EVOLVING THE BUILT ENVIRONMENT FOR HEALTH AND WELLBEING

Prioritizing people's needs at the start of every infrastructure project

Many factors influence the health and wellbeing of individuals and communities, including everyday infrastructure. In the following Q&A, Kevin Cassidy—Head of Healthcare, Property & Buildings for WSP in Canada—explores how the planning and design of the built environment can foster wellbeing, for people and the communities they depend upon.

How can future infrastructure make optimal impact on people's health and wellbeing?

Kevin Cassidy: People spend a good portion of their lives inside buildings, yet many interior environments do not create optimal conditions to support the wellbeing of the occupants. Studies have found that people are inside buildings over 80 percent of the time, and when including cars and public transport, the amount of time inside increases to over 90 percent.[1]

The prevalence of infrastructure in people's lives underscores the need to plan and design structures and systems for health and wellbeing. This means we, as planners and designers, need to evolve the built environment to fit people, rather than require people to fit into environments that may not be suited for them.

Such a shift requires greater insight into how various aspects of the built environment impact a person's health and wellbeing, both physical and mental. We have seen that natural light, convenient opportunities to use stairs instead of elevators, and systems that provide fresh, clean air support people's overall health and wellbeing. However, the potential impact of a capital project on an organization's most important asset—the people—is not always entered into the business case when assessing the value that a project can bring to ongoing operations.

When a design team is making decisions about building systems and construction assemblies, the factors that have typically been considered, or prioritized, are capital cost, lifecycle costs and energy efficiency. To truly understand the long-term impact of decisions on people, it is essential to factor in and prioritize at the start of any project the ongoing human cost and benefits to wellbeing in addition to evaluating the traditionally considered costs of energy and maintenance. This approach to infrastructure projects also supports sustainability from economic, environmental and social standpoints.

As health and wellness certification systems such as FitWel and WELL are increasingly adopted and wellbeing becomes primary in all design discussions, the process will improve and outcomes will better support health and wellbeing.

What broader changes will enable the planning and design process to foster health and wellbeing?

[1] Judith A. Leech et al, "It's about time: A comparison of Canadian and American time–activity patterns," Journal of Exposure Science & Environmental Epidemiology, November 4, 2002, nature.com; also, European Commission, Public health, Indoor Air quality

Kevin Cassidy: It comes down to making health and wellbeing a policy priority and a design priority. New Zealand has taken large steps in this area by introducing The Wellbeing Budget,[2] which puts public health and wellbeing at the forefront of their policy decisions. New Zealand is recognizing that a healthy population is necessary to develop a successful society.

For the overall system of the built environment to work for people, the design of each component—buildings, bridges, roads and other transport infrastructure, as well as public spaces—should be considered from personal and public health standpoints, and factor in impacts on the natural environment.

In addition to understanding how people will use the infrastructure, planners and designers need to routinely comprehend how the desired sum will be achieved through the "interaction" of the parts. When designing a building, how does it fit into the overall surrounding area? How will it relate to surrounding infrastructure and the open spaces that are part of the area?

Another area of consideration for both designers and business decision-makers is supply chain impacts—the supply chain for construction materials and the supply chain during operations. As an example, if a building's cafeteria offers healthy food, but that food is trucked in from 400 kilometers away or overseas, have we really shifted the needle from a societal perspective? Locally sourcing food reduces the carbon footprint of the supply chain overall, encourages investment in the local economy and provides employment opportunities. Taking a regionalized approach to supply chain management provides a positive impact, starting from the individual, the cafeteria patron, and flowing up the supply chain to the local distributors, suppliers and farmers. This approach strengthens community ecosystems, contributing to the health and wellbeing of not just the building users but also their neighbours. Again, these points and others should be part of a discussion around health and wellbeing that starts early in the design process, right at the outset of the project. Too often, this discussion has been tacked onto the project, long after the vision and budgets have been set; instead, design outcomes would benefit from starting with a project vision shaped by health and wellbeing and one that receives commitment from the whole project team.

It is also essential to consult with the people who will live with the projects. There is a very real risk of getting the design wrong if design decisions are not made with deep and broad human understanding of their lived experience. In a workshop WSP conducted at the European Healthcare Design conference last year, it was strongly recognized that community engagement was necessary during the design process to enable communities to become more resilient. Engagement with people in the community informs understanding of the unique local requirements and community needs that may otherwise be missed. Making efforts to gain this knowledge can be especially important for international projects where local cultural differences may not be fully understood by all those involved in carrying out the project. The human-centered approach to design counters this unintended design bias through inclusive engagement in the project's consultation process.

Can you expand upon the human-centred design approach and associated benefits?

Kevin Cassidy: Human-centred design focuses on the lived experience of people in communities and the needs of all the people who will use the

[2] The Wellbeing Budget, New Zealand, May 30, 2019

buildings and surrounding infrastructure. Applying human-centred design, and thinking of planning and designing for health and wellbeing as an investment in larger economic growth, will result in a win-win scenario for individuals, their communities and, more broadly, societies.

It's a simple equation—an overall design that is underpinned by a goal to improve health and wellbeing will support a healthier populace; healthier individuals then translate into a more robust and resilient workforce. This outcome provides a double economic benefit: the employer benefits from reduced cost due to less sick days and a more efficient workforce, and the health-care system benefits too; fewer demands leads to reduced operational strain and less financial impact on healthcare systems.

Human-centred design can also open opportunity to expand local economies. By creating communities that offer more-accessible destinations—work, retail and recreational—within walking and cycling distance of home, as well as shaping infrastructure that makes walking and cycling convenient, the chances of people choosing physically active modes of transportation are much greater. This is the basis of the 15-minute city, which seeks to meet people's needs within a short distance of their homes. As we plan and redesign urban landscapes, implementation of this concept can encourage people to be in the outdoors longer where they can also benefit from being among other people as well as within the natural environment.

The adage "a rising tide lifts all boats" applies here, with the overall impact being healthy individuals, who, in turn, create a healthier, more productive society.

What are examples of projects demonstrating human-centred design?

Kevin Cassidy: Looking at the concept from the highest possible level, Centre for the North in northern British Columbia provides a needed localized health service that also supports wellbeing through the design itself. This cancer-care center was constructed to address a disproportionally high cancer rate in the region. It would have been easy to say that those patients could access cancer care services in the southern part of the province, but this was not happening, and people's lives were being impacted. Once the decision was made to build here, enabling people to more easily access the care they need, a considered approach was taken to integrate as much natural, locally sourced material as possible in the building and provide a high-quality indoor atmosphere for patients and staff.

Queen Silvia Children's Hospital in Gothenburg, Sweden is another example. When designing this state-of-the-art children's hospital, there was extensive consultation with hospital staff, patients and parents. This resulted in design decisions that directly support patient care and staff wellbeing. Smaller wards and working groups help staff take care of their patients better; and parent rooms—where parents can cook meals, shower and rest while their children are in the hospital—help bring a sense of normalcy to the kids' lives as they are undergoing treatment.

While these are both healthcare-specific examples, the concept applies to any project type—buildings of all kinds and broader urban environments such as Ramona Gardens Natural Park in Los Angeles. WSP's research for this project shows that by creating green buffer zones between communities and transportation corridors, air quality for residents can be improved, thus supporting respiratory health. The common denominator in projects is the need to consult with the users of infrastructure and make decisions that directly enhance their health and wellbeing so that people can remain

healthy or recover more quickly when ill, staff are able to contribute more efficiently, and citizens can lift each other up in their communities.

The Wellbeing Budget of New Zealand, which you mentioned earlier, notes that a strong and sustainable natural environment contributes to wellbeing. Do you see urban infrastructure planning increasingly embracing nature-based solutions?

Kevin Cassidy: The adoption of more green space and providing healthier living options in the urban environment is on the rise. Certainly, this positive trend in urban infrastructure will help to advance health and wellbeing.

By creating access to green spaces and providing more opportunities to be active, designers can facilitate healthier personal decisions and thereby have a positive impact on health outcomes—an approach that can also help close the health gap between low-income and high-income communities. Doing this requires a shift in the mindset of designers and other project decisions-makers to provide urban infrastructure that contributes to preventive health measures. We know how to do it; we need to inform, collaborate and implement.

Author

Kevin Cassidy
Head of Healthcare,
Property & Buildings
Canada

Kevin.Cassidy@wsp.com

About WSP

WSP is one of the world's leading professional services consulting firms. We are dedicated to our local communities and propelled by international brainpower. We are technical experts and strategic advisors including engineers, technicians, scientists, architects, planners, surveyors and environmental specialists, as well as other design, program and construction management professionals. We design lasting solutions in the Transportation & Infrastructure, Property & Buildings, Environment, Power & Energy, Resources and Industry sectors, as well as offering strategic advisory services. Our talented people around the globe engineer projects that will help societies grow for lifetimes to come. wsp.com