



# DESIGN QUAR- TERLY



RETHINK **ISSUE 20** RETHINK

Exploring new angles

# DESIGN QUAR- TERLY

ISSUE 20

**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.



ISSUE 20:

# RETHINK

**Sometimes the best ideas come when you take a second look.** New vantage points offer us solutions if we're open to them. In this issue, we look at how designers are taking a step back and rethinking their approaches. We're viewing the office through the lens of user experience and seeing the airport as a brand ambassador. Elsewhere, we wonder if the places we love have lessons for large-scale developments and how spaces for our healthcare professionals can do more. We weigh the advantages edge computing has over the cloud. And we look beyond sustainability and see regenerative design on the horizon.

## RETHINK DATA

01

### Prepare to embrace edge computing

The next generation of applications will crave the low latency of distributed networks.

BY JIM SAUVAGEAU

## RETHINK TRAVEL

08

### The airport as a brand ambassador

Why airports are expanding their offerings at the terminal

BY CECILIA EINARSON, ADAM RAMSAY AND ANA CAPPELLETTI

## RETHINK DEVELOPMENT

13

### Tapping into small scale cool

What can we learn from our favorite places about making today's master planned developments more people-friendly?

BY JORDAN BLOCK

## RETHINK HEALTHCARE

19

### The caregiver burnout epidemic

Next generation spaces could boost satisfaction.

BY LYNN BEFU AND ENA KENNY

## RETHINK OFFICE

25

### Why should I go into the office?

Workplace user experience has the answers.

BY JENNIFER NYE

## RETHINK SUSTAINABILITY

33

### What is regenerative design?

Rather than minimizing impact, regenerative development seeks to enhance natural systems.

BY PORUS ANTIA



RE-  
THINK  
**DATA**

PREPARE TO EMBRACE  
EDGE COMPUTING

The next generation of applications will crave the low latency of distributed networks.

BY JIM SAUVAGEAU

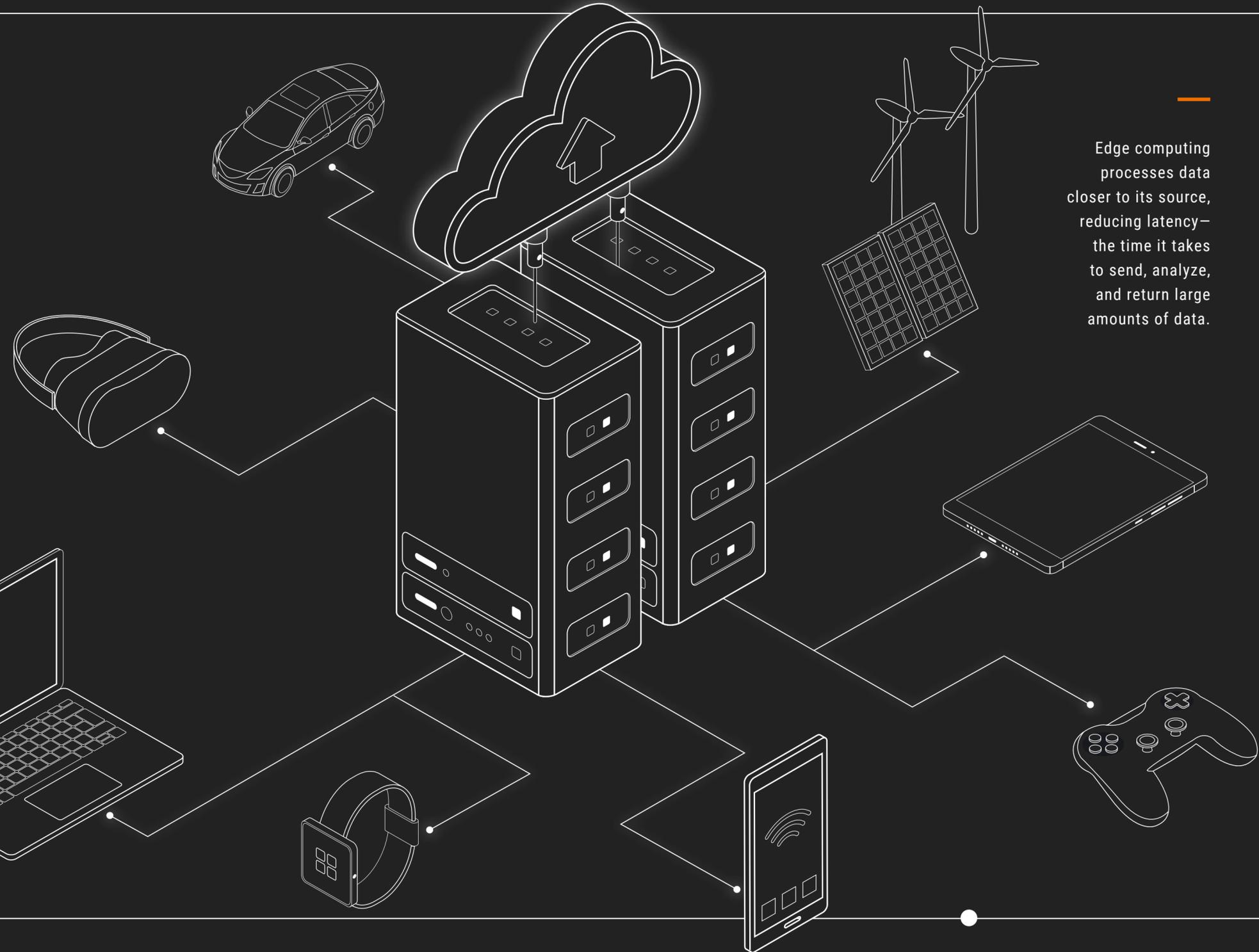


## If you're streaming Netflix or Disney + in the American Midwest, chances are good that your device accesses that data close to home.

Your iPad is not bouncing a request all the way to Silicon Valley or the East Coast to retrieve your new Marvel movie. There's a regional data center nearby that serves you and your device. Offering mirrored data for streamers isn't edge computing, but the use of regional data centers shows us the benefit of moving popular data closer to the user and reducing access to long-haul networks. No lag. Proximity to data at its source, that's the big idea around edge computing.

So, what is edge computing? Where cloud computing centralizes data processing, edge computing distributes that processing. It places computing power on the edge of the network. Small (ranging from 2 to 10 megawatts) localized edge data centers process data closer to where it's generated rather than immediately sending it out to a huge central cloud server. Edge data centers may also serve as intermediate and temporary storage.

We already see edge computing in use. For example, a local healthcare facility stores medical imagery in its own edge computing facility, then archives the material to a central data center (or cloud provider) later. Edge computing is poised for wider acceptance. ➤

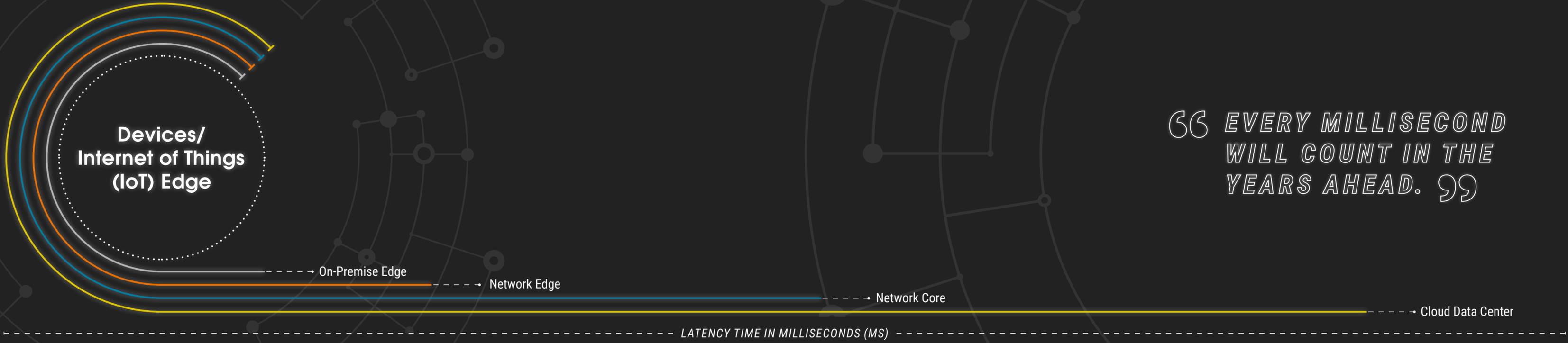


Edge computing processes data closer to its source, reducing latency—the time it takes to send, analyze, and return large amounts of data.

# 29 BILLION

(Source: Statista)

NUMBER OF INTERNET OF THINGS (IOT) CONNECTED DEVICES IN USE WORLDWIDE BY 2030



“ EVERY MILLISECOND WILL COUNT IN THE YEARS AHEAD. ”

### Why are we talking about edge computing?

Driven by an increasing appetite for data, bandwidth, and speed from users, their apps, and connected devices, the demand for edge data centers is booming.

The Internet of Things (IoT)—in buildings, factories, homes, etc.—generates lots of data. Cloud computing infrastructure can’t keep up with it all. If we could handle and use the IoT data closer to where it’s generated, we can speed up response times and reduce the load on the cloud network data center. Our mobile devices connecting to 5G networks for video and audio streaming,

bite-sized video content viewing, and rideshare hailing are adding to the volume of data. And then there’s AI. The dawn of generative AI (ChatGPT, Bard, etc.) will drive the need for more computing power and bandwidth. Edge data centers can help provide for speed and bandwidth that new AI applications require to perform. Every millisecond will count in the years ahead.

Along with IoT and AI, augmented reality, telemedicine, and analytics all benefit from low latency. Demand for edge data centers will be driven by a need to reduce latency and improve performance. ☞

## What does edge computing offer?

With edge computing, data doesn't travel over the network to be processed at a data or cloud compute center. This reduces latency—the time it takes to send, analyze, and return large amounts of data. Low latency computing allows anything that requires rapid real-time feedback—apps, Internet of Things (IoT) devices, smart cars, telehealth, and video streams for example to respond more quickly. Reduced latency from edge computing can speed up how we do business, serve entertainment, deliver healthcare, advertise, or gather data from smart devices.

### SMALLER BANDWIDTH

By filtering and redirecting data to data centers nearby, edge computing can reduce the amount of data sent over the network to the cloud or big data center. This reduces network congestion and the cost of supporting bandwidth.

### SCALABILITY

Edge computing can spread the workload across multiple devices to handle modest or large volumes of data. It gives organizations flexibility in how they use their computing resources.

### COST

Edge computing can, potentially, cut the cost of data transmission and routing by reducing the traffic flow to and from a central server.

### SECURITY AND PRIVACY

There may be security benefits to edge computing if implemented wisely. Temporary user data or sensitive industrial data, for example, can be stored locally, and far from the cloud.

### IMPROVED RELIABILITY

Placing data processing near the end user offers the opportunity for greater system reliability by removing obstacles in network traffic, outages, or other downtime. ☺

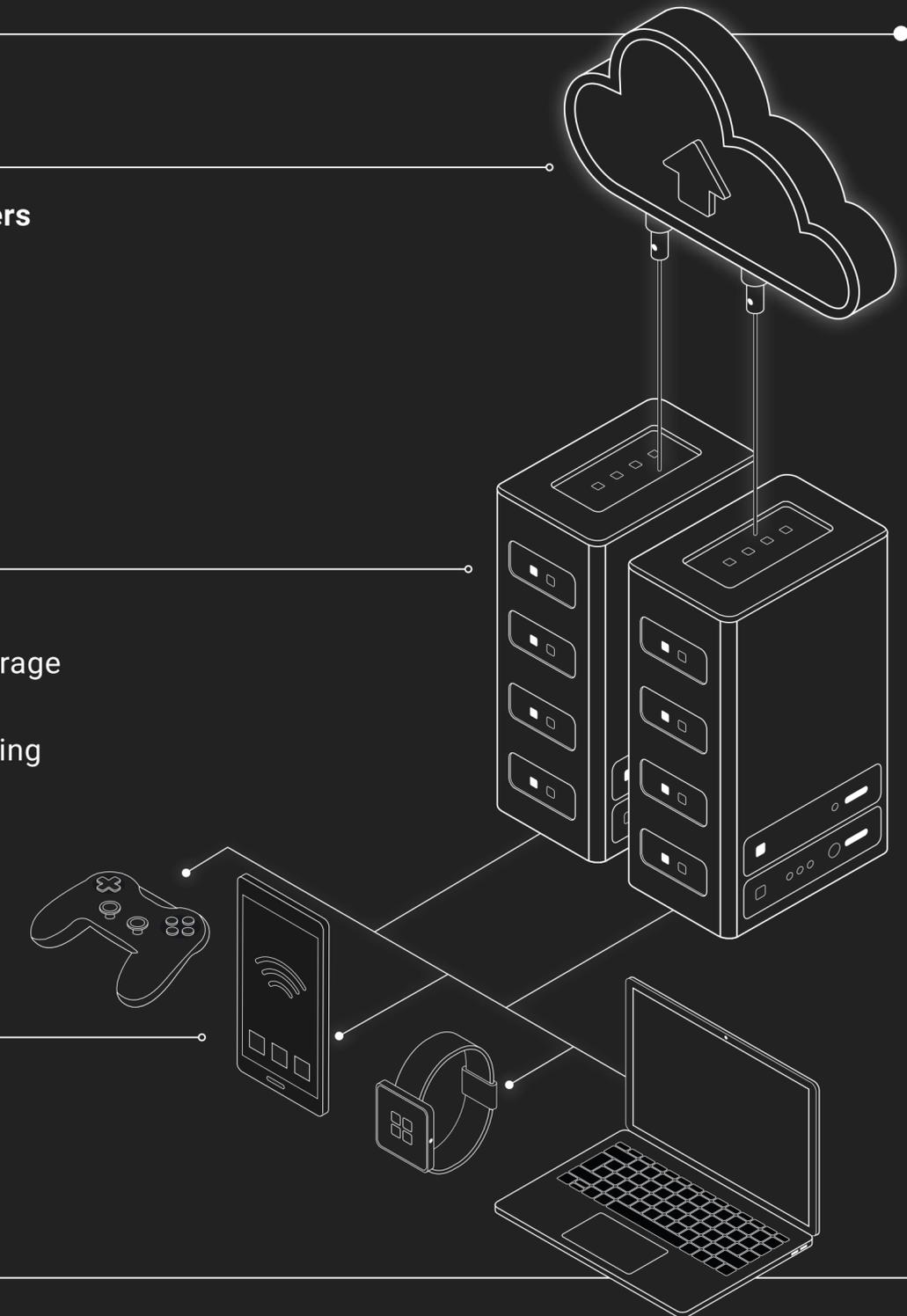
### Cloud service providers and data centers

- Long-term storage
- Flexible capacity

### Edge data centers

- Temporary data storage
- Low-latency
- Distributed processing

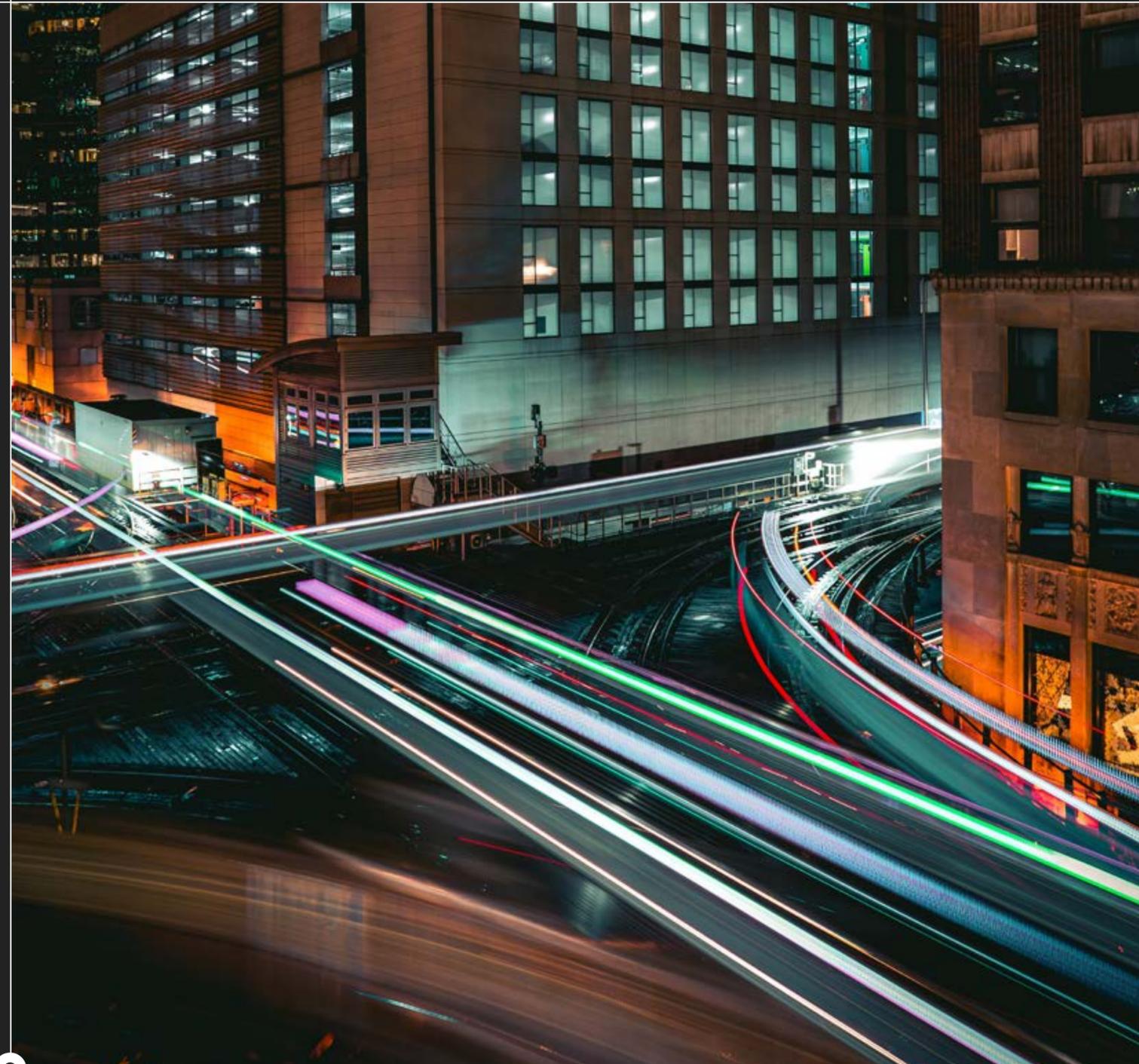
### IoT devices



## How does the data travel in edge computing?

Edge computing distributes the processing tasks to local devices or edge nodes, which are located near the data sources. This permits low-latency processing which makes for quick response in the short term. Later, the data can be archived at a distant hyperscale facility, if needed.

When edge computing's low latency meets 5G wireless connectivity and high cellular speed, it becomes more powerful. 5G makes autonomous drones, remote diagnoses, and smart city projects possible.



## Edge data centers can be small.

Edge data centers will be deployed as standalone facilities, on-site at enterprise locations, near cell towers, or local distribution points known as “headends.” Edge computing can take place on devices, or a few racks of servers. A department store can rent a storage space in the back to a content provider that shares advertising, augmented reality, and more to users in a shopping mall through a small edge center.

Unoccupied legacy IT rooms from the pre-cloud days of the late '90s are ripe for repurposing as edge data centers in commercial buildings. In general, these centers don't occupy prime real estate but can be inserted in a disused storage room or in some extra parking spaces in a building basement. ☞

### WHAT DO I NEED TO BE EDGE READY?

**Available space:** 1,500 to 5,000 SF

**Sufficient structural loading:** 150 lbs per SF

**Sufficient power:** 40kW to 250kW +

**Technology:** 5G wireless connectivity



Edge computing solutions show great promise in certain applications. Here are some settings where we may see edge computing take hold.

### STADIUMS

Today's fan experience is interactive, it's social and it's data hungry. 40,000 fans are snapping photos or streaming video of Taylor Swift or Leo Messi and sharing them on social media at this moment. Edge computing's onsite data processing can enhance that fan experience with content delivery networks. Edge computing is already making inroads at stadiums around the world. Expect these venues to be the test beds for edge innovation.

### ENTERTAINMENT DISTRICTS AND RETAIL

When we're walking through an entertainment district with restaurants, shopping, and entertainment venues, we're often using our phones. By accessing the local wireless connection, we can get instantaneous information in a pop-up ad, or search for events, sales, and special offers through our device from the district's edge network. Retailers are interested in using edge computing to enhance the customer experience on site, processing sales, and maintaining inventory.

### AUTOMATED VEHICLES

We don't want an autonomous vehicle to rely on bouncing data from a server several states away. If a vehicle can access data closer

to where it's operating, it can make decisions more quickly in real time. Edge computing can provide the rapid response that AVs require.

### MANUFACTURING

The increasingly automated factory will benefit from edge computing by allowing manufacturers to get and process the data from their technologies faster and more securely. Edge computing is likely to make an impact in areas like monitoring and predictive maintenance, energy management, warehouse automation, and staff safety and security. The data collected by the edge computing-equipped factory can be harnessed for machine learning. ☺

## AGRICULTURE

Today's farming is automated and GPS-guided. To get the most out of crops and use their equipment more efficiently, farmers need to tap into better data. Edge computing could allow farmers to better utilize info on weather, crop planting, watering protocols, and equipment use. Is there space in the barn for a data center?

## BANKING AND FINANCE

Traders and asset managers crave the low latency data transmission trading that edge can provide.

✓ [RETURN TO TABLE OF CONTENTS](#)

## MORE DATA CENTERS

**Jim Sauvageau** is Stantec's mission critical facilities sector leader.



# RETHINK

By driving many of us to work from home and collaborating remotely, the pandemic drove demand for cloud computing. Now, we're seeing the pendulum swing in the other direction. The need for low-latency decentralized data processing will only build in the near future. We're keeping an eye on edge computing. 📍

An aerial photograph of an airport tarmac. A white commercial airplane is parked at a gate, facing right. The tarmac is marked with various colored lines: red, blue, and white. There are also some ground support equipment vehicles visible near the gate. The overall scene is a top-down view of the airport's operational area.

RETHINK TRAVEL

# THE AIRPORT AS BRAND AMBASSADOR

In their expanded offerings at the terminal, airports have a chance to connect us to place and culture like never before.

BY CECILIA EINARSON, ADAM RAMSAY  
AND ANA CAPPELLETTI

Airports are the new brand ambassadors for cities.

Airports of the past strived to be transparent, utilitarian, and functional places with a vaguely futuristic feel, but the new airport is finding its place as a platform for cultural expression.

When travelers arrive at the new airport, they get a sense that they're in a unique place, with its own identity and character. Many airport operators will want to show travelers that they haven't just arrived at their gate, they're in a city or a region with its own cultural flavor. As they make their way through neighborhoods, they can, at the very least, pick up some local wares at a storefront from a local boutique and recharge with a bite and a drink from a local restaurant's outpost.

All of this experience isn't just about selling mementos, it's about reminding the traveler where they are—positively so that they come back. ➤



📍 **Vancouver International Airport - International Terminal West Chevron Expansion**  
Richmond, BC

## What's driving change in airport design?

The pandemic hammered home a lesson for airports—they need revenue to expand and meet air travel demand, and aircraft landing fees alone aren't going to cover it. Thus, airport operators are diversifying the services, the retail, and the food and beverage they make available to us between the curb, security, and the gate. Airports are diversifying their services and amenities with wellness, relaxation, and interactive experiences. In some cases, this makes for a longer but hopefully more pleasant walk—with more enticing retail and concessions. These offerings widen the airport's revenue sources, while providing an enhanced passenger experience.



The DEN Great Hall Completion Project includes terminal renovation, TSA checkpoints and pedestrian walkways. Stantec is providing design management, architecture, interior design, project controls, and construction observation services on Denver International Airport's Great Hall.

Denver, CO

Denver International Airport's Great Hall

That's where brand comes in. These varied offerings and the enhanced passenger experience can come together in the form of a brand. Ideally, these elements unmistakably reflect the fabric of the host city, the region, and the place. They build an association with the traveling customer. Airports compete for travelers. If they can get this mix of offerings and the brand right, they can differentiate themselves from the competition.

## Airports expressing their identity

Both the major airport in a cosmopolitan metropolis and the regional airport in a smaller town can have an identity that says, welcome, you're in a unique place. They can reflect this identity through integrated architecture, engineering, and interior design, through their retail offerings and activities. ➤

## The airport as a gallery for art and craft

By enhancing the passenger experience, airports position themselves to compete for revenue in the long-term. Take public art, for example. Airports are focusing more on placing art installations in areas where they make a positive impression. We see everything from permanent museums in terminals to temporary exhibitions along the traveler's path, all available with a boarding pass. The airport is emerging as the new museum of art and craft, giving travelers a taste of each city's cultural sophistication and heritage. It adds depth to the traveler's experience.

A vibrant public art installation is a great opportunity to make a good impression on the traveler—to make a cultural connection. Today's travelers have a choice in which city or region they want to visit, and which hub they want to fly through.



 Lynden Pindling International Airport

Nassau, Bahamas

Alongside this choice, airports are seeing a shift in the travel demographic away from business travelers toward families. Family vacationers are looking for a place to rest—sometimes they opt for the VIP lounge which isn't set up to handle their needs comfortably.

Rather than expand VIP space, airports can invest in a comfortable and attractive food court offering regional flavor to express their brand identity and accommodate families. ➤

**The airport is emerging as the new museum of art and craft, giving travelers a taste of each city's cultural sophistication and heritage.**

## Iconic airport design

The airport design itself represents a huge opportunity to create a memorable connection. Architecture and design can also contribute to that identity. Airport design can represent the city as an artful, forward-looking place, or through locally sourced materials it can connect to its natural and industrial heritage. Think of the timber roof at Portland's PDX Terminal Core, for example. The architecture and design of the airport itself can have an identity that reflects the city and region. They can be memorable, even iconic places to visit. Every element of Vancouver airport's terminal building, for example, works in concert to unmistakably reflect British Columbia.

## Locally flavored food, beverage, and retail experiences

It might seem obvious, but the simplest way to make this cultural connection to place is through food and drink. Airports need to offer regional flavor, such as dining options with menus by local celebrity chefs, in the mix alongside national chains to reach travelers

who want a memorable experience. The unexpected bonus here is that locals have an extra opportunity to take pride in their food culture on departure and return.

## Harmonizing brand, design, and passenger experience

The elements that make up the passenger experience have the potential to express an identity for the airport itself, represent the city's brand, celebrate local culture and make a memorable connection that pays dividends down the line. But these elements can't work in isolation. They require planning, design, and expert curation (of art and food) to succeed. Through thoughtful design we can harmonize all these elements to tell a story that resonates with travelers long after they've put their tray tables up. 

[RETURN TO TABLE OF CONTENTS](#)

### [MORE AIRPORTS](#)

Based in Vancouver, airports sector leader [Cecilia Einarson](#) has led airport projects from Iqaluit, Nunavut to Santiago, Chile. Also based in Vancouver, designer [Adam Ramsay](#) has contributed to designs on the JFK Terminal 6 and Vancouver Airport CORE program across all project stages. Based in Vancouver, BC, [Ana Cappelletti](#) led the interior design for the JFK Terminal 6 and Quito Airport Public Hall improvements.

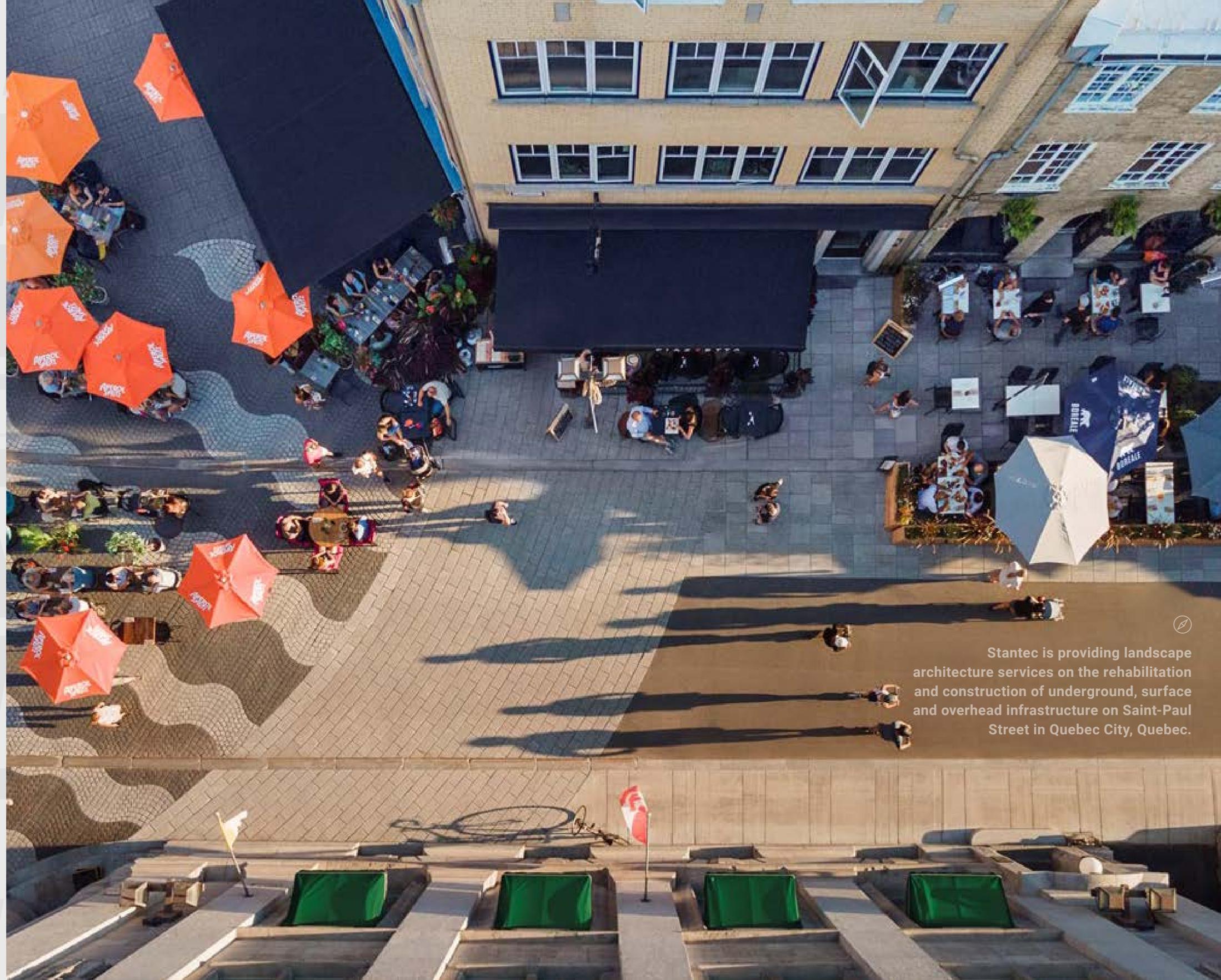


 John F. Kennedy  
Airport Terminal 6  
Queens, NY

# Tapping into small-scale cool

What can we learn from our favorite places about making today's master planned developments more people-friendly?

BY JORDAN BLOCK



Stantec is providing landscape architecture services on the rehabilitation and construction of underground, surface and overhead infrastructure on Saint-Paul Street in Quebec City, Quebec.



**Park Hill Golf Course Redevelopment**  
Denver, CO

**We can learn a lot from the places we love—their scale, texture, rhythm, and setting—and we can infuse their human-centric feel in today’s developments.**

What is your favorite place and how does it feel when you are there? How tall are the buildings, how wide, and how many per block? How much variety do you see? Is there room to walk and is it easy to cross the street? Does it have trees and shade?

Often when we’re meeting with a client to talk about a new project, we ask the first question above. And then a few of the others. Rarely do we hear someone say, “downtown Kansas City” or some other business district and “tall glass buildings.” These downtown areas serve a purpose, and their office buildings can be beautiful in their own way, of course. Rather people talk about a main street in a small town, or their favorite arrondissement in Paris. Perhaps they enthuse about an economically flourishing neighborhood in their city where the built heritage is characteristic of the early 20th Century. Think of Cincinnati’s Over the Rhine or Washington, D.C.’s Adams Morgan. In a recent conversation with a guest from out of town, I told them that, if we had time to only visit one place in Denver (my hometown), that place should be our historic Lower Downtown and Union Station. ☺



It's not so much the age of these places to which people connect. They are built to a scale that feels good. They offer rhythm and variety. We connect to the different types of buildings and spaces and their offerings, their street life, and pedestrian traffic. We warm to some of their charms unconsciously: lots of tree shade, frequent pedestrian crossings on small blocks, storefronts that offer a face to passersby.

Naturally, we want to replicate the feel, the scale, the grain of these wonderful places. Easy, right?

Evidently, *not*.



Gallagher Way, Wrigley  
Field 1060 Project  
Chicago, IL

The places we tend to love were built in an age when the development proceeded at a building-by-building pace. Someone needed a store, or an office and they had it built (or built it themselves) with a big window to show off their wares.

We are often drawn to these buildings because they reflect our sensibilities as people. They were made to attract people and put what's for sale on display. Most often, when confronted with a large-scale site (think of a half-block, block, or larger), developers and designers default to planning one or more massive buildings as opposed to many smaller buildings reflective of the places we love from the past. The challenges of bringing small scale to today's developments are the result of three primary issues. ☹

Firstly, it's simply expensive to do. The small, single building needs its own foundation, its own structure, and its own systems. Therefore, they tend to be more expensive per square foot than a much larger building which benefits from economies of scale.

Secondly, the nature of development favors developers working with large pieces of land. It rarely makes fiscal sense for developers who are looking to maximize their investment to break up large saleable parcels into small fragments. The buildings we love can be as small as 1/30th of an acre (or 30 separate, unique buildings per acre). If a developer can build 1 one-acre building, they are unlikely to opt instead to build 30 smaller ones—or even two or three. From a financial standpoint, it makes more sense for them to develop, design, and build at scale.

Thirdly, policy can be a major hurdle to success. For example, zoning in most places in North America requires parking minimums. If you want to build a three-story storefront, chances are it

has an onerous parking requirement limiting its feasibility. Aside from the cost of supplying parking relative to the overall cost and value of the building, small scale sites and buildings will rarely be able to physically accommodate parking spaces on their footprint. Zoning tends to favor buildings at scale, like block-sized buildings, that can physically and financially accommodate parking.

So, how can we allow for more small-scale development? Or, alternatively, when we are designing at the multi-block scale, how do we inject some human-scale feel into our projects?

#### **PROMOTING SMALL SCALE DEVELOPMENT**

We can change policy. For instance, we can adjust those parking requirements for smaller structures. We can find smaller parcels of land that small scale developers are better suited to working with and work with cities and other stakeholders to incentivize projects that may not move forward otherwise. Colfax Avenue in Denver, for example, is a historic main street with small, shallow parcels that are begging for a small building ☺



 **Burlington Great Streets** *Burlington, VT*

Stantec's Urban Places team redesigned two connecting streets in downtown Burlington, VT to prioritize the pedestrian experience, connecting sidewalks safely to new parklets, seating, and mixed-use development.



  
**901 North**  
Fort Lauderdale, FL

approach. As designers and planners, we can create small-scale toolkits to help cities take on this approach and get it right.

Cities can adjust their zoning in some places. They can downzone a corridor or apply design overlays where they want to allow for small scale approaches, and perhaps upzone elsewhere to find a balance. And cities can develop programs to encourage small-scale first-time developers. The common denominator, though, is often money and municipalities need to find way to incentivize the type of places and buildings they wish to see.

### **INJECTING SMALL SCALE COOL**

But say we're going to design and build at the block or multi-block scale. How do we make that more reflective of the places we love?

Sometimes it simply comes down to focusing on what makes good places work, understanding their history and context,

studying their form, scale, and texture, and instilling those lessons into the design of new places.

We can study what works, and analyze the elements that help connect new buildings to old places. We can quantify the amount of glazing, the setbacks, and other building features that work best. We can even look at which building types create the most tax revenue per foot. We can create, however informally, a guidebook to the lessons of small-scale and instill those lessons into the design of new buildings and places—even if those places are comprised of large, modern buildings.

Communities can also take a more prescriptive approach. They can use policy and zoning, overlaying design requirements that will promote the small scale feel on the requirements they make for large developments. This could mean more storefronts for mixed-use buildings. ☺

Or multiple buildings rather than one glass box per block. This will require developers to spend more on buildings.

But done thoughtfully, it gives these projects a much better shot at being the kind of places people want to spend time in and that initial cost can be easily recuperated in the value created by these approaches.

### **HUMILITY NEEDED**

Finally, we should acknowledge that there's a certain amount of hubris in the idea that a single design vision for a new neighborhood executed in one swoop of mass construction can succeed. Lots of places we love were built organically over time. What's the lesson there? Can we make room for multiple visions? Or plan for the essentials and leave room in master planned neighborhoods for the users to fill in the gaps with human activity? Can we allow for change

in phased developments that respond to the times? The pandemic certainly taught us that we can't predict how people will use a built environment five years from now.

One fix could be in how we approach these large projects internal to our design studios. To achieve a variety of building types and aesthetics that resonate, we need to think about allowing multiple design teams to contribute sections to large developments. Employing multiple perspectives from various design teams should naturally produce more varied design outcomes and dynamic places. This approach can mean using multiple firms to implement large projects or multiple offices and studios in large multi-office firms like Stantec. Stantec has done just this on projects across the country, including our large redevelopment project in Fort Lauderdale, 901 North, where different Stantec architects

across multiple offices handled individual buildings across an 8-acre site to create a more diverse and interesting whole. In this way, we can avoid a cookie cutter one-size approach more typical of suburban places.

We can design in the variety, rhythm, and visual interest that makes neighborhoods vital.

If we listen closely to the places we love, they've got a lot to say to us. We can plan, develop, and build great places for today and tomorrow. 

 [RETURN TO TABLE OF CONTENTS](#)

### **MORE MIXED-USE DEVELOPMENT**

From his hometown of Denver, Colorado, **Jordan Block** serves as urban design discipline lead for Stantec Buildings.



**St. Anthony's  
Central Campus  
Redevelopment**  
Denver, CO



RETHINK  
HEALTHCARE

# How can design respond to the caregiver burnout epidemic?

The next generation spaces and approaches could boost satisfaction, retention, and well-being.

BY LYNN BEFU AND ENA KENNY



**Healthcare is experiencing a crisis in staffing. Burnout is an epidemic, especially in nursing.** The pandemic exacerbated simmering issues. [In the U.S., 34% of nurses surveyed said they would leave their jobs by the end of 2022](#), with 44% saying that stress and burnout contributed to their decision. Canada has experienced similar issues.

Healthcare providers know that patient satisfaction scores correlate to staff wellbeing. And yet, in the U.S. the budgets for spaces that promote satisfaction among the care team are often thin. While funding for these spaces is more standardized in Canada, they may need more attention. The result is that try as we might as designers, there are sometimes too few spaces dedicated to reducing the care team's stress. ☹

📍 **Cambridge Memorial Hospital Redevelopment**  
Cambridge, ON



High turnover rates can result in staffing shortages, impact quality of care, and hit healthcare providers in their bottom line. Recruiting and training new staff is expensive. At the same time, the older segment of the population is growing and demand for healthcare services swelling.

While funding models vary, health organizations are increasingly recognizing that these staff workspaces and amenities need attention and thoughtful design to succeed.

## So, what kind of spaces might be useful in counter-acting burnout?

The healthcare institution is a workplace. Working in healthcare can be extremely rewarding, but at times it is also draining and stressful. Care team members tend to be always “on.” How do we create places that provide a little time away from

what is often a high stress environment?

On any typical day, in addition to direct patient care, healthcare professionals will need to confer and collaborate, focus on solo tasks, build personal connections, and recharge. They need spaces to accommodate all of these modes.

Let’s start by looking at the types of spaces we see today and what we think we need in the future.

### PLACES FOR BREAKS

Nurses are in demand and pulled in many directions throughout their shifts. Today’s care desks (also known as nurse or staff

stations, and communication centers) are designed to make staff visible and accessible to families and patients. So, when it comes to spaces for staff to take designated breaks or a moment of respite, location, privacy, and comfort are key.

We often see staff lounges shared between two units. Depending on overall planning, this can make the lounges feel out of the way and inconvenient, decreasing their use. In the U.S., we see lounges often double as conference rooms. We need to think of ways to integrate these staff lounges and make them more convenient and permissible for all staff, particularly nurses, to use. ☺

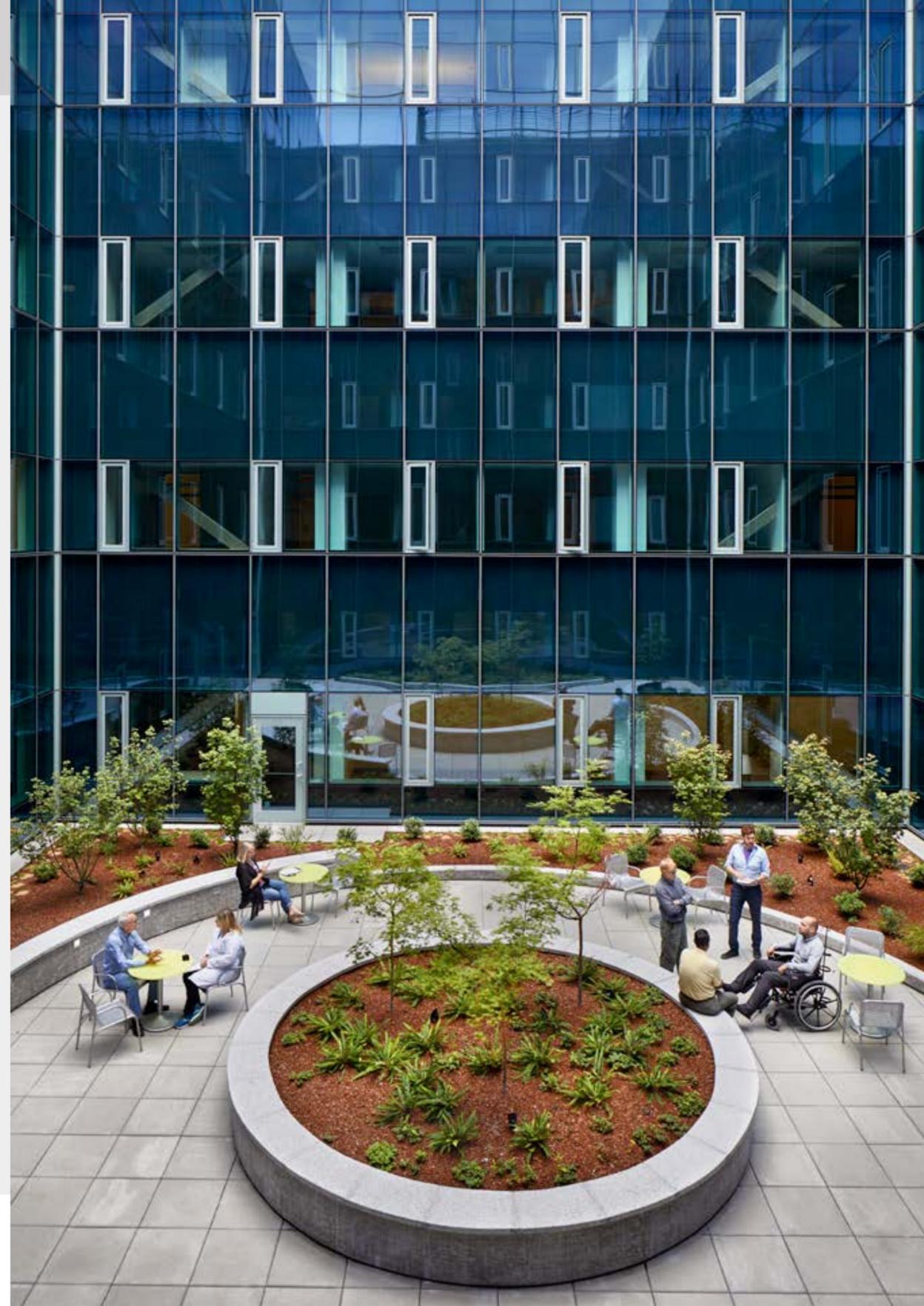
On a recent hospital project in the U.S., staff encouraged us to reduce the visibility into their new interior team room to give them more privacy. Increasing the visual privacy level allows the care team to work through their emotions and feelings, away from the clinical floor. Giving caregivers a more private and supportive place where they can switch off or share with coworkers was a gamechanger.

Making these team break spaces comfortable is important. On the South Niagara Hospital project, we prioritized team room placement along the perimeter of the building so that nearly every team room had access to daylight. These spaces also will

include biophilic graphics to elevate the atmosphere and provide positive distraction for staff. Ensuring a variety of furnishings, and access to Wi-Fi and filtered water also helps to create a destination with useful amenities that promote choice and a supportive environment.

#### WHAT'S IN A NAME?

What we name these rooms could be more important than you'd think, as a different name can change the way the spaces are thought of and used. A team lounge is not for "lounging" but rather for connection-building, recharging, and respite. "Team room" has become a more common term, but in a large mental healthcare facility, we've also heard the term "oasis" used.



#### PLACES TO COLLABORATE

The current trend in the healthcare industry is toward decentralized nursing stations and substations, but these can sometimes leave nurses socially disconnected. A well-located and well-designed team room can help address feelings of isolation.

We know that collaboration spaces are a must in research settings and the workplace—these spaces are critical for nurses too. Collaboration spaces can foster the informal exchange of ideas. ☺



Today, care is interdisciplinary with specialists on the floor and fewer individually assigned spaces. Therefore, team hubs, huddle rooms, and collaboration zones for multidisciplinary care teams are essential. Often the open care center is connected to an enclosed but transparent team huddle room. This allows the team to discuss patients or personal matters with a measure of privacy while remaining accessible. It's a space between being fully "on the floor" and a private team room. At Phase 1C of the Centre for Addiction and Mental Health in Toronto, we designed glazed partitions with large scale biophilic graphics to separate the team collaboration spaces from the common patient spaces, providing a degree of privacy and visual interest.



It's not unusual for a stairwell to be the largest volume space in an otherwise massive healthcare complex. We can make an exit stairwell more inviting, when it has natural light, to be used by the care team for quick chats, taking calls, or a quiet moment "off stage."

#### **PLACES TO DECOMPRESS**

In addition to the more typical team rooms, many healthcare organizations are asking for designated spaces for contemplation, meditation and recharging in smaller rooms, and even yoga and gym spaces for staff in larger spaces. These types of decompression spaces work best when they're easily accessible, and the work culture encourages attention to health and wellbeing. However, given space is always at a premium in healthcare, if underused, they could be at risk of repurposing. ☺



We are beginning to see accessibility consultants propose sensory rooms, places where one can dim the lights and shut out external stimuli (and screens) for a time. In Ontario, to date these spaces (which can be for staff, as well as visitors and family) are not typically included in functional program planning as single purpose spaces, but rather they are a secondary use of other existing spaces. In the meantime, we are looking at spaces (small offices, telephone rooms, quiet rooms,) that can double as sensory rooms with the appropriate signage, acoustics, and lighting controls.

#### **PLACES FOR WELLNESS**

In Canada, where the programming for hospitals can be quite consistent from one project to the next, space for staff exercise has become more common. These spaces

encourage staff to reduce stress through exercise such as yoga in a familiar and convenient setting. We'd expect to see these spaces become more common for American hospitals embracing a holistic approach to wellness.

We shouldn't, however, discount the benefits of unprogrammed space. Research tells us that access to nature, natural light, fresh air (with operable windows) benefits humans in the workplace. We can apply these lessons in healthcare while navigating the demands of code and cost. Gardens, plazas, and terraces can encourage healing and tend to be dedicated to patients and families for that reason. But if we can find opportunities to create some open-air spaces for staff-only, they will be well taken care of, cherished, and used. ☺



**Patient Resource Center and Serenity Suite UCSF Bakar Precision Cancer Medicine Building (PCMB)**

San Francisco, CA

# What design considerations can make a difference?



## ACOUSTIC COMFORT

The constant thrum of day-to-day life in the hospital and its beeping sensors can be stressful. We can employ design strategies for the flow of caregivers and other staff at healthcare facilities that mitigate disruptive sound. At Intermountain Medical Center, we designed the corridors with clear views to daylight on either end. But it was the design's noise reduction that made the greatest impression on caregivers. Controlling noise can also improve communication and reduce errors.

## PRIVACY

As we mentioned above, varying degrees of visibility, accessibility and transparency help the healthcare team do its work or attend to personal matters, from the collaboration zones to the privacy of the team room.

## COMMUNITY

Camaraderie and social support can increase engagement and reduce burnout in healthcare professionals. Care team members need to be able to connect with their coworkers, with appropriate levels of privacy in both designated team spaces and more public places such as dining and outdoor facilities on site.

Our holistic vision of healthcare should extend to the healthcare workplace. Our designs should be tilting the healthcare institution toward a role as an everyday wellness destination embedded in the community. These holistic healthcare destinations include multiuse athletic spaces where one can work out, meditate, or grab a healthy bite. Seen from this angle, we can make hospitals part of the wellness continuum where staff have more options and can be encouraged to habitually access services that reduce their stress.

## DESIGN THAT RESPECTS AND SUPPORTS

Ultimately, design strategies that respect the important role of nurses, recognize their daily challenges, make them feel safe and protected, and provide a more supportive built environment will enhance morale and increase job satisfaction and retention. 🕒

✓ [RETURN TO TABLE OF CONTENTS](#)

### [MORE HEALTH CARE](#)

From our San Francisco studio, [Lynn Befu](#) led interior design with health providers in mind for projects including the National Center for Cancer Care and Research (NCCCR) in Doha, Qatar. As the interiors lead on our Global Health Sector Leadership Team, Toronto-based [Ena Kenny](#) acts as an ambassador for the discipline sharing best practices for healthcare interiors across Stantec.



RETHINK THE OFFICE

# Why *should I go* into the *office?*

Seeing the workplace through the lens of user experience has the answers.

BY JENNIFER NYE

*It's time to rethink  
the office, not just  
as a commodity  
of physical space  
but as a **user  
experience.***

We are back at the office. But we expect more from the office now. We know being in-office has advantages over the home, so we need to define and accentuate those benefits. The new workplace should offer people places optimized for work. It should offer opportunities to be social.

For years, the conversation about the workplace revolved around program—the quantifiable measure of what's in the space that helps people get their work done. And today, when we talk about drawing more personnel to the office, the conversation often veers that way. Programmatic offerings—the mix of private offices and open offices, the number of conference rooms and collaboration spaces with technology, and amenities—are an important topic, especially when it comes to real estate spending. ☺

But we shouldn't be so hasty to dive into the programming aspect of offices: its workstations, its filing cabinets, and its organizing space needs to achieve optimum square footage per person for a budget model. That's an outmoded approach.

*We should pivot  
to **people first.***

📍 **bonCOOK**  
**Headquarters**  
**& Experience Center**  
**Studio Renovation**  
*Birmingham, MI*



## **We need to start with the user experience and ask deeper questions**

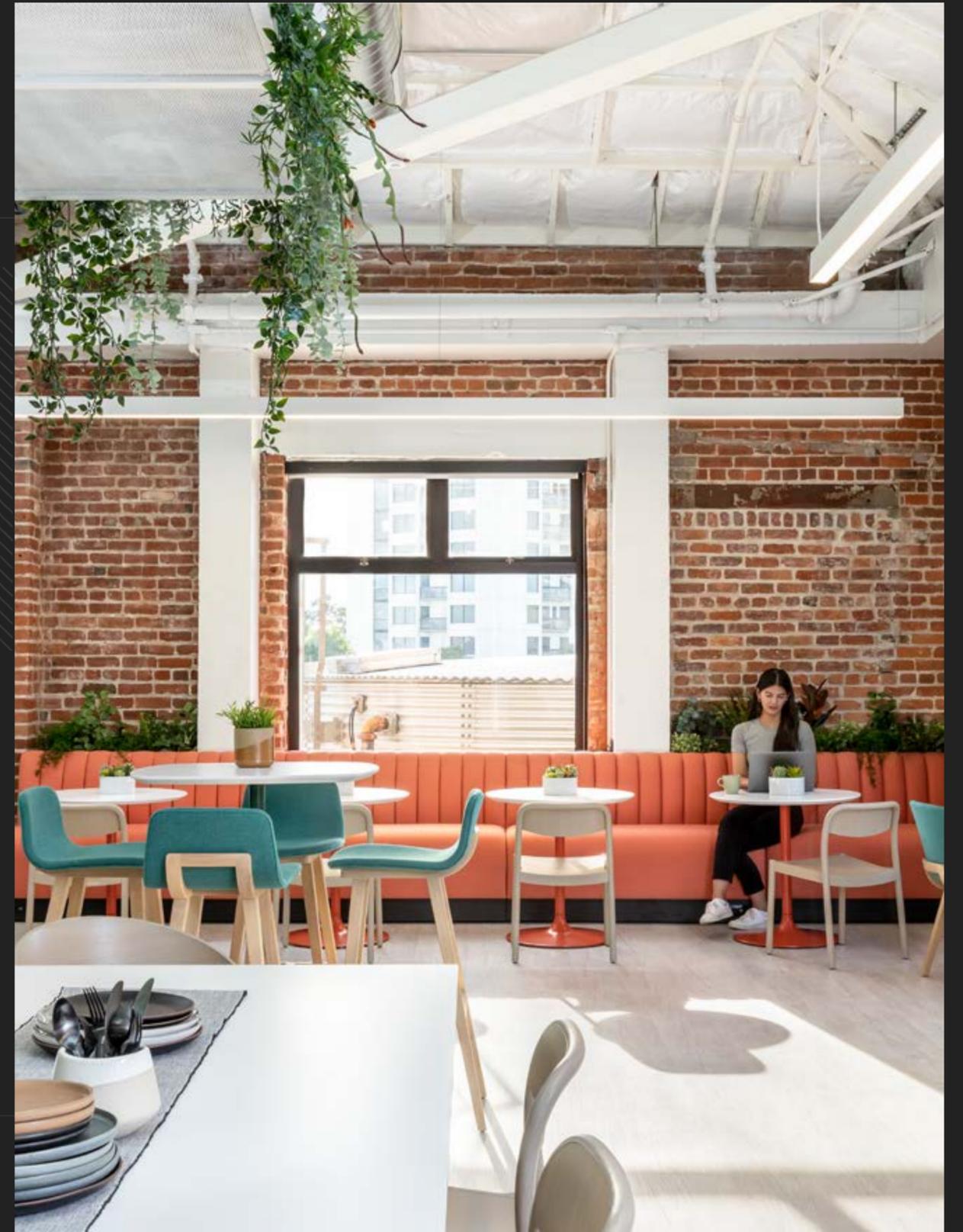
What does it feel like to be here? What do you do when you're in the office? What would it look like if we could build a space around human activity and considerations such as the whole self, the work, the environment, the organization, and the people? Taking a user experience (UX) design approach to the workplace reveals a different set of user needs and fresh solutions. That's how we answer the question: why would I go into the office? ☺

# How can we look at the office as a UX?

## We create a day-in-the-life model.

To develop the user experience perspective, we look at the experience at an individual level. User experience is not just about the user interface or the functionality of the space. It includes the whole journey that users take from before they arrive to the workplace to well after they have left. We explore the different roles that people play in an organization and how they spend a typical day at work. We peek into their schedules, and we examine their tasks and priorities.

Calendars, for example, reveal that in-office days often are hectic and without the space to support function, technology, or tasks. This leads to stress and decreased productivity. Then, we must ideate about the environmental qualities and attributes they need to support each facet of their role. What types of places are available for well-being, respite, socialization? Or learning, mentorship, collaboration? Places for heads down work or all-day back-to-back calls? ☺





## The five senses.

We experience space through our sense of sight, sound, smell, touch, and (in the office café) taste. And those sensations, good or bad, can make or break happiness and productivity when we're in the workplace.

If we think about the environment and how it makes people feel, not just how it functions, helps, or hinders, we get a richer idea for what the space can be. How do we create environments that can respond to sensory overload and offer a measure of control? Or, conversely, how do we energize space to create a more sensory experience if the situation or task calls for it? If we can make people feel that much more comfortable and in control, is that enough to entice them back to the office more often?

Here are a few areas of the workplace that benefit from a user experience perspective.

## What does the entry, engagement, and exit experience feel like?

We need to consider how the whole UX is affected by the factors that lead us to our workspace: from commuting, parking, scanning, entering, navigating to our floor, and finding a place to sit. And leaving at the end of the day. I want to be able to go into the office easily. Seamlessly. Effortlessly. And do it as if I didn't even have to think about it.

How can we make this happen? Is there one access card? Two cards? Can I use my phone? Can I use my watch to get in there? Maybe. Maybe, I don't need any of those things and I can use my face to access everything.



*How do we energize space to create a more sensory experience?*

## Mobility, privacy, sound, and scent

When I'm at work, can I move around, or is it convenient to stay where I am? Do I need to gather my laptop, my work phone, my personal phone, my other things with me every time I need to change scenery?

Can I control the amount of sound or privacy that I want? It might be important for us to hear others and build mentor relationships during our day. Can I dial it down to focus? Music affects each of us differently, it can influence our mood, our concentration. Wouldn't it be great if I could connect via Bluetooth to the sound system in the room to play the music that I desire to be productive?

Does the smell of coffee wake me up or does the scent of bergamot and citrus calm me down? What if we use aromatherapy to enhance the sensory experience during the day to support productivity?



 **DCP Midstream**  
Houston, TX

## UX requires a multidisciplinary approach.

Taking this sensory approach to user experiences focuses us on the attributes of space that make up that experience—the quality of light, the technology, the acoustics, the ergonomics. So, it follows that designing for the user experience of workplace requires us to collaborate closely with our experts and engineers in acoustics, lighting, technology, and climate control. We can weave lighting, acoustics, temperature, and layer in technology to provide options that range from lively to contemplative. ☺

*What if we  
can provide  
smooth and  
seamless  
digital  
experiences?*

## Seamless experiences

Most of us use laptops to work anywhere, but we often must carry more than that. Toting our tech around, connecting to the audio and visual systems in different rooms, through various technology platforms does not always feel liberating and often becomes frustrating.



**Gartner Mid-Atlantic  
Center of Excellence**  
Arlington, VA

We must seek better alternatives from a user experience perspective. If we want to be truly mobile, and create a purpose-driven work environment, how can we make it easy for ourselves? Maybe we need “anywhere spaces” that adjust to our needs. We should think about the settings and the technology that let us change our sensory experience with the least number of interfaces. When we make technology easy, when we match the environments to the user personas, more people will use them. ➤

## Data and artificial intelligence in the workplace

AI and data will play a role in the new workplace. These tools will inevitably inform our solutions, space plans, and even our client's real estate decisions. But before we can utilize AI or any other data driven approach, we must think about that user experience. Human factors such as how we perceive ourselves and interact with others in the work setting influence the user experience. AI can augment this interaction, but not replace it. Especially in this era of hybrid work and choice, we should focus on people, place, and how they interact—the different attributes of space that comprise that user experience.

Simply stated, when we use the UX lens, we see things differently, naturally. We put people at the center of design, and we arrive at different and unique solutions. If 'why should I go into the office today?' is the question, user experience design has the answers. □

📍 Marriott Global Sales and Customer Care Center Midvale, UT



*We put people  
at the center  
of design,  
and we arrive  
at different  
and unique  
solutions.*

✓ [RETURN TO TABLE OF CONTENTS](#)

[MORE WORKPLACE & OFFICE DESIGN](#)

Workplace Consulting Market Leader [Jennifer Nye](#) is based in Stantec's Philadelphia office.



# WHAT IS REGENERATIVE DESIGN?

Rather than minimizing environmental impact, regenerative development seeks to enhance natural systems.

BY PORUS ANTIA

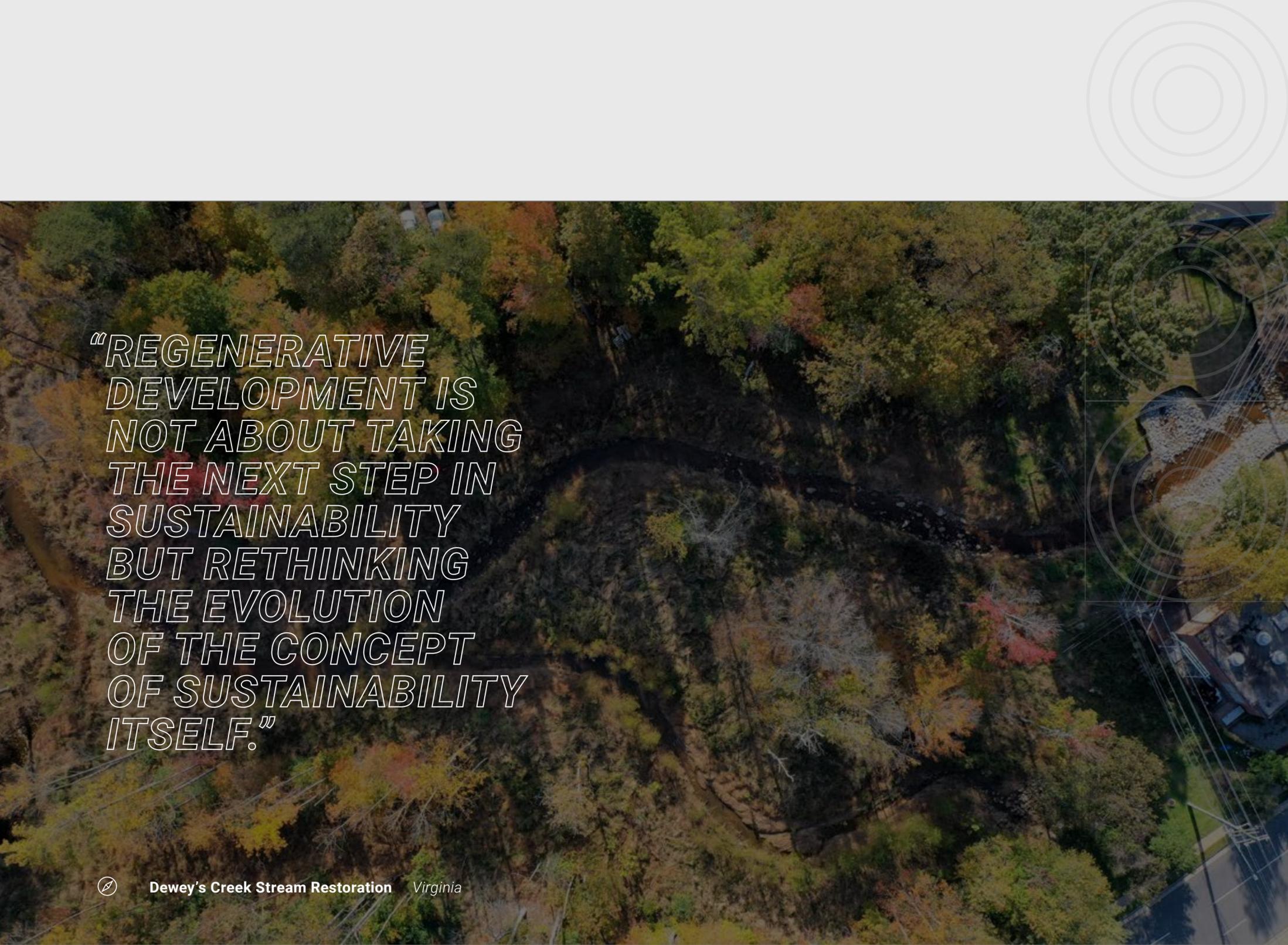


“**SUSTAINABILITY  
AS PRACTICED  
IS STILL ABOUT  
METRICS AND  
TARGETS.**”

Shouldn't design do more than simply minimize harm to our planet? Why do we associate development with destruction? Could our design principles enhance natural systems?

It's time to embrace regenerative design.

I have spent much of my career in the sustainability movement. I got involved with net zero energy buildings back in 2008 and was part of designing and building the first one in the United States. I have worked on numerous cutting-edge projects that raised the bar for sustainability in our industry. But something kept eating at me. In our industry, we look at sustainability as a linear, step-by-step process. We use objective language to describe it. While we have shifted from a point-based LEED system to offsetting energy or water usage, sustainability as practiced is still about metrics and targets. ↻



**“REGENERATIVE DEVELOPMENT IS NOT ABOUT TAKING THE NEXT STEP IN SUSTAINABILITY BUT RETHINKING THE EVOLUTION OF THE CONCEPT OF SUSTAINABILITY ITSELF.”**



Dewey's Creek Stream Restoration Virginia

Today it's energy. Tomorrow it's carbon. But we're looking at these projects in isolation. Through numbers. Our approach to sustainability in the design industry hasn't been holistic or able to see its true effects on the natural environment.

A few years ago, I heard about regenerative design. Intrigued, I signed up for a master class, a training course on regenerative design taught by a professor in Spain. I spent six weeks studying regenerative design. It resonated with me. It opened my mind to a different way of approaching development and has inspired me since. Recently, I was asked to contribute a white paper on regenerative design and development to inspire a significant new development project. This gave me an opportunity to gather my thoughts on regenerative design, sometimes called regenerative architecture and regenerative development. ☺

**REGENERATIVE  
DEVELOPMENT  
SHOULD:**



- 1 Achieve net positive impacts for ecology, health, and society.
- 2 Be flexible for most project types and sizes.
- 3 Continuously evolve and renew.
- 4 Holistically connect to goals for resilience, health, equity, inclusiveness, and decarbonization.
- 5 Renew natural systems rather than take individual measures to sustain an equilibrium.

\* Diagram idea courtesy of Bill Reed, Regenisis Group. Used with permission.



The traditional definition of sustainability concerns itself with how we do less harm without causing problems for future generations. We devise a solution to a measurable problem as we see it, with a target such as net zero energy, water reuse, or something similar. We improve sustainability through a process of elimination. We pursue a strategy until its usefulness has

been exhausted and then switch to another approach. But how do we know which strategy to pick in the first place when we don't know where we are going? This siloed approach has inherent limitations.

Connecting human activity with the evolutionary enhancement of natural systems is the strategy we've been missing. It's the basis

for regenerative development. The regenerative approach is based on the idea that whatever we are developing, whether it's a building or a city, should enhance the ability of living beings and the surrounding ecosystem to co-evolve and thrive.

Historically, when we think of development, we think of humans constructing a building, taking away from nature and putting a new thing in use that exhausts all the resources of the place. In this shift in thinking, however, we look at development as an opportunity to create something that enhances a place's ability to evolve life.

Regeneration means to give new life or energy. And development means to reveal, to bring out capabilities, to nurture, and evolve. Development, in conventional terms, means to make something, to construct a building. So, we're going back to the true meaning of development—to take it (the

project, the ecosystem) and co-evolve to exist together.

Humans typically view themselves occupying the top of the pyramid. But we're part of a greater whole. When we understand that we're part of that natural system and we must give back to the natural environment, that's when we really start to understand what regenerative development means. It's where the next phase of design needs to go. We need to embrace this simple concept: when we develop something, we want to think about not only co-evolving with what's there, but enhancing the system that we're in.

Today, for example, if we're designing a building in a desert, we should think about what part of the development we put in place to evolve the ecosystem in the immediate area. It could be about infusing waste streams into the ecosystem to evolve the ecosystem around the building or directing treated grey water to supply ☺



waterways. It's about looking for these opportunities through the lens of regenerative design and development.

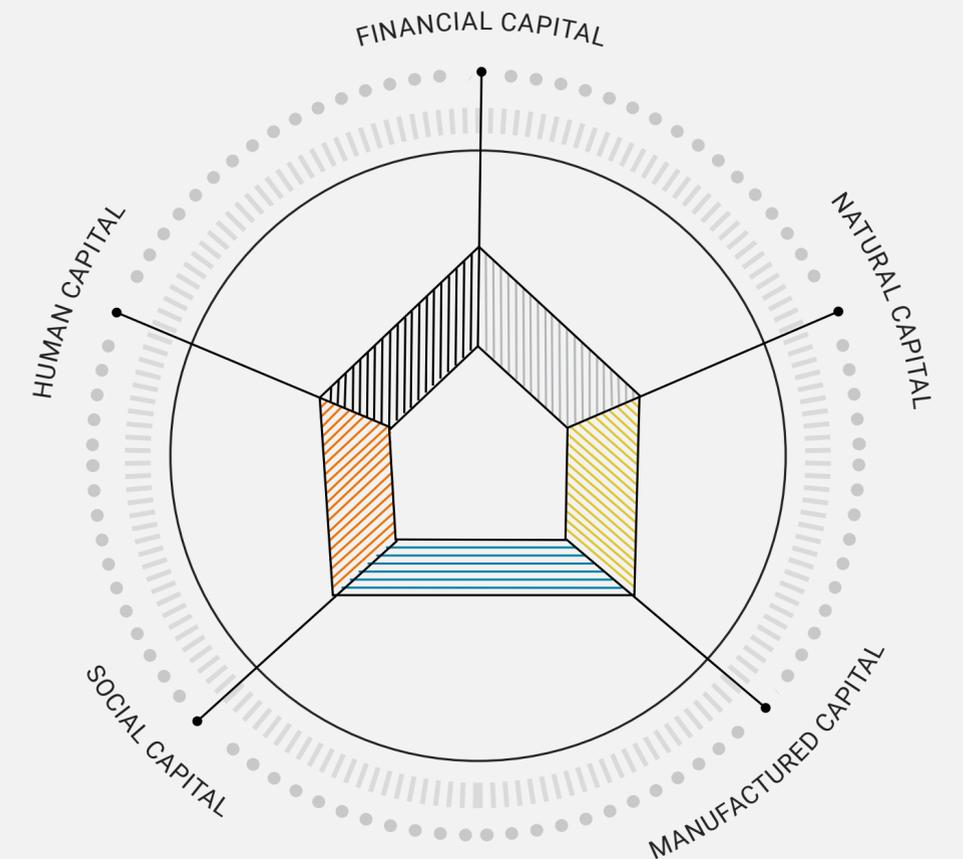
Regenerative design and development is a holistic process, and it requires buy-in across the design team. The regenerative design process emphasizes a holistic understanding of place, finding potential to contribute to larger systems, and finding a distinctive role for the project that evolves systems. In it, we call forth a collective vocation—which draws on a large range of project stakeholders beyond the project team.

In this regenerative approach, we integrate stakeholder “guilds” representing five “capitals”: human capital, natural capital, social capital, manufactured capital, and financial capital.

In identifying potential, regenerative design embraces the reasons why places resonate with us. Sustainability once gained respect largely by emphasizing the empirical, measurable, and objective. The early semantics of the green movement and the feelings (“cozy,” “protected”) that green places elicited in us were gradually discounted. But bringing back that language is important to regenerative development because it helps us understand places, show potential, and surface stakeholder interests.

If we can layer these words and feelings over objective planning, we can make a deeper project connection.

Regenerative development borrows from systems thinking. In systems thinking, you look at the causal effects of your proposed design on multiple systems. You consider the



interactions between systems and how to find efficiency and solve problems without causing issues elsewhere. In regenerative development, one can employ systems thinking but with the end goal of evolving the natural system.

As in systems thinking, we consider nodal points, those areas where systems come together and coexist. In regenerative design, we look to co-evolve these systems—this is often called mutualism. ☺

A beaver damming a part of a river system, resulting in a new ecosystem which supports multiple species is an example of mutualism. In our regenerative mindset, we look for ways to produce mutualism from our design outcomes.

Regenerative design is not a hands-off approach to nature. It's more about creating a self-sustaining system that has a positive effect on nature. Say, for example, we are designing for an office development project next to a riverbed that dried out years ago likely because of human intervention elsewhere.

When approaching rainwater mitigation for the development, we can take a regenerative approach. Rather than sending all the rainwater into a stormwater system, we could create a series of roof gardens in our design to filter all the rainwater. Then we can send clean water to the dried-up riverbed. In this way, we could use the existing natural system and infuse it with a new water source. We can use the rainwater on the

development to evolve a natural system, which has benefits for plant life and tree growth. Simultaneously we design our green roof garden to support nature's pollinators while mitigating the heat island effect.

If we can learn to apply regenerative thinking on all our design projects, we will see that these kinds of opportunities are not so rare. They're abundant. While I'm not yet an expert on regenerative design, I believe it's the way forward for the design industry. We can take a regenerative design approach on every project. And if we do,, gradually and intentionally, we will begin to reconnect human activity to natural systems. 🌱



**Park  
Boulevard**  
Chicago, IL

✓ [RETURN TO TABLE OF CONTENTS](#)

### **MORE SUSTAINABILITY AND BUILDING PERFORMANCE**

Working from Stantec's San Francisco office, **Porus Antia** is a regional carbon impact leader with a deep understanding of energy and thermal systems.



# DESIGN QUAR- TERLY



**SUBSCRIBE** STANTEC DESIGN QUARTERLY

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