

City & Culture

Empathy and engineering: answering Call to Action 92 through design

posted on September 29th, 2023 at 7:35 AM

By Eric Wilson and Mavis Underwood

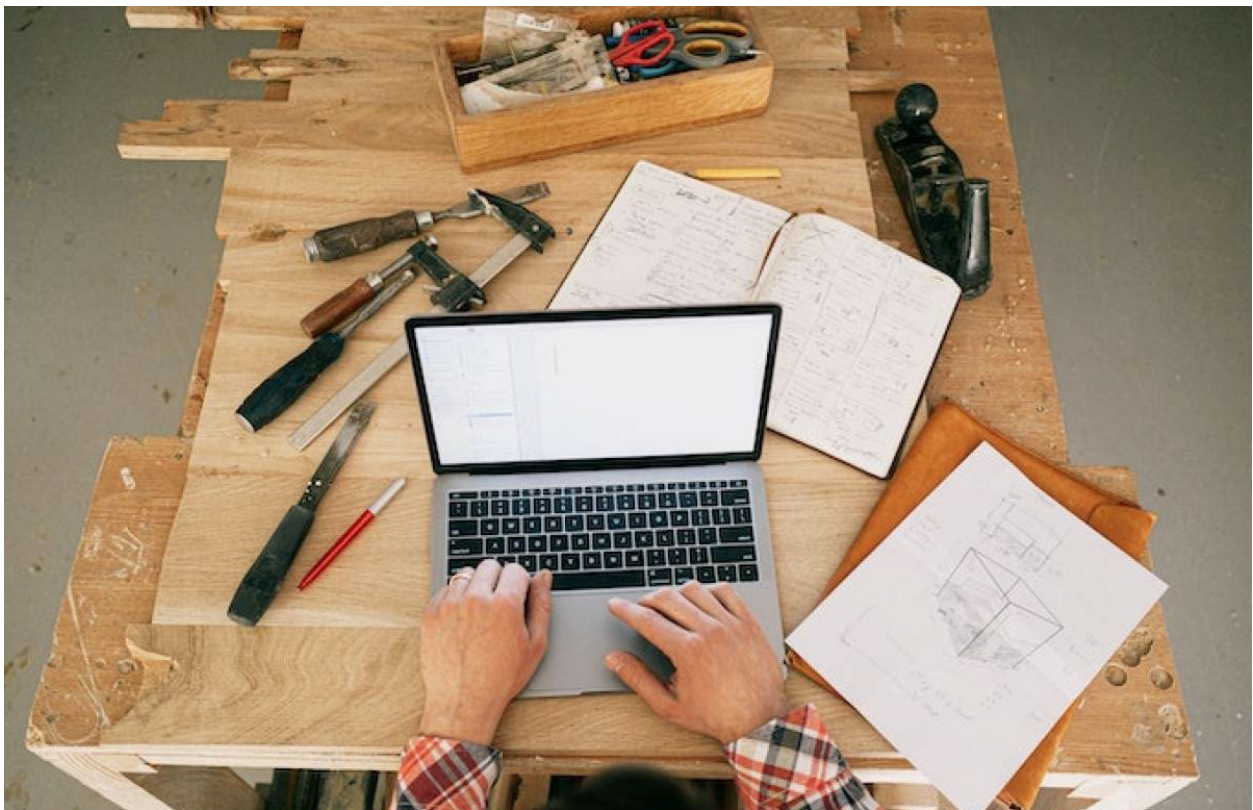


PHOTO BY IVAN SAMKOV VIA PEXELS.

Canada is in a housing crisis. It is a challenge relevant to many Canadians across the country but is of particular significance to Indigenous Nations, where decades of destructive government housing and land policy have aided in the creation of widespread poverty.

The research is clear: housing is a key contributor to one's health, wealth, and overall wellbeing. Inadequate housing reaches into every aspect of life, undermining the very foundations of health, education, employment, and social wellbeing in many Indigenous communities.

In 2009, the National Collaborating Centre for Aboriginal Health discussed health inequities and the social determinants of health. It was clear that there was a conundrum of affordability, social policy and practice, systemic racism, and landlord/owner privilege that often prevented Indigenous peoples from accessing appropriate housing—whether they lived within the limitations of on-reserve policy or off-reserve affordable supply.

In 2015, the Standing Senate Committee on Aboriginal Peoples reported that the housing crisis had worsened on reserves. The existing housing stock in many communities is in deplorable condition. While First Nations have started taking responsibility for housing construction in recent decades, there is often a lack of recognition of the need to employ trained individuals for on-reserve housing departments. Limited administrative support is typically available for a housing administrator, but there are often insufficient resources for planning, repairs, maintenance, renovations, or new builds. The housing supply is 15 to 20 years behind the demand, and many First Nation communities are currently facing the brunt of the crisis.

The British Columbia Assembly of First Nations estimated an on-reserve housing shortage of about 175,000 units, with many existing units requiring significant repairs or replacement. In 2021, statistics revealed that 37.4 per cent of First Nations people were living in dwellings in need of major repairs, compared to 5.7 per cent of the non-Indigenous population. Additionally, 21.4 per cent of First Nations people were living in crowded homes. Building inspections, material monitoring, and compliance with health and safety codes often face gaps in smaller First Nations communities. Many communities attempt to save costs by employing local individuals for construction, but the lack of proper credentials may lead to houses that fail to meet high health and safety standards.

The on-reserve housing crisis is a complex and multifaceted challenge. There remain multiple roadblocks on access to lands, establishing supportive lending programs for construction, and the ongoing struggle of Indigenous peoples to assert their self-determination.

For those who will be at the forefront of supporting First Nations in achieving their self-determined community plans, one small part of the effort to address this challenge is to implement number 92 of the Truth and Reconciliation Commission's 94 Calls To Action. For the engineers, architects, and construction professionals who may be involved in designing and building these communities, this can be achieved by taking a holistic, human-focused, and collaborative approach to design. An empathy-driven approach.

Engineers need to listen and try to put themselves in the shoes of the people who are living in these homes; this way, they can support the design of better neighborhoods and communities to meet the needs of those who will use them.

What is empathy-based engineering?

Empathy-based engineering focuses on the user's needs and takes a more people-centered approach to engineering design. It strives to understand and empathize with the preferences, experiences, and expectations of the user, ultimately building a product that meets the needs of today by taking into consideration the experiences of the past—while leaving a better world for future generations. Addressing the on-reserve housing crisis should look like cultural collaboration, fostering an environment primed for thoughtful design by consulting and working shoulder-to-shoulder with First Nations groups to understand what is important to them.

Empathy in housing design can also naturally drive solutions that are more sustainable long term. In this way, empathy is not only necessary to ensure good design, but is also an ethical responsibility—and one that is often forgotten in favour of developing homes quickly. It's a reasonable approach given the state of crisis.

Empathy in engineering may also mean conducting peer reviews of engineering plans for construction and infrastructure that did not take First Nations needs into consideration, but rather were often choreographed by what Indigenous Services Canada would fund with a narrow context of Indian Act housing policy. Often the plans have a limited future vision and do not accommodate the rapidly growing demographic of young Indigenous peoples pressuring for social opportunities and improvements in those determinants of health, economy, education, employment, and housing.

Where do we start?

Implementing an empathic approach to design with Indigenous Nations starts by understanding one's own biases and worldviews—understanding how your way of viewing the world has been shaped by your experiences. It means taking the time to understand the historical context of Canada's relationship with Indigenous peoples and how that history has shaped (and continues to shape) the present. It means taking time to develop strong relationships based on trust and friendship. It means considering how the project fits into the big picture—seeing the interconnections between infrastructure, culture, community, and environment. And it means taking a Nation-directed approach: believing that the people who face these housing challenges every day are the ones who hold the keys to developing good solutions.

Empathy should not be overlooked in engineering solutions. Engineers must recognize that we are designing housing solutions for people, and there is a need to consider their emotions, needs, and expectations. Homes are the nexus of environmental and community health and wellbeing.

Eric Wilson is director of innovation and IPCA infrastructure, as well as liaison for Indigenous projects, at RJC Engineers. Mavis Underwood is a member of the

WSÁNEĆ Nation. She has worked with the BC Government as Director of Aboriginal Child and Family Services, as well as with the Tsawout First Nation.