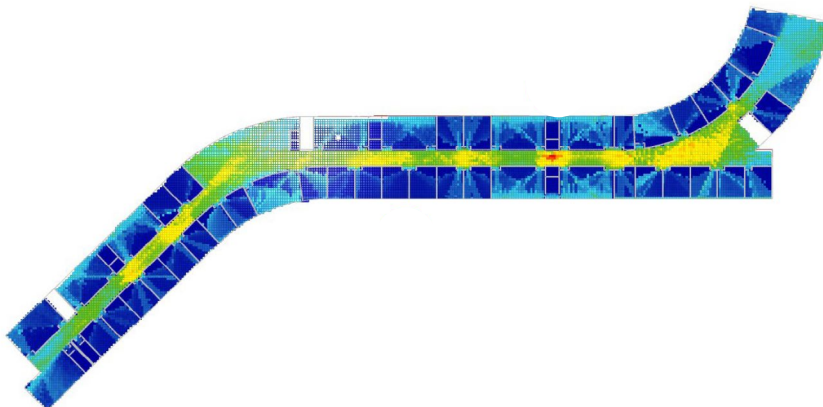
LEVEL 02 - Visibility Area

- Measures how much areas are visually connected.
- Areas in Red are the most visually connected and have the most visual control over circulation
- The darker the blue, the more private the space



LEVEL 02 - Visibility Occlusivity

- Represents obstacles and potential line of sight from the corridor
- Dark blues represent blind spots from the corridor.



Case Study

CS.8 Transparent Design

Morrow High School:

Visibility Study

Location: Morrow, Georgia

The Morrow High School team performed a study which analyses the **Visibility Area** and **Visibility Occlusion** of each floor. Below are two studies from one of the floor plates. Studies like this help inform what the desired level of transparency should be for different spaces.

“Knowing where the blind spots are in a building can make sure we are using additional security measures only as we need them and makes sure we are keeping an eye on bullying and harassment”

Check it out!



Circulation Space



CS.6 Include daylight in corridors and stairwells

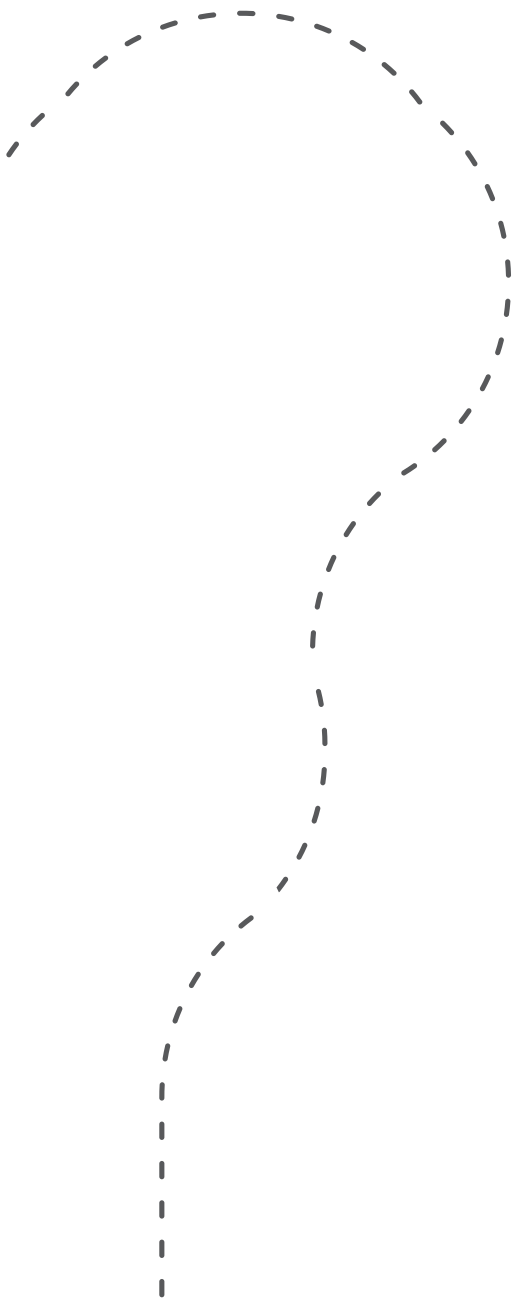


CS.5 Display signage with easy-to-understand language and symbols one way traffic

CS.5 Include intermediate handrails to promote one way traffic

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Continue Riley's journey at:

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