



# DESIGN QUAR- TERLY

ISSUE 08

## WELLNESS & ACTIVE LIFESTYLES

Design strategies that promote  
occupant well-being



# DESIGN QUAR- TERLY

ISSUE 08

**THOUGHTS, TRENDS AND INNOVATION  
FROM THE STANTEC BUILDINGS GROUP.**

The Stantec Design Quarterly tells stories that showcase thoughtful, forward-looking approaches to design that build community.

## IN THIS ISSUE: WELLNESS AND ACTIVE LIFESTYLES



The built environment has is a significant contributor to our sense of wellness. In fact, it wasn't so long ago that buildings themselves were considered significant barriers to wellness. Sick building syndrome (SBS) emerged a catch-all term for the effects of volatile chemicals, buildings with poor ventilation, and other conditions of post-war structures on building occupants. Being inside was making people ill. The design industry responded with the creation of new qualitative benchmarks around practices that promote well-being. Today, that evolution continues, now addressing a rising hunger for wellness amenities. In this issue, we look at the way that demand and an elevated consciousness about the role design can play in promoting it influences our work from healthcare to workplace.

01

### **Frontiers in workplace wellness**

With employee well-being as a guiding light, health-promoting elements shape the new office.

**BY COLLEEN ARRIA**

07

### **Design drivers for mental health**

How goals like "Veterans first" shaped the design for a new VA building supporting a patient-centered recovery model

**BY LARRY BONGORT**

14

### **Neighborhoods for active lifestyles**

Six trends shaping sports and recreation design in our communities

**BY BRIAN BENGERT AND DAVID NARDONE**

21

### **Flying well**

Airports are emerging as places where travelers can travel well

**BY CECILIA EINARSON**

25

### **Ask an expert: How can lighting influence wellness?**

Senior Lighting Designer Rachel Fitzgerald on how new research is influencing our application of lighting for well-being

**INTERVIEW BY JOHN DUGAN**

30

### **A tool for wellness**

Can digital advancements help us design to improve occupant health? Here's how we are creating a parametric tool for wellness design.

**BY KAITLYN GILLIS**

35

### **Final Thought: Boosting wellness uptake**

How we can achieve greater adoption of health and wellness standards in the marketplace

**BY BLAKE JACKSON**



The BEAT  
Boston, Massachusetts

# Frontiers in workplace wellness

With employee well-being as a guiding light, health-promoting elements shape the new office.

BY COLLEEN ARRIA



Approaching the office as a place that should enhance the health and well-being of its occupants has changed how and what we design for our clients. The following are the elements that are influencing wellness-oriented office designs, as I see it, and some possibilities for what comes next.

### NATURAL MATERIALS AND BIOPHILIA

Both clients and tenants are increasingly aware of biophilia. People in general are more mindful about what types of materials are being placed in their space, where they're coming from, what they're made of, if they off-gas, and how they affect the quality of the interior environment. People are much more responsive to our suggestions about healthy materials. Most of us respond positively to materials with natural properties. As a result, we're designing with a lot more wood, because it has biophilic properties—our brain associates wood with trees and that feels good. >



Stantec Tower Tenant Improvements  
Edmonton, Alberta



95%

OF THE PEOPLE POLLED  
EXPRESSED A DESIRE  
FOR DIRECT ACCESS TO  
DAYLIGHT.

Check out our [interactive guide](#) to see how we incorporate healthy materials into the workspace.



1401 H Street NW  
Washington, D.C



### DAYLIGHT AND VIEWS

I'm working on a huge 800,000 square foot campus right now and we're collecting data on the quality of the existing workspace. The number one request I'm getting relates to wellness at work. More specifically, 95% of the people polled expressed a desire for direct access to daylight. That desire for daylight occurs in every project that we design today. Even with traditionally windowless spaces like labs, we're organizing space to maximize access to windows. We're making sure that the office spaces have access to the sun's rays.

### FLEXIBLE PROGRAMMED SPACES

We're also seeing wellness incorporated in the workplace programmatically via flexible spaces that can contribute to people's wellness in multitude of ways. For example, small privacy rooms meant for a single person can be used for anything from a mother's room to a meditation space, to a room for rest or focused work, and of course to make private calls. Programming these rooms for multiple uses isn't hard, but it can have a big impact on how employees perceive wellness. >

## EATING RIGHT, EVEN ON ISLANDS

Corporate campuses, academic institutions, new office developments in urban areas all host lots of people working in offices. Generally, they need the same things. At the BEAT we are creating a corporate campus in the former Boston Globe headquarters. But the location is locked in by transit and geography, so despite its urban setting it doesn't have access to typical city amenities like great food. So, the design conversation for the Beat is about building in access to really good local and healthy food options beyond the fries and pizza typical of some corporate cafeterias. The transformation is widespread within the industry, we're seeing existing corporate cafeterias transforming themselves as well to compete for patrons—taking inspiration from the dynamic food halls you see in vibrant urban centers.



Microsoft Azure East  
Reston, Virginia



## GIVING THE WEEKENDS BACK WITH SERVICES

If we think more broadly about wellness, we begin to think about work/life balance. That's where services come in.

With the BEAT or suburban office campuses, we see the need to create small town centers or small urban-type environments and campuses that bring all the food, fitness, fun, as well as services closer to the workplace. You may not think of having dry cleaning in a workplace development as health-related, but it contributes to wellness.

As one of my clients put it, it gives them their weekends back. If you can do small little day-to-day, personal things while you're on the corporate campus or your workspace offers services like car tune-ups or dental cleanings, that helps folks gain some balance. Bringing in services can alleviate stress and contribute to workers' well-being. >



1401 H Street NW  
Washington, D.C

### **BOUTIQUE FITNESS ON-DEMAND**

Essentially, the on-demand fitness space is a room that enables employees to access a variety of different fitness programs digitally, take instruction from a big flat screen, and workout in a flexible fitness space. It's a concept that started in the hospitality world and transferred over into residential that's now entering the workplace.

People are working longer hours at the office, while some also often have the option or obligation to work at home. This puts pressure on the workplace to offer some of the advantages available at home for those in the office and make it a destination for those that have flexibility to work elsewhere. Amenities like on-demand fitness offerings make the workplace

more appealing. Workouts are likely to be done with co-workers. So, on-demand fitness spaces are an opportunity to build culture in the workplace, which is as important to a sense of well-being and mission as it is to productivity.

### **CULTURE BUILDING**

Ultimately workplace wellness should translate into happier staff who are ready to bring their best selves to the office. The clients that do it best, naturally, are those that foster a positive culture in the office. They are interested in the well-being of their employees because they have seen from experience that if you invest in people in all aspects of their life, they stick around.

## What's next?

Wellness in the workplace is just getting started. Whatever we can imagine that may enhance a day at the office and promote innovation and productivity is possible.

### **ROOFTOP PODS**

What's intriguing to me is really truly blurring that line between the outdoors and our workspace. For instance, imagine having a little rooftop pod outside where you can go have a meeting, even while it's snowing. Sitting outside on a rooftop is a different experience than sitting somewhere very deep inside the building. That's small scale, but it's a hint at the next wave in designing for wellness. The next wave will be all about connection to nature and the outdoors into work environments that are typically closed-off glass and steel.

### **MAKING NATURE TANGIBLE**

Food is really this tangible experience meant to be tasted, not experienced on the screen, and yet today we are often taking pictures of our food. Our interior environments are very much like that. We're still designing very glassy buildings, but I think there's this yearning to utilize more natural materials and elements that are tactile. Green walls are indicative of this desire to connect with plants. We're going to see more natural materials used inside and out of the workplace. >





1401 H Street NW  
Washington, D.C

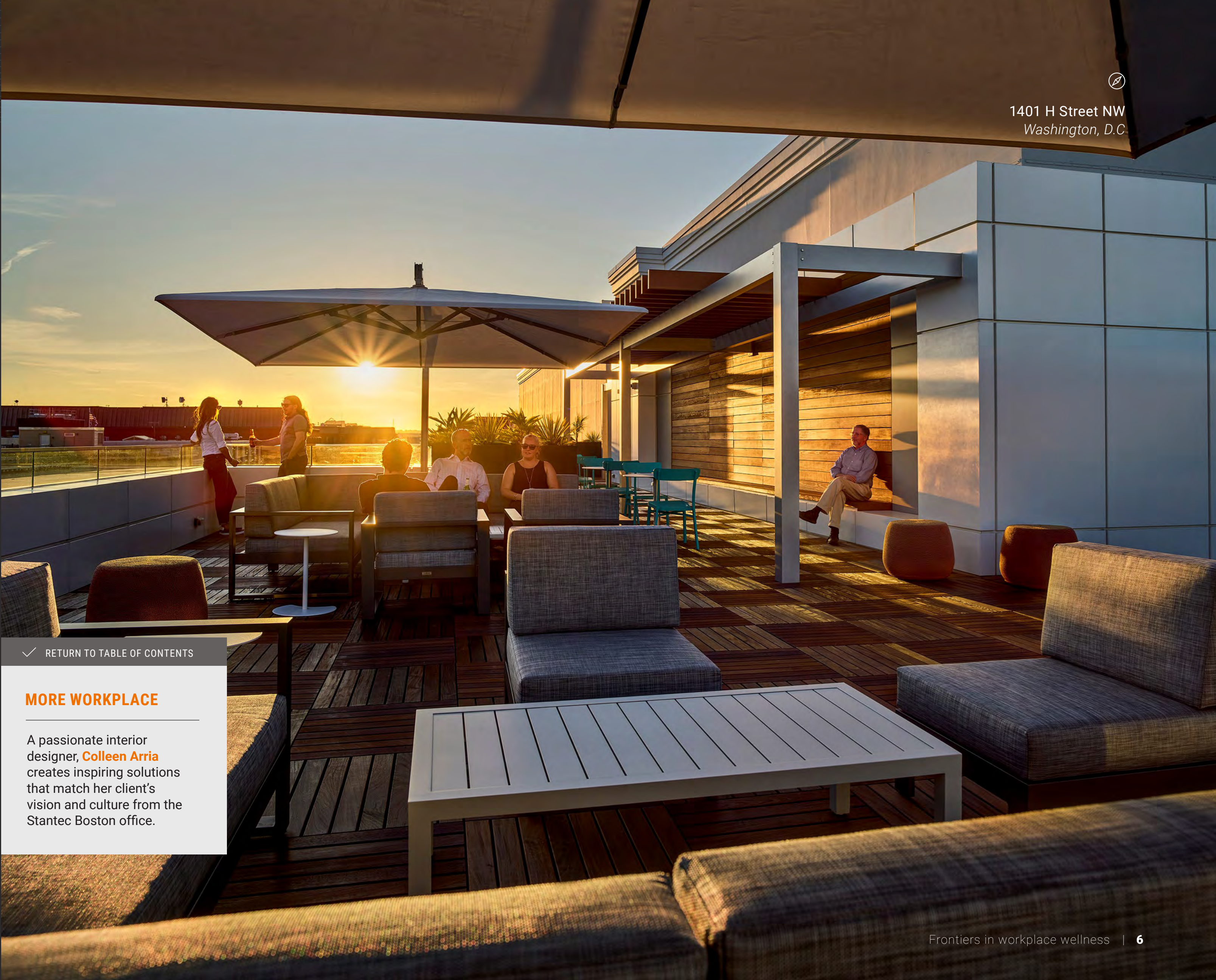
### MASS TIMBER AS A STRUCTURAL MATERIAL

Wood is coming on strong in interiors, but now it's showing up in structural systems through its laminated timber form. It can be strong, durable, and sustainable. That's another way we will bring more natural, more biophilic elements into the office and expose them.

### WORKING OUTDOORS

Traditionally mechanical equipment was predominant on rooftops for residential buildings, but recently we've been designing to condense and minimize mechanical systems. We're now collocating them in one corner, fencing it off, and turning the rest of the rooftop into amazing outdoor space that everybody can access. Now, we're taking the same approach with commercial office building design. We're creating these amazing outdoor rooftop areas that everyone in the building can access. Thus far, however, these rooftops are used for eating lunch and for parties. But, why can't we actually work outside? How can we make these rooftops four-season spaces that employees can use throughout their day?

We've only just begun to see where wellness is taking us. Keep an eye on the Design Quarterly for more workplace well-being. 



[RETURN TO TABLE OF CONTENTS](#)

#### MORE WORKPLACE

A passionate interior designer, **Colleen Arria** creates inspiring solutions that match her client's vision and culture from the Stantec Boston office.

DESIGN DRIVERS FOR  
**BEHAVIORAL &  
MENTAL HEALTH**

How goals like “Veterans first” shaped the design for a new VA building supporting a patient-centered recovery model

BY LARRY BONGORT  
PHOTOGRAPHY BY  
BENJAMIN BENSCHNEIDER PHOTOGRAPHY





VA Puget Sound, Mental Health & Research Building  
Seattle, WA

# M

ore than 1.7 million veterans received treatment in a Veterans Affairs (VA) mental health specialty program in 2018, making it one of the largest providers of mental health care services in the United States. The VA takes a patient-centered recovery model approach to mental health care with four major dimensions: *health, home, purpose, and community*.

At the VA Puget Sound Health Care System's new Mental Health and Research Building (MH&R), Stantec, working in collaboration with associate architect The Design Partnership, thoughtfully applied design features that support this care model for mental and behavior health in the physical environment. Five goals—Veterans First; Safety and Security; The Building as a Tool for Care, Learning and Research; Flexibility and Adaptability; Sustainability and Energy Reduction—guided our design. >

## GOAL 1

### VETERANS FIRST

VA Puget Sound Health Care System's new Mental Health and Research Building (MH&R) expands all VA Puget Sound's outpatient mental health care services, from medication management and psychosocial case management to dialectical behavior therapy and evidence-based individual, family and group psychotherapy. It offers treatments for addiction, self-harm, anxiety, depression, anger management, memory issues, relationship problems and difficulties in reintegrating in the community. MH&R offers methadone treatment for opioid addiction. Brought together, this array of treatment options offers a comprehensive, holistic approach to behavioral health for veterans. Creating a supportive environment for such a wide population of users is a challenge but if we put people first, it can be quite simple. But, how do we put people first?

#### *By planning for variety and dignity*

Behavioral health treatment requires a variety of spaces—so the building includes large classrooms and group rooms in the front of the house areas, and smaller PTSD clinic group rooms on the second floor as well as a variety of occupational therapy type spaces in more private settings.



VA Puget Sound, Mental Health & Research Building  
Seattle, WA

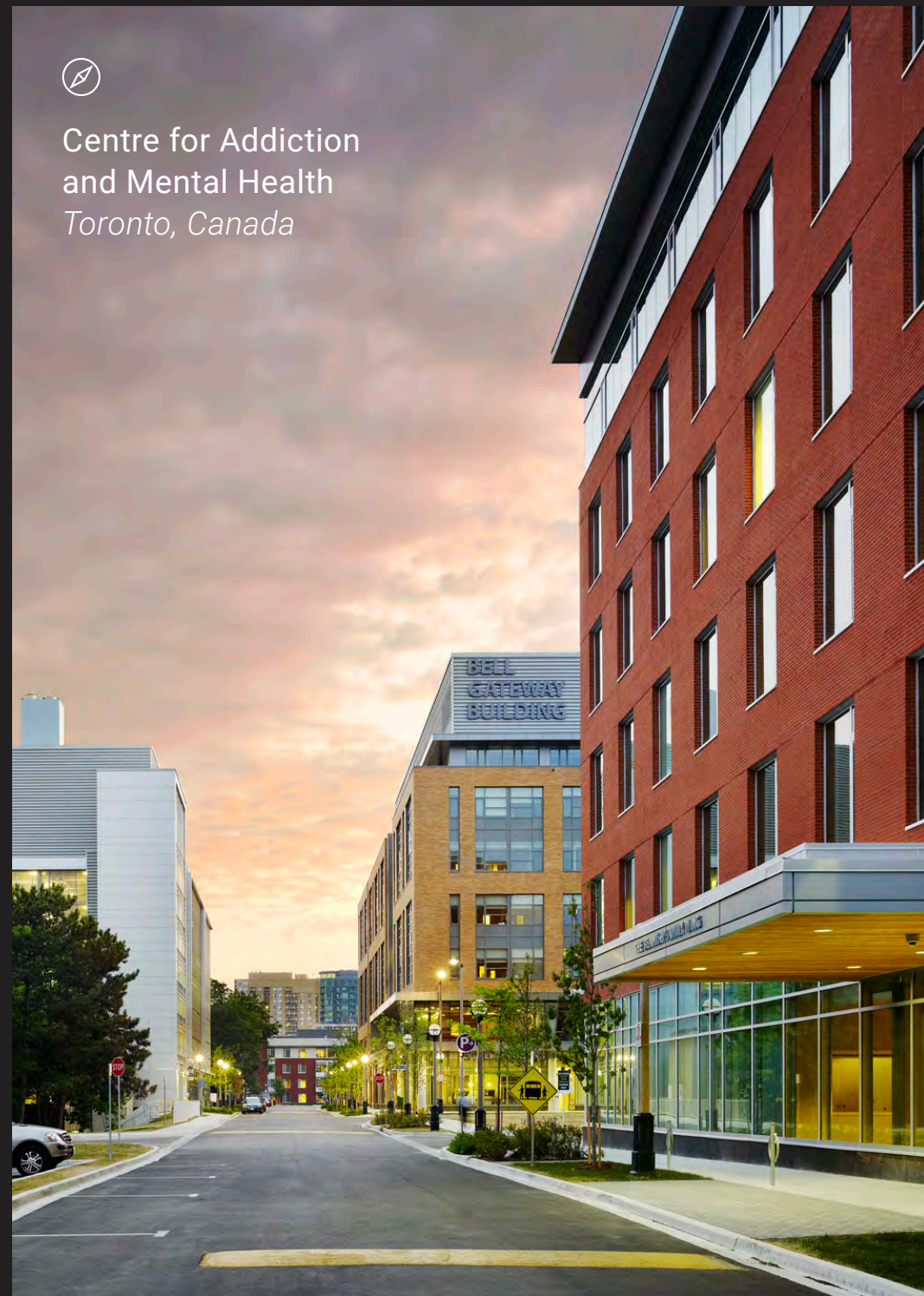
We sought to create a facility that would honor veterans and provide a dignified setting for care. To that end, we gave the center a strong architectural identity within a welcoming campus. Upon arrival, visitors are greeted by a new landscaped entrance plaza and a glowing wood wall just inside the MH&R building's façade.

#### *Through connections to nature and daylight*

Evidence-based design tells us that daylight is important to well-being and views of nature can positively impact mental health. At the VA Puget Sound, daylight and views are even more important. The building's hilltop setting provides stunning views of the surrounding area. For consultation and exam rooms, those views help mitigate feelings of stress, anxiety and claustrophobia in VA clients. Daylit spaces, offering views of nature from inside, and access to green spaces help occupants to connect with the beautiful outdoors. Two large, open-air courtyards cut through the building to bring daylight, natural ventilation, and outdoor views to the heart of the building. Almost all occupied rooms have direct access to daylight. Covered by a skylight, the winter garden offers daylight for more offices and consultation rooms and provides a large function space. >



Centre for Addiction  
and Mental Health  
Toronto, Canada



**READ HOW STANTEC APPLIED THE DESIGN TO SUPPORT THE RECOVERY MODEL OF CARE IN TORONTO, CANADA'S THE CENTRE FOR ADDICTION AND MENTAL HEALTH.**

## GOAL 2

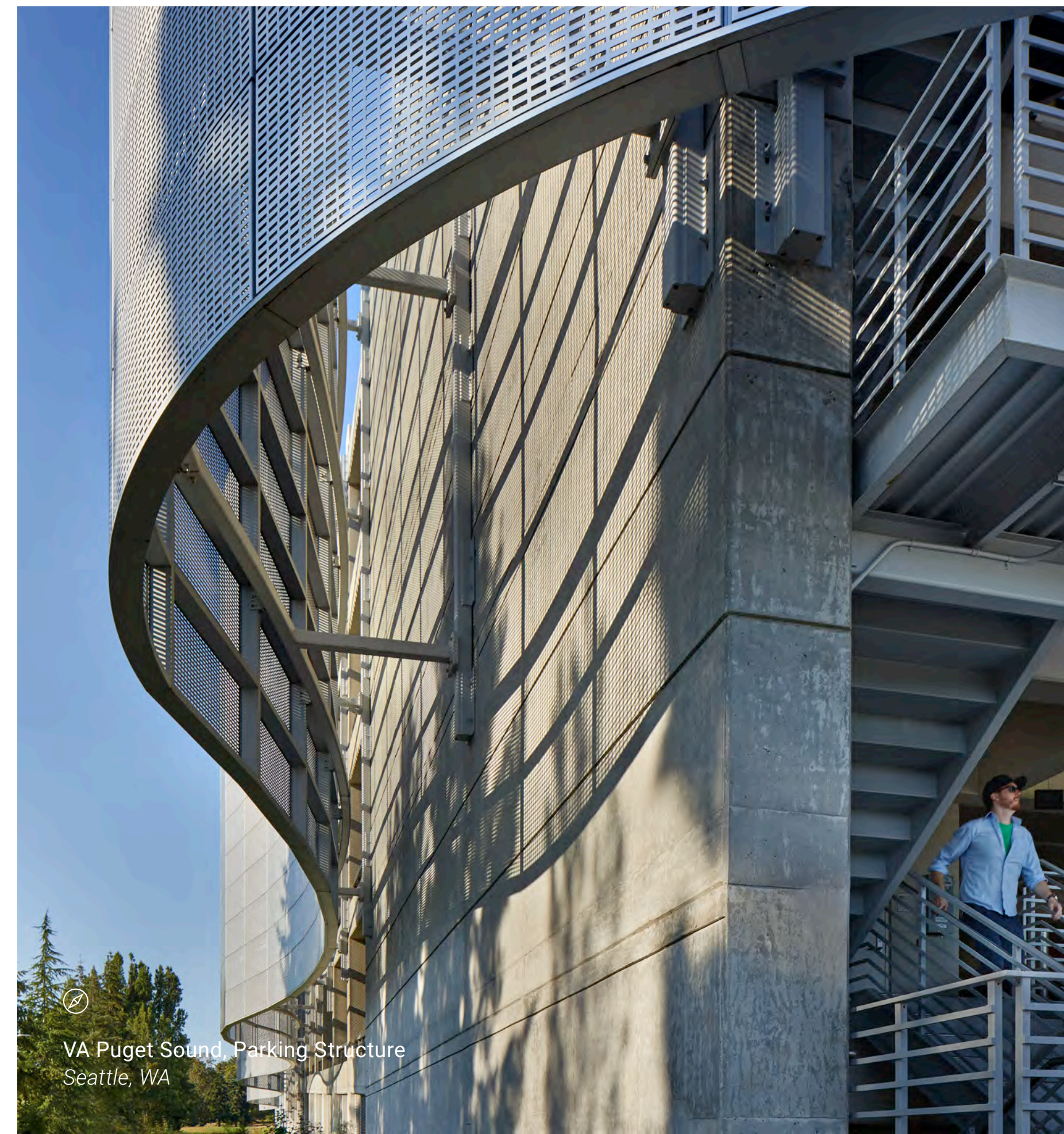
### SAFETY AND SECURITY

For behavioral health services, it is important to make the facility as welcoming as possible to reduce the chance of intimidation and missed visits. And, because the VA serves a patient population with many elderly and disabled vets, it must be highly accessible. We wove elder-friendly features into the design, looked for opportunities to shorten travel distances, and included intuitive wayfinding elements. Those features help reduce stress for all patients and staff.

We changed the location of the MH&R from the original remit in order to create a new entrance plaza serving the existing hospital, the new MH&R building and the new parking garage, with a clear, intuitive visual progression from the public road, onto the site and to the new arrival point.

#### *Easy wayfinding*

The new building and parking structure work in concert with the existing hospital to frame the entrance plaza, embrace the visitor, and offer distinctive entrances into each of the buildings. The lower levels of the parking structure extend under the entrance plaza to bring accessible parking right up to the existing hospital entrance, minimizing travel distances. At each level, the elevator lobbies provide views to the outdoors to the south and into the winter garden on the north, thereby reorienting visitors as they step off the elevators. >



VA Puget Sound Parking Structure  
Seattle, WA

The design also makes it easy to get around the building. The building circulation wraps around and flows, with no dead-ends or places where occupants can feel cornered or lost. The consultation rooms are also designed for the safety and security of the providers and for the comfort of their clients.

### ***Social interaction***

Behavioral health benefits from peer support, so while the building features many off-stage and quiet areas, it also includes zones that are public and heavily trafficked. A concourse or “main street” at each level provides vets with direct access to the large group rooms and leads to the quieter “neighborhoods” of individual counseling and exam rooms. Lounge spaces along the main streets provide opportunities for vets to meet and chat with their compatriots.

### ***Promoting accessibility, calm colors, privacy***

The MH&R building’s opiate substitution treatment clinic is accessible in early morning hours to allow for patients to access treatment directly even when the building is otherwise closed.

The interior spaces are covered with a rich palette of varied materials, cool colors, and fine to medium textures to foster a calming environment. Room doors alternate along the hallway so doors do not directly face each other. This reduces cross-corridor sound transmission and increases privacy.>



VA Puget Sound, Mental Health & Research Building  
Seattle, WA

### GOAL 3

## THE BUILDING AS A TOOL FOR CARE, LEARNING, AND RESEARCH

The Puget Sound VA is an instrument for care, but also a tool for research. The Puget Sound VA is a critical center for the study of PTSD and head injuries from blasts, a study which has taken on increased urgency as veterans returned from Iraq and Afghanistan with IED injuries. The new facility consolidates most of its research programs into one central location. This enhances collaboration and the VA's ability to explore fields such as lower limb prosthetic design and engineering, Alzheimer's disease and PTSD, rehabilitative medicine, suicide prevention, and oncology. Researchers here are using 3D printing to efficiently produce custom-fit prosthetics and protective insoles for diabetic patients.



**THIS NEW BUILDING CREATES WONDERFUL SPACES AND OPPORTUNITIES TO DELIVER THE FULL SPECTRUM OF CARE THAT WE ARE COMMITTED TO PROVIDE USING THE LATEST TECHNOLOGIES AND WORKING AS A TEAM WITH THE VETERAN AT THE CENTER.**

**David Carroll, VHA**  
*Executive Director*

### GOAL 4

## FLEXIBILITY AND ADAPTABILITY

We configured MH&R with spaces to support telemedicine for veterans who have difficulty reaching the facility due to travel distance or limited mobility. Telemedicine also gives off-site veterans access to therapies such as yoga.

A 120 SF room is the basic building block for the bulk of the program elements of MH&R—offices, exam rooms, consultation spaces—and the structural grid is tailored to this block. A simple, regular layout of these rooms, positioned consistently in the floorplan, makes the building highly adaptable. Spaces can be easily converted in the future. Many support rooms are also sized at 120 SF or multiples of 120 SF. For example, the copy rooms and team rooms can each be easily subdivided into two offices or exam rooms, and a 380 SF room of workstations could be split into three 120 SF rooms.>



VA Puget Sound, Mental Health & Research Building  
Seattle, WA

## GOAL 5

### SUSTAINABILITY AND ENERGY REDUCTION

The MH&R was designed to LEED standards, reflecting the VA's commitment to resiliency, energy stewardship, and healthy spaces. We employed design strategies such as solar shading, operable windows and daylighting, intensive green roofs, rainwater harvesting, access to outdoor spaces and interior gardens, and natural ventilation. We used passive systems first, active second—taking advantage of the thermal penetration and daylight available through the design. Occupants enjoy a pleasant view of green roofs when looking down to lower levels. Radiant floors heat and cool the public spaces, providing thermal comfort and energy efficiency. Six massive sculptural rock formations selected from local stone were set in landscaped planting beds in the central winter garden to connect to the regional setting.

The strategies employed at the MH&R facility are universal; they are elements of thoughtful human-centric design. We challenge you to incorporate these tenets into your next human-centered project whether that is for health, education, or workplace clients. **D**



VA Puget Sound, Mental Health & Research Building  
Seattle, WA

[RETURN TO TABLE OF CONTENTS](#)

#### MORE HEALTHCARE

With over 35 years of professional experience as an architect, **Larry Bongort** is a Senior Healthcare Planner in Stantec's San Francisco studio.





# NEIGHBORHOODS *FOR ACTIVE LIFESTYLES*

Six trends shaping sports and recreation  
design in our communities

BY BRIAN BENGERT AND DAVID NARDONE



Red Deer College -  
Gary W. Harris Canada Games Centre  
Red Deer, Alberta  
Stantec Architecture/HCMA Architecture + Design



Del Valle High School  
Athletics Facility  
Del Valle, Texas

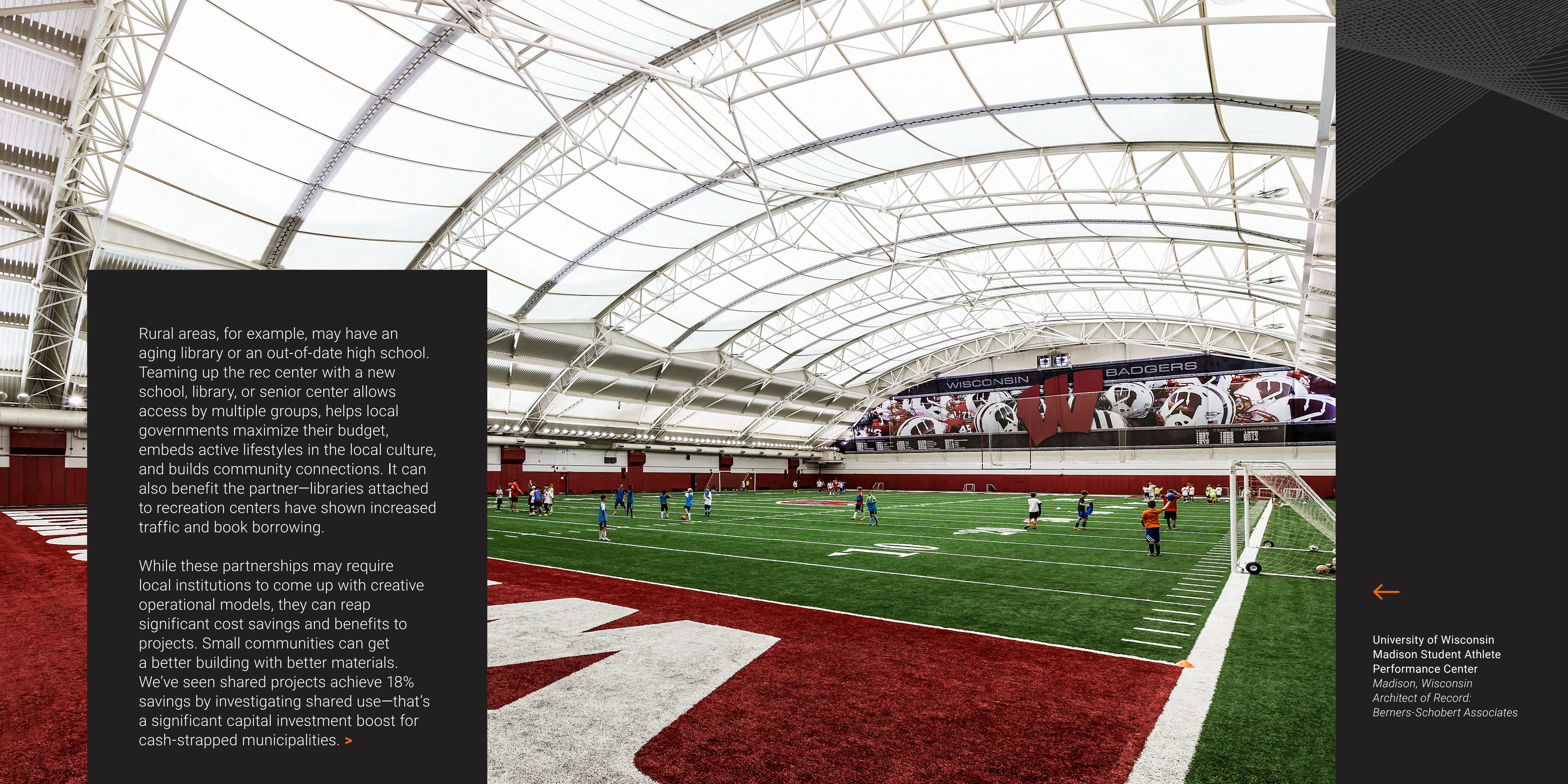


We depend on our school sports facilities and community recreation centers for access to wellness and fitness in many communities across North America. But as the demand for wellness intensifies, these centers for recreation are changing, too. Here are six trends that are shaping the way we design for active lifestyles today.

## 1 Shared use facilities

The recreation center's role is expanding, it's becoming a community center. This means centers must be designed to appeal to a variety of activities and sports—to justify their investment, to appeal broadly across the community, and to achieve high utilization. We can't just design a curling center that sits empty five days a week.

Simultaneously, there's a drive to make these recreation centers adjacent to new community buildings—from schools to daycares to public libraries that are coming up for replacement. In other cases, we are designing these facilities for new neighborhoods. Why not attach a new school or library to the recreation center we're designing? >



Rural areas, for example, may have an aging library or an out-of-date high school. Teaming up the rec center with a new school, library, or senior center allows access by multiple groups, helps local governments maximize their budget, embeds active lifestyles in the local culture, and builds community connections. It can also benefit the partner—libraries attached to recreation centers have shown increased traffic and book borrowing.

While these partnerships may require local institutions to come up with creative operational models, they can reap significant cost savings and benefits to projects. Small communities can get a better building with better materials. We've seen shared projects achieve 18% savings by investigating shared use—that's a significant capital investment boost for cash-strapped municipalities. >



University of Wisconsin  
Madison Student Athlete  
Performance Center  
Madison, Wisconsin  
Architect of Record:  
Berners-Schobert Associates

## 2 E Sports

The hottest trend in sport and recreation is eSport. ESport (or organized competitive video gaming) is a growing multi-billion dollar industry worldwide. ESport offers major event facilities a chance to add 50-100 additional nights of well-attended, revenue-generating entertainment programming. We're seeing pro sports leagues and teams align with eSport as a second tenant in their building. Universities offering eSport have a recruitment advantage. And local recreation centers including eSport have an opportunity attract non-traditional users and bring them into facilities for the first time.

ESport, previously crammed into ill-fitting convention centers, enjoys tremendous momentum right now and will require great spaces. New recreation design should accommodate this coming wave of recreational and competitive activity. If you're investing in a new rec center be aware that eSport spaces, whether new or retrofitted, have tremendous power and data requirements—so plan accordingly.

## 3 Flexibility and access

Which sport or activity should we be designing for today? Hot yoga, spin class, indoor climbing? The answer is that we're designing spaces for the things we haven't thought of yet. Flexibility and adaptability for multi-purpose spaces—gender neutrality and ability to accommodate eSports, for example—is the next big thing. Community leaders are concerned about being good stewards of taxpayer dollars, they want to make a variety of activities available to their residents. And we're also designing closer to transit, so that community amenities are more easily accessible through public transportation or to those with reduced mobility. >





Lewis Farms Recreation Center  
Edmonton, Alberta  
Joint venture with Saucier +  
Perrotte Architectes



#### 4 Inclusivity and gender-neutral facilities

Gender-neutral changing rooms have long been a feature in Central Europe natatoriums. Now, inclusivity (facilities without male or female designated spaces) is coming to sports and recreation design in North America, with Canada leading the way.

For owners, building gender neutral facilities usually means an increased space requirement and upfront investment for a larger washroom/changing room, but often there's an operational savings. A recreation center with a pool, for example, usually needs both male and female lifeguards on duty to inspect changing rooms, but with a gender-neutral changing area, it only needs one. Gender-neutral washrooms make larger sports and entertainment venues more adaptable, especially when the venue is hosting an event that appeals heavily to one gender. For designers, the challenge is really making sure that there's an appropriate number of accommodations (such as stalls in the washrooms) to meet user needs.

At Rogers Place for the Edmonton Oilers (a joint venture with HOK), Stantec is working with the Oilers Entertainment Group to get balance of accommodations right for its gender-neutral washrooms. At Lewis Farms Recreation Center (a joint venture with Saucier + Perrotte Architectes), we have designed a complete 90% gender-neutral building with gender neutral changing areas (featuring private changing cubicles within), but also small designated gender rooms. It's the first gender-neutral recreation center in Canada of its scale. >



Freedom Field  
Alvin, Texas

## 5 Turf, to go synthetic or to go natural?

Often our clients in recreation, high school, and college sports are torn between natural grass and synthetic turf. They often initially prefer natural grass for its aesthetic, natural properties, and perceived performance superiority. But often grass doesn't have the required underdrainage, it just can't handle the volume of use that communities dish out, recover from weather events quickly enough, and it requires significant maintenance. Synthetic turf used to be known for being rough on players, "death of a thousand knives" to slide on, but synthetic surfaces have improved dramatically. They can offer a safer, more predictable playing surface. But the desire to replicate the experience of playing on a well-manicured natural turf field remains strong—so Stantec is researching and benchmarking natural grass fields at the University of Tennessee to inform our selection of synthetic products. Choosing grass or artificial turf really depends on the project, the client's needs, and climatic location. But today, both are viable options. >

## 6 Sports entertainment districts come to town.

Big cities have seen the value in developing large venues as part of larger sports and entertainment districts which can draw a multi-generational audience with programming on and off the field and during the off-season. The 24-7, multifaceted nature of these districts makes them dynamic and energetic urban places. These districts have jump-started development in places like Chicago's Wrigleyville and downtown Denver, areas where Stantec has designed new entertainment districts around Cubs and Rockies baseball franchises, respectively.

With big box retailers reeling, smaller communities are also looking for ways to spur investment and create places where residents want to be. Now, small towns are seeing the value in sports and recreation as a cornerstone for development. Small towns can build off the interest and traffic around a local hockey arena or recreation center and boost development in that neighborhood. In smaller rural locations like Fort McMurray in Alberta, there's an opportunity to revitalize and add amenities to downtowns and hold on to younger residents.

These towns have aging community buildings and education infrastructure, much of it built around the Canadian Centennial in 1967, that needs to be replaced. They see that co-locating new rec centers to senior centers nearby creates synergies and opens up access to swimming pools and a walking track for a prime user group. With a hockey audience, a senior user group and others, a multi-function facility can build the critical mass needed for retail, residential, and other development to take root. The result is a synergy between recreation and community that's likely to be a valuable asset for years to come. **D**





# FLYING WELL

Airports are emerging as places where travelers can travel well

BY CECILIA EINARSON

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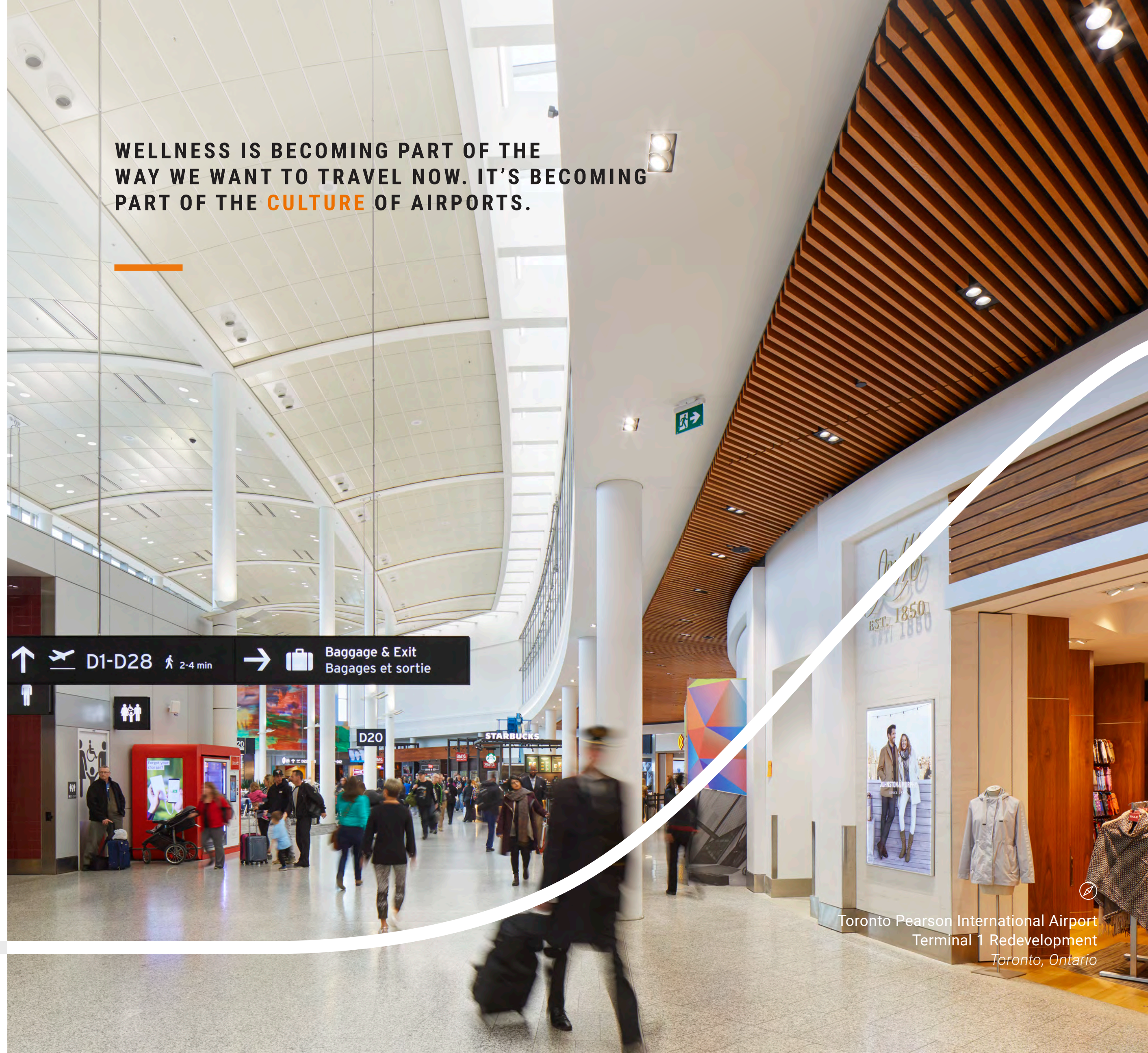




**Air travel's reputation as unhealthy, unfun and unpleasant is under attack. More accurately, the previous reputation of air travel and airports drove dramatic change in the industry, and we're still seeing that play out in design and amenities. People want to travel in a more relaxing way.**

Why, you might wonder, should airports change? Today, airports are competitive, because passengers are well-informed and have more choices. Those that can serve their passengers better will rate higher and invite more business. Those that build reputations for hospitality, comfort and even wellness, will score higher on the all-important industry surveys and prosper. The early adopters and investors in wellness features have a chance to lead the industry and set the bar. And travelers are expecting more from airports than ever—they want to continue their health and wellness routine, start their trip on

**WELLNESS IS BECOMING PART OF THE WAY WE WANT TO TRAVEL NOW. IT'S BECOMING PART OF THE CULTURE OF AIRPORTS.**



Toronto Pearson International Airport  
Terminal 1 Redevelopment  
Toronto, Ontario

a note that's more pleasant than exhausting, and kill time between flights with food, drink, and retail experiences beyond fast-food chains. Passenger's demand for travel experience is well aligned with airports' interest in growing their non-aeronautical revenue, which helps airports fund their infrastructure expansion programs thus reducing their capital needs.

Pay-as-you-go extras  
You may be noticing more and more people in airport VIP lounges. That's because we're willing to pay more for >

what they're offering—saunas, changing rooms, relaxation spaces, even places to sleep—amenities that help us travel well. Expect that these kinds of spaces, from relaxation areas to prayer rooms and mediation spaces, will multiply. At the other end of the spectrum, in the always-on, wired world, travelers will continue to book personal rentable office spaces by the hour.

### Food

There's a current trend toward healthier eating and airports are responding in ways that most of us would not have imagined a few years ago. Healthier food is taking two forms at the airport. First off, the airports are finding ways to incorporate more locally based vendors so pleasure travelers can taste a bit of regional culture as soon as they arrive. There's change at the other end of the spectrum too. Convenience-store-like or self-serve areas stocked with prepared fresh food and healthy options for the traveler on the go are growing. At these kiosks, travelers can grab a smoothie, salad and wrap and pay for it all at a paperless kiosk while in transit to their gate.

 Edmonton International Airport  
Terminal Building Expansion  
Edmonton, Alberta



### Experiences

Airports are exploring ways to offer travelers something beyond retail, namely experiences. This is where wellness is really making inroads. The traveler can choose spa services like a massage, get a manicure, a haircut or find a stationary bike to pedal that simultaneously charges their phone. For those travelers that are not as fitness-oriented, or the culturally curious, airports will begin to offer more culture within their confines. In Narita airport, passengers waiting to transfer flights can take a woodblock printing lesson and come away with some knowledge of Japanese craft and a stamped piece of handiwork as a memento. It's another way of approaching wellness which leaves the visitor feeling happy, welcomed, and with a positive memory for that next trip.

### Green spaces and more

Bringing nature and the outdoors inside (as much as possible with security in mind) is a booming trend in airports. The most spectacular example of this is found at Singapore's Changhi airport which features the Rain Vortex—a forty-foot waterfall as well as orchid and butterfly gardens amidst its many diversions. But even smaller airports can take simple steps toward integration of nature—like Edmonton International Airport's green wall. Airports that can bring nature inside and give travelers spaces that boost health and well-being while maintaining security will emerge as the cutting edge. Elsewhere, we're seeing designers create more opportunities for travelers in transit between airport buildings—as in Santiago, Chile—to relax in parklike settings. >

AIRPORTS THAT  
CAN BRING NATURE  
INSIDE AND GIVE  
TRAVELERS SPACES  
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AND WELL-BEING  
WHILE MAINTAINING  
SECURITY WILL  
EMERGE AS THE  
CUTTING EDGE.

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Vancouver International Airport,  
Pier C. Photo by Dan O'Neill.  
Vancouver, British Columbia

✓ [RETURN TO TABLE OF CONTENTS](#)

### MORE AIRPORT DESIGN

As the Airport Sector Leader and based in the Vancouver office, **Cecilia Einarson** has led airport projects in seven countries around the world including airports in Vancouver, Iqaluit, and Santiago, Chile.

## Pets


Animals soothe us when we're stressed, and now they're meeting us in a place where we may be nervous and overwhelmed, in the airport. Airports are adjusting to the increasing presence of emotional support animals that are joining travelers on flights. The accommodation for these animals reduces stress for those travelers, but it has required some adjustment in airports, too. Facilities are adding animal relief areas outside and in, while they also determine which animals are appropriate and how to balance issues such as traveler allergies with traveler pets.

Some airports are going a step further and bringing the emotional support in themselves. At Denver Airport, animals (dogs and cats) are made available for travelers at various times during the week so that travelers passing through can pet a friendly pup and feel better. The Less Airport Stress Initiative (LASI) at Vancouver Airport brings ambassador dogs from St. John Ambulance's Therapy Dog Program into the terminal to provide all airport users with support to help manage their travel anxiety.

## Fitness for all

Yoga classes, gyms, tracks for runners, even climbing walls and pre/post workout facilities have crept into airports to serve the traveler's passion for fitness. They are now available for travelers in many airports. If a traveler has the time, they can stay fit while in transit.

Vancouver International Airport, which handles 26 million passengers a year, is also the workplace of more than 26,000 staff and employees. Employers see value in providing fitness options (yoga, gyms) to their workers as well as their users. And when employees are less stressed, that translates to a more pleasant and higher-rated travel experience for passengers.

Wellness is becoming part of the way we want to travel now. It's becoming part of the culture of airports. And while there is still no amenity that offers an instant cure for jetlag, airports are exploring a host of options so we can travel as healthy as possible. Someday, flying healthy won't sound like a contradiction. 



Q  
&  
A

**ASK AN EXPERT:**

# How can lighting influence wellness?

Senior Lighting Designer **Rachel Fitzgerald** on how new research is influencing our application of lighting for well-being

INTERVIEW BY JOHN DUGAN



Microsoft Building 83  
Redmond, Washington  
Architect of Record: BORA  
Interiors and ZGF Shell



## How did you get into lighting design and what made you want to pursue it?

**RACHEL:** My dad was an engineer and really wanted me to choose engineering. I wanted to be an architect. So, the father/daughter compromise? I decided to pursue architectural engineering at the University of Colorado, which has a leading lighting design program. I connected with a couple professors who sparked my interest in lighting as a brilliant, happy medium between the math and the science of the engineering with the creative design aesthetic of architecture. I like to geek out and know that the math and logic supports what we're doing. But at the end of the day, it's about the intangibles, the ambience and the experience of the spaces we create and how we use the lighting to help support the human experience.



## How much does your work involve keeping up with research on how lighting affects humans?

**RACHEL:** It's only been really in the last 10 years or so that scientists and researchers have started to understand our non-visual responses to light. Scientists are researching sleep and how light



### Video | Lighting study for Antarctic Infrastructure and Modernization for Science (AIMS)

*Antarctica*

Key spaces at the AIMS project feature tunable lighting to replicate a natural daylight cycle for occupants.

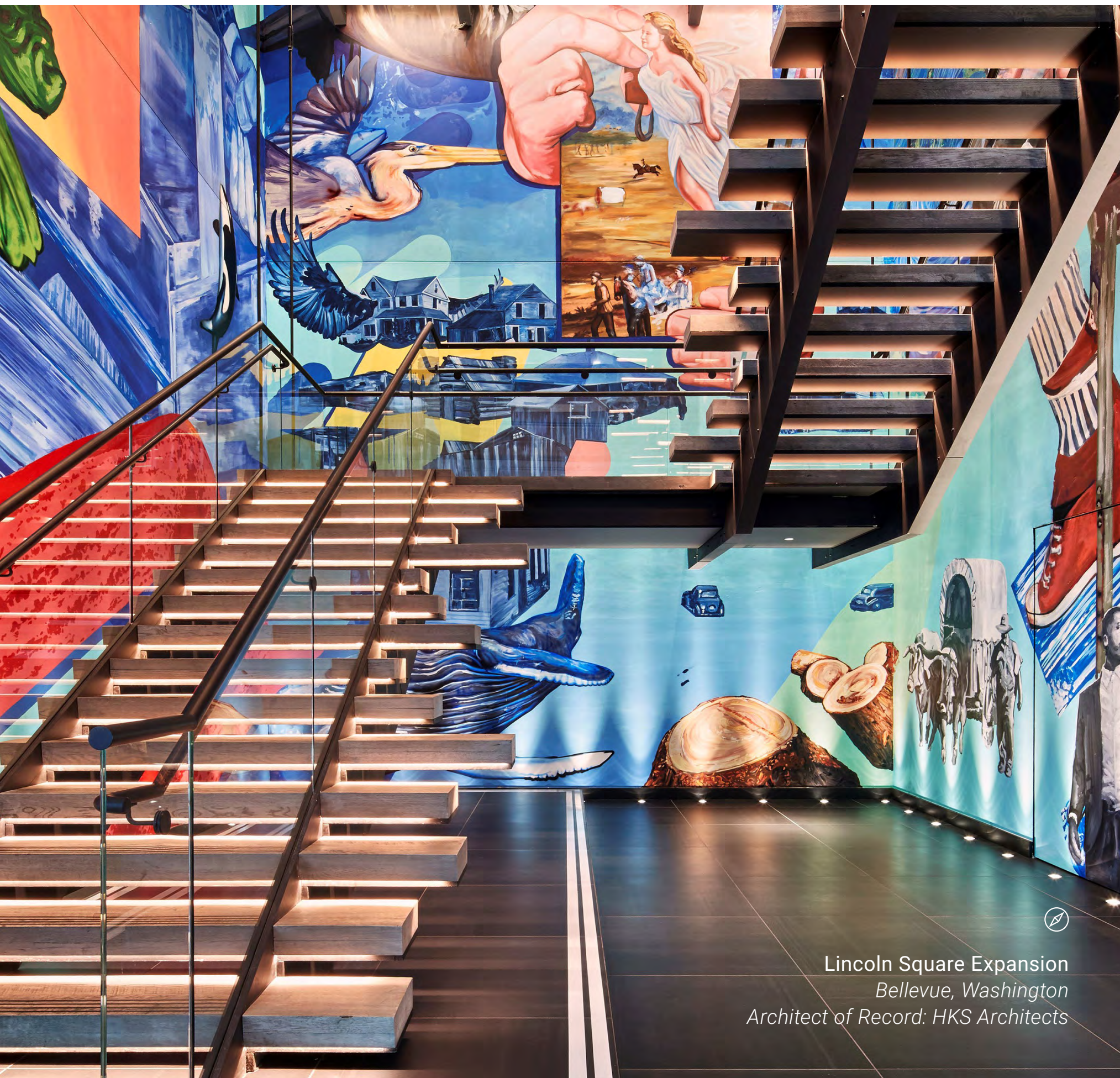
**Dynamic lighting visualization developed by Stantec lighting team for the Central Services building lobby for the National Science Foundation's Antarctic Infrastructure Modernization project at McMurdo Station, Antarctica.**

affects us mentally and physically. Until recently, that's largely been unrelated to the design industry. I find it fascinating to see our industry responding to the research on biology. Then you've just got the physiology, the emotion and the experience and how can we use light to help influence people in spaces. The other side is the psychology of light and how it interacts with people.



## Have there been any innovations in how you approach what you do now as a result?

**RACHEL:** There's been a lot of development around our circadian rhythms and light. A couple years ago the prevailing idea was that you could manipulate the circadian system by tuning the color temperature, the perceived warm or cool characteristics of the light. But that was a little simplistic. Now we're starting to understand that it's the high spectral distribution, the spectral power of the visual wavelength, that influences humans the most. There are lighting systems being created that can manipulate that spectrum. But then the question is how do we implement that in a space? How do you correlate that with >



Lincoln Square Expansion  
Bellevue, Washington  
Architect of Record: HKS Architects

the control systems? How do you allow individual users the ability to adjust those systems to not only meet visual and the aesthetic needs of the space, but to also positively affect the non-visual, circadian system and sleep cycle of users?

We've also got the more tech driven side of innovation. Everybody wants to control lighting like they use Alexa and Siri so the question is, can we have individualized control over lighting systems?

#### Q How can lighting influence wellness?

**RACHEL:** Everything we do ties into wellness. How much light do you need at desks so people can comfortably work? How much light do they need in a corridor or a lobby space or a conference room? The goal is to be prudent with lighting design to make sure that it's attuned to what the average human visual system needs in order to function well.

If you have poor lighting environments, whether because of bad technologies and sources or spaces that aren't lit well, it can lead to migraines, it can lead to discomfort, it can lead to a lack of visual acuity. We think about that daily.

We're also designing with more evolved standards within the industry. The WELL building standard puts a lot of attention on lighting vertical surfaces. Historically, lighting designers focused on the horizontal, the floor or your worksurface. But by looking vertical, you're creating visually interesting spaces and variations and that can reduce eyestrain, fatigue, and create more happiness.

#### Q What's one of the most challenging environments you've designed for?

**RACHEL:** One of the most interesting is a current project for AIMS, the **Antarctic Infrastructure Modernization for the National Science Foundation**. Designing at the South Pole where either full light or close to no light prevails is an extreme lighting challenge. At AIMS, our team has designed key spaces with tunable lighting to help replicate the natural daylight cycle most of us flourish in. Computer modelling helps us simulate and understand the lighting levels and temperatures within these spaces over the course of a "day." >

**Q** There are trends toward automation and personalization through control. Is lighting a spot where those two could come into conflict?

**RACHEL:** Very much so. On the AIMS project, we are coordinating the automation of those systems so that your sequencing is pre-programmed to create that standard day time experience regardless of the sleep pattern of the occupants. Then, when you enter the personal space and living quarters, we're maximizing occupants' ability to control and influence their environment. It's a mix of control for preprogrammed elements, while in turn giving them other spaces where they have complete control flexibility. They can change the color, they can change the output, and the brightness to influence how they want their space to feel. We're designing for maximum flexibility.



**Correlating daylight with Lakehouse project**

We worked on the Lakehouse project, which is pursuing the multifamily pilot of the WELL Building Standard, and has features like a green roof deck with an urban farm. We ran calculations looking at available light, glare and lumen outputs of the lighting to make sure they are appropriately located and specified. We provided some additional tools and guidance regarding circadian needs that residents can choose to upgrade and self-implement. We're highlighting the materiality of the space. We're making sure the lighting is correlated throughout that whole project between the daylight requirements, the controllability of the lighting, the location of the fixtures, the specifications for glare and color, and performance of the sources.

**Q** Is the lighting designer becoming more valued on design projects?

**RACHEL:** I think it's an evolution. Ten, twenty years ago you didn't see many lighting designers in the industry and a lot of them were working on signature designs and projects. And now we're seeing RFPs issued for standard workplace or multifamily projects that require lighting consultants. The technology, systems, and the solutions have gotten more technical with ever-evolving energy codes and standards pushing towards Net Zero Energy. LEED and WELL building standards. It's a benefit having specialists who focus on the emerging technologies and the changing standards with current design practices. I know as lighting designers we can add value to any project type. >

We love what we do. Through our work we can educate and share the value of lighting. Lighting is complex from a procurement standpoint, and is often considered a budget breaker. But lighting specialists know the ins and outs of the pricing and we can find effective lighting options for better costs. We can assess existing fixtures and properly reuse them to reduce capital expenditure. And with a compressed schedule, we've got relationships we can leverage, and understand which manufacturers can deliver on time. There's a misconception that we only design high-end spaces or specialty spaces—like museums or performing arts centers— and we do, but we also love to contribute on projects of all types to improve human experience through everyday life. **D**

✓ [RETURN TO TABLE OF CONTENTS](#)

### MORE LIGHTING DESIGN

John Dugan is the Editor of the Stantec Design Quarterly. Denver-based **Rachel Fitzgerald** is a Senior Lighting Designer with Stantec. She has over 15 years of experience providing exterior and interior lighting designs for hospitality, mixed-use, retail, corporate, civic/government, religious, and recreation facilities.



BPX Energy  
Denver, Colorado

#### Creating a residential feel at BPX Energy

BPX Energy was moving its headquarters from Houston to Denver and the project really wanted to speak to regionality of the Denver area, but at the same time feel like home for those employees that were relocating. The lighting supports a warm and comfortable residential feel for the office. We've included some custom decorative pendant lights and non-traditional task lighting. Our lighting highlights different natural materials and textures like stone and wood that connect to biophilic design concepts. There's a lot of glass, so we're able to use transfer daylight from the perimeter inside the core of the building.





Cambridge Montessori  
School Site Master Plan  
Cambridge, Massachusetts

# A TOOL FOR **WELLNESS**

Can digital advancements help us design to improve occupant health? Here's how we are creating a parametric tool for wellness design.

BY KAITLYN GILLIS





Olathe West High School  
Olathe, Kansas  
Architect of Record: Stantec/  
Hollis and Miller

F

or years, most design education programs didn't emphasize what happens physiologically or psychologically to someone when they're in a space. Few in the design industry were taught how design might deal with a psychological or physiological issue. And as a result, many of the spaces we occupy today provide only the bare necessities. >

We have also observed an uptick in a range of health issues since the 1970s. On average, North American children (like their British counterparts) *spend far less time outside than they did in 1970s* and the effects are dramatic. In Canada, for example, childhood obesity is a major issue, we're seeing *type two diabetes increasing in young children*. Elsewhere, communities are grappling with issues like *anxiety and depression*.

But changes in design approaches for wellness are on the rise. As designers we're learning how to apply design to make us feel better. In education, for example, we know to design with views of nature and properly scaled spaces to create a sense of comfort for children and improve learning outcomes.

The fact is that our environment, inside or out, impacts our health. In the U.S., Canada and Northern Europe we spend upwards of 90% of our time indoors. How does the built environment affect health? Noise is a leading cause of stress; we have a natural affinity for daylight; air quality can impact cognitive performance. Having ample personal space makes us feel good. Yet, each of us is different with our own needs and physiology.



Roy Bickell Public School  
Grande Prairie, Alberta

People with ADHD or on the autism spectrum, for example, are more sensitive to distractions and noise. How do we design to promote well-being of everyone that occupies our built spaces?

While sustainability and green buildings rating systems were once oriented toward reducing harm to people and the environment, they have broadened in scope and detail. New wellness-focused certifications provide a template for designing with human well-being in mind.

But can we design for more vulnerable populations? Can we actually improve their health? Can we use design to create a better environment for people with anxiety, childhood obesity, diabetes?

### **A tool for building wellness through design?**

I had the opportunity to work with a group of talented designers to develop a prototype to answer the questions above. Taking parametric thinking from structural engineering and energy performance practice, we applied the same methodology to designing for wellness. This team effort is a research project between our sustainability, architecture, research and benchmarking, and practice technology groups. >

We created a digital decision tool to help our design teams during the early stages of design process. It enables designers to use the available data about vulnerable populations present within a community and help them make decisions about how to address those health issues through a combination of design strategies.

We developed the prototype around K-12 education projects in Alberta, Colorado and Texas. We looked at the prevalence of health issues in these communities including childhood obesity, anxiety, depression, ADHD and ranked them in order of prevalence in each geographic area.

### How it works

The tool enables designers to choose the setting or project context, an urban environment, for example—and the project type, K-12, in our pilot and select the key health topic category—mental (mental health differences), physical, cognitive (how we learn and process information).

It's not design on autopilot. On the contrary, the tool requires us to be knowledgeable about the demographic we're designing for and the issues that are challenging the users. When fully realized, it will be about giving

us and our clients options for attaining a desirable outcome.

Our tool offers designers three tiers of strategies, low commitment, medium commitment, and high commitment for each project goal—allowing us to show clients how they can impact wellness on any budget.

Low commitment might target meeting established thresholds for daylighting and include low cost techniques for achieving that. Designers can adjust between available strategies to see how each will affect the health issue they're targeting. For example, how three design strategies for optimizing daylight will impact depression. >

École South Pointe School  
Winnipeg, Manitoba



We want to demonstrate the effectiveness of easy choices, like paint color. There's a lot of evidence on paint color and how it affects mental health. Paint is a great example of a low effort strategy with high potential impact.

The idea is that this tool can be run during pre-design when the architect or interior designer is first engaged. It should become part of an interactive design process between designer and client that results in design outcomes that promote health.

### Thinking differently

The built environment can play an important role in mitigating health and well-being issues, but it's not a solution in and of itself. Right now, designers have a great talking point for introducing the importance of well-being in commercial spaces—both morale and performance have been shown to be boosted by workplaces that promote well-being. The firms that invest in wellness for their staff are positioning themselves to retain talent and increase innovation. We are anxious to build out the commercial/workplace capability of our tool.

While it's just a prototype today, it represents a way of thinking that we can adopt right now. As designers for people, we must be thinking about how our work will impact the well-being of our users on every project. Every one of us is unique, with our own preferences and challenges. So, we have to think about designing for diverse population groups and the issues they face. And by doing so, we raise the bar from doing no harm to doing maximum good. [D](#)



✓ [RETURN TO TABLE OF CONTENTS](#)

#### MORE RESEARCH & BENCHMARKING

**Kaitlyn Gillis** is a well-being and sustainability specialist with the Sustainability and Building Performance team based in Stantec's Edmonton office.



FINALTHOUGHT

# Boosting wellness uptake

How we can achieve greater adoption of health and wellness standards in the marketplace

BY BLAKE JACKSON



Stantec Tower ICE District  
Tenant Improvements  
Edmonton, Alberta



Wellness real estate is a **\$134 billion industry** in 2017, growing by 6.4% annually since 2015 ([Global Wellness Institute, Build Well to Live Well: Wellness Lifestyle Real Estate and Communities, January 2018](#)).

Experts expect it will grow annually through 2022. And industry surveys ([Interior Design Magazine Giants 2018](#)) show that most clients are interested in investing in wellness. We've all read that wellness amenities are a must in a competitive real estate market and hospitality markets. While it may feel as if wellness is everywhere, it still has great unrealized potential to transform our built environment.

Wellness real estate is only 1.5 percent of total annual global construction (GWI). And new wellness rating systems (WELL and Fitwel) have yet to be widely adopted in the commercial real estate world—I'd love to see them gain more traction. What's holding us back and how can we promote adoption?

Below, I outline apparent obstacles to uptake of health and wellness—and explain how clients and designers can overcome them. >





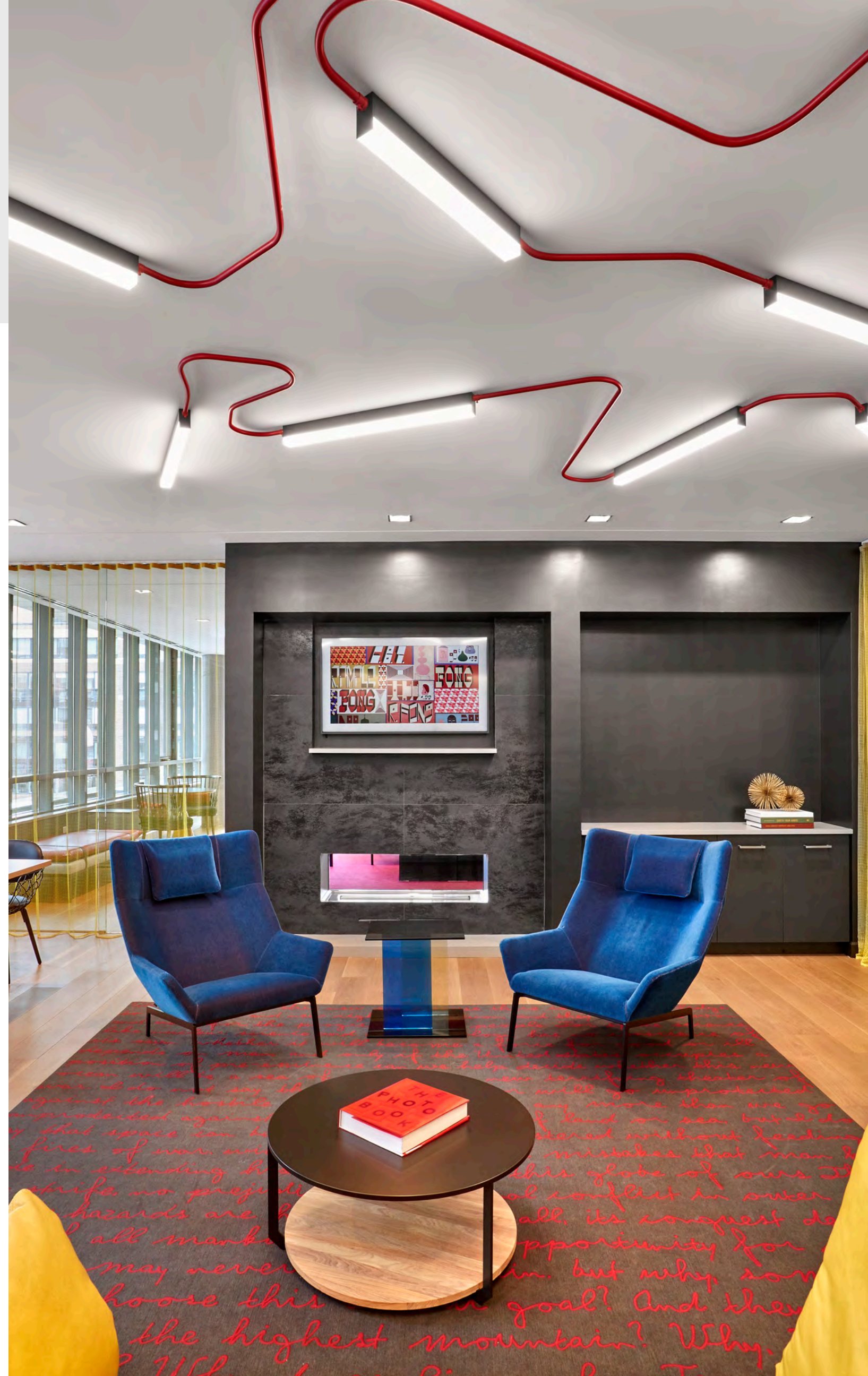
Proto  
Cambridge, Massachusetts

### OBSTACLE: CERTIFICATION FATIGUE

LEED emerged into a market hungry for something new, when the industry was looking for a means to measure building sustainability within a common language. It succeeded because it was inspirational, approachable, and offered young designers a chance to become credentialed. Still, it took over a decade to become the gold standard globally. It stood alone in the marketplace while we learned how to achieve it.

In contrast, today there are multiple certifications at play, each continually being upgraded, making keeping up with the standards no easy task. Today, we work on multiple generations of multiple standards.

The variance between rating systems is vast. With its 40 preconditions for minimum compliance, WELL(v1) certification is a significant commitment for clients. Whereas Fitwel's approach, with zero preconditions, is



far less stringent. One sounds incredibly rigorous and the other easy to obtain.

**EXPLANATION:** There's a reason not all certifications are the same, they fulfill different roles in the market. Fitwel is attractive as a policy tool for wide adoption while WELL suits more ambitious organizations. The upside of the various certification opportunities is a spectrum of possibility for sustainability, resiliency, and health. Certification is available at a variety of price points, paces, and intensities. The good news is that more projects are considering evidence-based design approaches, recognizing that they can be differentiators in the market now that LEED is an accepted best practice.

Certifications are not an end in themselves, they're designed to encourage behavioral and cultural change. Look across the wellness spectrum and find what feels like a good fit with your business and cultural objectives. Certification shouldn't be a burden, it should support your mission and values. >

Certification shouldn't be a burden, it should support your mission and values.



### **OBSTACLE: SCOPE/TIME EXPANSION**

Timelines and budgets for design projects are shrinking, which is especially daunting for wellness-focused projects, as they require a greater level of rigor, planning, the engagement of non-designers (HR, food services, etc.) and the inclusion of specialists (circadian lighting, acousticians, etc.). The tightest turnarounds are in the interiors sector, where market uptake for certification is greatest.

**EXPLANATION:** The real challenge in achieving WELL in the commercial development world isn't the time for fit-out but the kinds of base buildings available. It is difficult to find a building in a U.S. metro area that checks all the wellness criteria boxes (access to excellent public/alternative transit, healthy food, etc.). Many existing buildings lack active stairs, access to daylight, views, and operable windows. Facilities staff operates older equipment and is averse to change.

This means that new construction projects—especially those set up to meet specific wellness criteria such as Lakehouse in Denver, CO—are stronger candidates for WELL. Thus, the biggest opportunity for wellness to grow is in the new construction portion of the commercial core and shell market.

### **OBSTACLE: ON-GOING ENGAGEMENT**

Despite some admirable efforts, uptake for the on-going certification of buildings has been weak. On-going certification with a third party requires commitment and additional funding by owners. Certifications often change criteria faster than upgrades are made. Thus, buildings largely remain the sum total of the decisions made during design and construction.

**EXPLANATION:** Yet, on-going certification has great potential. It keeps projects honest, allows third-party purveyors to learn how to write better standards, engages operations that prioritize well-being, and offers a pathway for buildings to improve over time. Lastly, it ensures that new staff is trained to realize the advantages of buildings it maintains.

From the client's point of view continued engagement and credentialing affirms that they are getting the most out of their investment. And on-going credentialing can be used by owners for marketing, attracting top tenants, and can support rationale for higher premiums on space for tenants.

>





### **OBSTACLE: COST OF CERTIFICATION AND EXPERTISE**

The certification fees associated with wellness standards can cause sticker shock for potential adopters. They shouldn't. In reality, they're a fraction of whole project cost. But this sticker shock has consequences. Clients may (and often) choose to simply download a standard (and the good ideas for achieving it) for free and ask for it to be employed in design (at no cost premium). But the expertise and professional certifications required to achieve these equivalencies have value. The value proposition for certification suffers because of this fraught concept of free equivalency.

**EXPLANATION:** In my experience, if there is no third-party oversight, strategies fall between the cracks when time, money and patience give out. Design expertise should be compensated—so, why not go the extra mile and pay for the certification?

Anyone who says “certification is too expensive” simply has not looked at the numbers for certification fees. Cost premiums for sustainability-focused and wellness-focused certification systems on average are approximately \$0.07/SF for Fitwel, \$0.08/sf for LEED and \$0.22/SF for WELL projects in the U.S. market; in many cases the lowest certification levels within each system can be achieved at no cost premium when integrated into the design phase early on. Achieving these ratings requires the services of numerous specialists, but it pays off. On one WELL project I worked on, the rebates awarded from the work of a talented lighting designer far exceeded their fees for service. >



Microsoft Azure East  
Reston, Virginia

## MORE SUSTAINABILITY AND BUILDING PERFORMANCE

Based in our Boston office, **Blake Jackson** is an architect and accredited LEED/WELL Faculty and Fitwel Ambassador who works with designers and clients to apply these global standards across all building sectors.

### OBSTACLE: A GROWING MARKET?

Lastly, major end-user demand for healthier buildings has yet to materialize—but I'm confident that it is on the not-too-distant horizon. Obviously, no one wants to spend their days in an unhealthy space; however, making spaces for optimal health requires commitment to change from organizations and individuals in how we do things, our habits, how we spend our budgets, and ultimately how we live.

**EXPLANATION:** Our research shows that investing in design for wellness and certification has untapped value, as much as \$10/SF from its positive health outcomes.

As awareness grows of the quantitative and qualitative benefits of design that improves human health, it will become something that employees, tenants, guests, and buyers demand. We will reach a tipping point that will result in financial commitments. Change is coming.



Trail Riverfront Centre  
Trail, British Columbia



# DESIGN QUAR- TERLY



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