FUTURE CITIES
CANADA

COMMUNITY
Solutions Network

APPLYING A DECOLONIZED APPROACH AS THE FOUNDATION TO CREATING ACCESSIBLE SMART CITY DESIGN

communitysolutionsnetwork.ca

PREFACE

ABOUT THE COMMUNITY SOLUTIONS NETWORK

The Community Solutions Network ("the Network") is designed to help communities build service area capacity and improve the lives of residents using data, and connected technology approaches. As the project lead, Evergreen works with lead technical partner Open North and other specialized partners to help communities navigate the smart cities landscape. Our focus includes open data and data sharing, data governance, procurement, and participatory collaboration.

In the move towards decolonizing practices in community development, Evergreen Canada and The Community Solutions Network are committed to conducting their work through a process that values Indigenous knowledge and perspectives. Through the *Civic-Indigenous Placekeeping and Partnership Building Toolkit* (Chung-Tiam-Fook, 2022), community leaders, practitioners, staff from municipalities, civic and cultural organizations working in the spaces of city building and reconciliation, and those who want to strengthen their relationships with Indigenous partners, are provided with tools to work in urban placekeeping and civic-Indigenous engagement. These tools focus primarily on valuing indigeneity perspectives in planning infrastructure and public spaces while conducting a community-centric approach.

The connection and support of indigenous communities are rooted in the foundations of the 2019 Smart Cities Challenge. For example, in 2019, the Nunavut Association of Municipalities was one of the Future Cities Canada Smart Cities Challenge winners. Their project, Katinnganiq, is a virtual space of resources geared to helping Inuit youth across Nunavut in mental health, education, and cultural engagement (Government of Canada, 2022). Though entirely virtual, the program was fostered using a system of planning and implementation that prioritizes Inuit values. As of 2022, this project continues to provide opportunities for Inuit youth across Nunavut to find spaces for creative outlets and discuss their mental health through their cultural framework.

Building connections with Indigenous communities has steadily grown with the development of the program. As of this publication, the Network has engaged 46 Indigenous knowledge partners in producing our program content, with energy infrastructure being a primary focus of development. Among these are a series of toolkits in which we interact with community stakeholders to offer insight for municipalities seeking to identify their engagement strategies with Indigenous partners. Some focus areas include the *data sovereignty* of Indigenous communities, an Indigenous *civic design charter*, and a reflection on *7 ways to Indigenize the city/urban environments*

Furthermore, the Network utilizes the *Community Solutions Portal* to distribute public knowledge to bring forth Indigenous voices on various topics that interest their communities (Evergreen, 2022). Our 2021 event on *connecting missing pieces in broadband equity* gave remote communities and multiple Indigenous knowledge partners a platform to discuss their needs and provide perspectives toward formulating solutions to bring broadband to their communities (Evergreen, 2021). These contributions of providing a voice to the governance of infrastructure are also highlighted through contributions of some of our Indigenous partners in the Future Fix podcasts about developing smart farms in northern communities and posing a discussion on who governs the smart city and what changes should be made (Spacing & Evergreen, 2021; Spacing & Evergreen, 2019).

Through continued efforts to collaborate with Indigenous communities on the subject of smart cities, we aim to utilize our platform to showcase to key stakeholders across Canada that by utilizing a values system of a 'two-eyed seeing approach,' we could not only offer a space for Indigenous communities to tell their stories as well as giving communities the tools that they need to formulate their own community-centric strategies that highlight Indigenous values towards planning cities of the 21st century. This Brief was written to acknowledge a broader definition of what we understand as Smart Cities and the need to incorporate Indigenous and non-western views into the design of our cities. It is an invitation for the reader to begin a conversation within your communities on how "other" visions of urban planning are needed to create accessible, inclusive and sustainable cities for all. From the Network, we aim to support the processes of truth and reconciliation in smart city planning where diverse visions coexist in harmony.

ABOUT THE AUTHORS

Laura McPhie:

I am a proud two-spirit member of the Algonquins of Pikwakanagan First Nation and mixed colonial ancestry. My childhood started in Calgary, Alberta, before moving to Guelph, Ontario. Throughout my life, I have walked many careers, but my focus has always been how we tell stories in a way that can make people's lives and inclusion in spaces better. My lived experience as an acute and intergenerational trauma survivor and as neurodivergent means that I experience spaces, events, and knowledge in ways that are often hard to articulate. Storytelling and weaving the theoretical into practical application is always a goal in my work. I hold a Masters in Museum Studies with a collaborative in Sexual Diversity Studies from the University of Toronto and a Masters in Business Administration that focused on how we tell stories in the business of sport.

Alicia Denoon:

I was born and raised in Guelph, Ontario, Canada, within a relatively small and supportive family. My family is strong and resilient; this foundation was built and subsequently challenged by my childhood cancer, my brother's Juvenile Diabetes, and Addison's disease a few years later, and all the complications that come with it. To overcome these challenges, we sought to build strong communities in both competitive swimming with the Guelph Marlins and attending Camp Trillium, a pediatric oncology support center. Childhood cancer has come with challenges in education and everyday life. These challenges give me a unique lived experience in the world as a person with disabilities. This has driven my passion for supporting the disabled community in their pursuit of equality and widespread awareness of their diversity and showcasing the benefits these people can provide to a greater society. In the present day, I have earned a Bachelor of Commerce Degree from the University of Guelph, specializing in Human Resources and Sport and Event Management. I am pursuing a Master of Science in Management from the Gordon S. Lang School of Business and Economics at the University of Guelph, with research focusing on the challenges faced by persons with disabilities in the workplace. I view myself as multifaceted, my hobbies are where my creativity and artistic side emerge, and my competitive sport and passion for aquatic safety are part of my identity, my humanitarian pursuits, and the academic part of myself.

Ismail Alimovski:

I was born and raised in Mississauga, a municipality that sits on the Treaty and Traditional Territory of the Mississauga's of the Credit First Nation, The Haudenosaunee Confederacy, the Huron-Wendat and Wyandot Nations. My family settled in the region after escaping the conflicts that the Balkans experienced during the 1990s, and I am proud to call this land home. My fascination for public spaces and placemaking stems back to my early childhood curiosity, as you would often find me creating crayon sketches of my ideal schoolyard and town instead of actually playing in the spaces. This interest grew into a career in planning and community development as I went on to pursue a Master of Planning at Toronto Metropolitan University and began to work with various communities on how to foster more inclusive and equitable spaces.

APPLYING A DECOLONIZED APPROACH AS THE FOUNDATION TO CREATING ACCESSIBLE SMART CITY DESIGN

By Laura McPhie, Alicia Denoon & Ismail Alimovski

" Decolonization is as much a process as a goal. It requires a profound recentering on Indigenous worldviews. Decolonization is a dramatic reimagining of relationships with land, people and the state. Much of this requires study. It requires conversation. It is a practice; it is an unlearning" (Syed Hussan).

EXECUTIVE SUMMARY

This brief explores how colonization shows up in design processes and how using decolonized approaches can create space for meaningful Indigenous inclusion and move toward a more equitable approach that benefits the meaningful inclusion of all groups. Throughout the brief, we explore the definitions of colonization and decolonization to encourage readers to think about how colonization currently shows up in their processes. Later in the brief, we explore two specific examples of decolonized and Indigenized approaches and how they can be used in the design process to impact communities. Acknowledging that 'one-size fits all' will not work for all cities across Canada, we hope that readers will use this brief to consider their approaches to designing processes and how a shift in mind frames to notice colonial practices and intentionally engage in decolonized approaches can change systems. The brief intends to offer a starting point and attempts to challenge and empower individuals to expand beyond this brief's examples to consider their decolonial journey.

As you read, we encourage you to consider the following:

- What decision-making systems - policies, processes, projects, spaces - do you have control over designing?
- Historically, how has colonization shown up in these systems?
- How can you, within your work, disrupt these systems through simple and complex changes in approach?

We start with these questions in city design because of the entrenched colonialism that shows up in the process of designing cities, which is amplified in Smart Cities due to the use of technology.

Worldwide, Smart Cities have been envisioned as:

A smart city is where traditional networks and services are made more efficient with the use of digital solutions for the benefit of its inhabitants and business.

A smart city goes beyond the use of digital technologies for better resource use and fewer emissions. It means smarter urban transport networks, upgraded water supply and waste disposal facilities and more efficient ways to light and heat buildings. It also means a more interactive and responsive city administration, safer public spaces and meeting the needs of an aging population" (European Commission, 2022).

It is essential to acknowledge that technology, and what is seen as acceptable technology, is part of the colonial process. Shelley Angelie Saggar (2022) notes that "at the simplest level, 'technology' essentially means a 'skilled process.' However, Eurocentric bias has meant that the term is overwhelmingly associated with Western narratives of continuing progress. If we can think about industrial processes such as carbon capture as environmental technologies, surely our thinking can extend to conceiving of Indigenous mechanisms, processes, and skills, too."

The Community Solutions Network has challenged the idea that a decolonial approach to design can create a more equitable city. In the Network, it is understood that the concept of smart cities should not only include Indigenous and non-Western technologies as part of the solution to more equitable cities. It is also clear that the concepts of decolonization and Indigenization are an essential part of how communities are engaged and even how the planning process is designed when creating the goals of built spaces. Importantly this brief does not offer all the solutions. Instead, it will challenge planners to think differently and give examples of how decolonized approaches can be applied to create equitable spaces using accessibility and people with disabilities as a study focus.

“Undoubtedly, undoing colonialism is fundamental to the decolonisation project. There is a need to revisit, reimagine and redefine spaces where indigenous and non-indigenous people experienced colonialism, neo-colonialism, imperialism, and underdevelopment,” (Ndlovu-Gatsheni, 2013)

INTRODUCTION

Cities are growing, and Canada’s populations are changing. As they grow and change, how can we design for the changing demographics? Whose voices do we prioritize? What approaches should we take? According to O’Donnell et al. (2016), “a public space refers to an area or place that is open and accessible to all peoples, regardless of gender, race, ethnicity, age or socio-economic level. These spaces can be squares, plazas, parks, beaches, sidewalks, and streets – where people connect to enjoy the city and each other.” This paper suggests that the first step to creating open and accessible spaces for all peoples is to consider how colonization shows up in city design and how a decolonized approach creates space for more accessible processes and smarter city designs for all.

Nevertheless, why start here? There is growing awareness not only that “we are planning, designing and building on unceded lands in urban environments, lands that rightfully belong to the many Indigenous Nations across the country” (Jawanda, 2022) but that “many urban planners and architects are eager to have their plans of design laid out on the grids of the land, but without any or little attention to ‘land justice’ and ‘land rights’ thereby ignoring the co-existence of Indigenous peoples”. Put simply; we continue to plan and build in Eurocentric ways that exclude certain types of people. European colonization is a process that centered on the experiences of able-bodied, European, Christian, male, landowners. Because of where Colonization was centered, cities were created to reflect their history, create ease for their type of movement, and prioritize their comfort. This shows up in what statues we put in parks, the way sidewalks are designed, where we put benches and public washrooms, and even what type of plants we put in gardens. To design smarter cities, we need to consider who has been left out of consideration and how we bring them into the design process in a respectful way.

There is an urge to change that direction, to consider the diversity of a city and the many ways people live, work, and play throughout it. When determining where to start in meaningful consultation, collaboration, and inclusion, it is often difficult to figure out whom to center and how. Each community has different needs and opinions, but this paper presents how concepts held within decolonization principles can be a foundational guide to the method of engagement to create more accessible and smarter cities.

Harsha Walia (2012) explains that “A growing number of social movements are recognizing that Indigenous self-determination must become the foundation for all our broader social justice mobilizing” and “rather than being treated as a single issue within a laundry list of demands, Indigenous self-determination is increasingly understood as intertwined with struggles against racism, poverty, police violence, war and occupation, violence against women and environmental justice.” This approach does not merge Indigenous rights with other equity processes. Rather, it centers on processes that recognize Indigenous unique rights and needs as a framework for making positive change for all.

By focusing on decolonization values as a common approach to communities, we attempt to leave behind much of the ingrained power dynamics, or colonialism, present in historically used city design approaches. It also removes some of the barriers described by Walia (2012). They explain that "I am waiting to be told exactly what to do" should not be an excuse for inaction, and seeking guidance must be weighed against the possibility of further burdening Indigenous people with questions. A willingness to decentre oneself and to learn and act from a place of responsibility rather than guilt help determine the line between being too interventionist and being paralyzed" (Walia, 2012). Throughout this brief, we suggest an approach that can be a starting point when we take responsibility for being inclusive of the diverse ways people use cities. That starting point involves first noticing how colonialism shows up in how we control power, whose knowledge is prioritized, and how people are allowed to exist within spaces. After noticing how colonialism shows up, we can intentionally create decolonial processes that impact everyone.

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KEY CONCEPTS

▸ COLONIZATION

To understand Decolonization, we need to understand what colonization is and how it shows up in processes and design. Dr. Derek Kornelsen (2018) describes colonization as "...one group taking control of the lands, resources, languages, cultures, and relationships of another group. In Canada and the US, where human habitation on these lands began with Indigenous peoples and continued with European migrants who arrived with the intent to claim the lands as their own, colonial usually means Eurocentric". Colonization is a process, one that is still happening. In it, "Western European-derived ways of being, believing, knowing, and doing are implicitly or explicitly presented as the standard or norm" (Kornelsen, 2018) and any knowledge, being, or doing outside of that is considered less, wrong, bad, or primitive.

In design, this is important because "Colonization's legacy is about power: who has it, and who is denied it? Power has to do with material existence and lived experience: access to and use of resources (money, housing, transportation, energy, healthy food, clean water), knowledge, influence, self-determination, and economic potential and clout," (NCTE Standing Committee on Global Citizenship, 2019). This legacy of power has impacted how we approach designing every space in a city - and specifically who is involved in the design process and whom we are designing for. We can use public spaces within cities as examples of how we design cities to reflect our values.

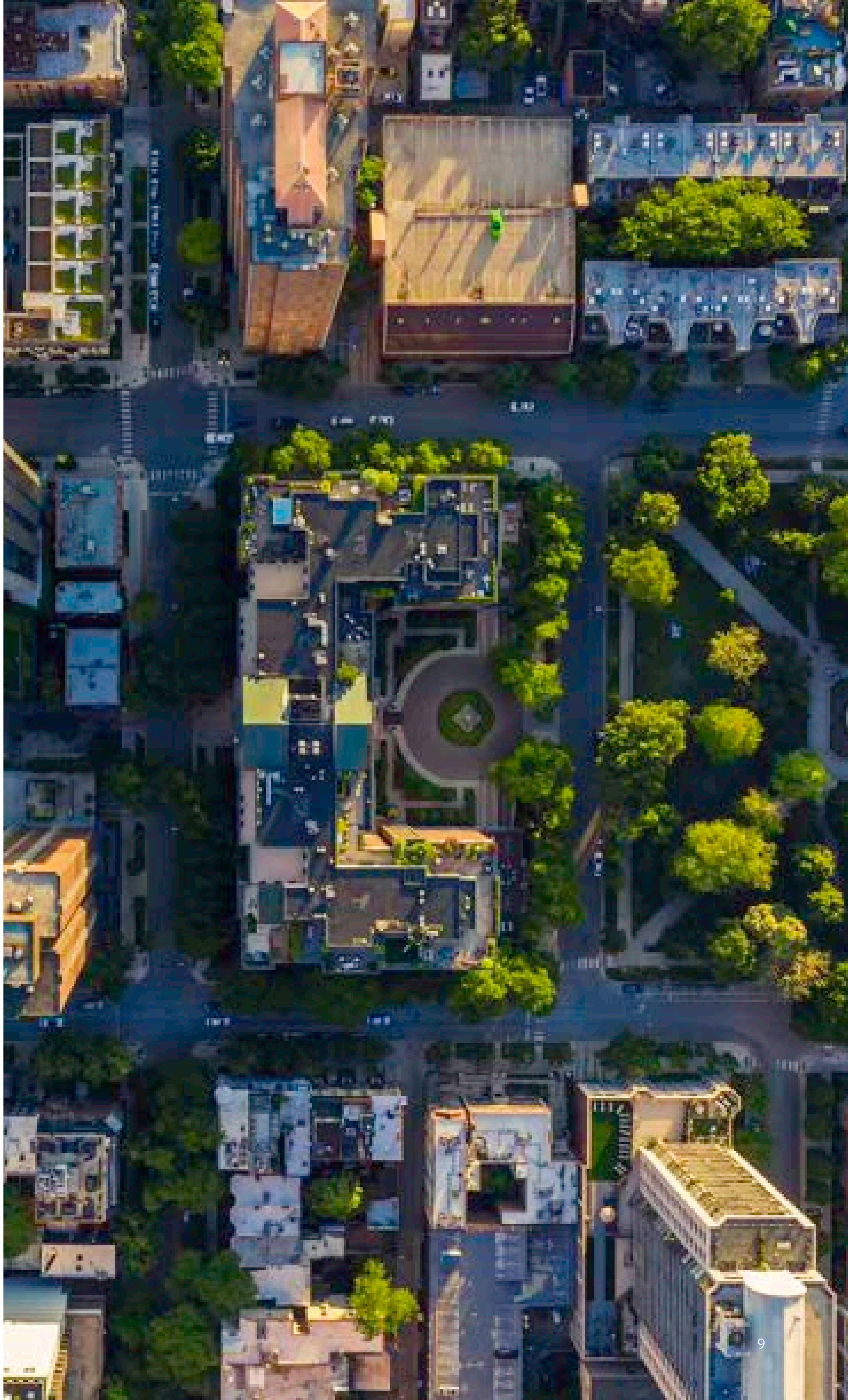
How Colonization Shows Up in Public Spaces

It is important to understand that urban planning in the Canadian context has generally followed the British system of town planning which focuses on physical plans, development regulations, and centralized approaches to the land. Urban design tends to focus on the creation of city features including public spaces, infrastructure, architecture, transport, landscapes, and community facilities which eventually lead to the shaping of a city's identity. Within these build spaces, cities show the values that they hold important, which are frequently grounded in colonial practices.

Below are examples on how colonization has impacted archetypal urban public spaces in Canada:

The concept of public space is rooted heavily in eurocentric ideologies of land use.
The methods in which we survey and evaluate land largely focus on determining uses for resource extraction and best uses rather than community benefit (Dang, 2021). Furthermore, western forms of planning and design tend to be systematic and not reminiscent of the dynamic needs of a community; particularly in designing architecture in northern communities (Semple, 2020). When evaluating how we plan community spaces, it is imperative to keep in mind who has power over land and how we can shift power in methods that promote equity and justice (Barry & Thompson, 2020).

Many public spaces contain structures that monumentalize figures who perpetuated colonization across Canada. At the turn of the decade, attention began to focus on how we can bring justice to black and indigenous communities and begin the change of dismantling systems of oppression that were established during the colonization of North America. In the context of public spaces, various monuments to colonial historical figures were removed from public spaces as they stood today as harsh reminders of the effects of colonialism that can still be felt today in many communities. For many of those who are BIPOC, these monuments continue to serve as a reminder of oppression in their communities, and the monumentalizing of colonialism in public spaces may lead to a feeling of unease and not being welcome in such spaces (especially when utilizing the spaces to gather opposing this history) (Stanley, 2020).2020). Examples of how to start shifting Colonial approaches to designing Public Spaces were the removal of the statue of *Egerton Ryerson* (a key figure in the development of the Residential School system) and the renaming of the university founded in his name. Though decolonizing institutional systems cannot be done through removing monuments to colonization alone, "...the tearing down of monuments is no simple act, but profound decolonial manifestations that strike at the heart of the epistemic legacies of colonialism's false, biased, racist, and misogynist histories and practices that continue to echo today," (Abraham, 2021).



DECOLONIZATION

Decolonization has many definitions. However, in a simple sense it is "taking away the colonial" (Queens University, 2022). It is a process that:

- De-centers "colonial ideologies of the superiority and privilege of Western thought and approaches" (Cull et al., 2018).
- At the same time, it "is about bringing in Indigenous perspectives and learning from them so that our institutions do not continue to marginalize and do damage to Indigenous communities," (Kornelsen, 2018).

In doing so, decolonization focuses on the following:

Balancing unbalanced power dynamics, particularly ones that privilege a particular way of being

Invest in long-term sustainable and reciprocal relationship building

Design for multiple and alternative ways of existing and using a space

Two-Eyed Seeing: Indigenizing approaches, relationships, and physical spaces

As municipalities take the journey toward reconciliation, the question of how to approach it can be challenging within a system built on colonization and enforcing western ideologies. Moreover, every community has dynamic needs that do not fit a standardized formula for which western colonial-based practices account for. Thus, as we implement smart technologies in our community spaces, municipalities can benefit from a 'two-eyed seeing approach' in which western and Indigenous approaches to citizen-oriented technological development (Bhawra, 2022; Marshall et al., 2015).

Though the fundamentals of data/tech are rooted in capitalistic means, it can be the role of government bodies and stakeholders in smart city programs to facilitate the conversation between Indigenous communities, municipalities, and tech providers to ensure that the technological advancement of our communities is conducted heavily in principles of Indigenous values.

When embraced early in a project design process, decolonization principles can disrupt how colonialism shows up and creates space for more equitable cities for all. The below explores a United Nations framework for decolonized work with Indigenous Peoples (United Nations, 2016) and an Indigenous philosophy of design in relation to accessible design for peoples with disabilities. The goal is to explore how applying decolonial principles broadly, rather than exclusively in Indigenous relations, is a foundational process to design best practices for creating inclusive cities.

People disagree about what the end goal of decolonization and Indigenization is or should be. We suggest readers consider two elements rather than the end goal. First, it is important to think about the reasons you are decolonizing: who are you doing it for, and why are you doing it? This helps avoid issues of tokenism and recolonization .Second, remember that decolonization is a process, not a product. Instead of wondering where the finish line is, take a step along the journey and see where it leads you" (Queens University, 2020).

WHERE TO START

In this section, we offer two frameworks to encourage alternative project approaches. The examples show how using a decolonized framework for land and community consultation and an Indigenized approach to universal design can impact power dynamics, resource allocation, and the use and purpose of community space. It is important to note here that this is not about appropriating Indigenous teachings or removing Indigenous people from the land use focus. Instead, it is intended to do two things:

- Acknowledge Indigenous Nations' unique rights within Canada, while noting that the processes developed around engaging Indigenous Nations can be used as tools to engage with other communities that colonial processes have impacted.
- Create space for two-eyed seeing that challenges our Western approaches and honors Indigenous knowledge and methodologies in every process that impacts community development.

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[1] Tokenism: "the [act] of doing something only in order to do what the law requires or to satisfy a particular group of people, but not in a way that is really sincere

[2] Recolonization: "to colonize (a previously colonized region or habitat) again." - Merriam-Webster Dictionary. (2022). Merriam-Webster, Inc.

"Decolonizing community engagement at a relational level, I think is all about coming in with that perspective of humility and respect. Humility about our knowledge base, where we're coming at the problem from, recognizing that" (Kornelsen, 2018).

The first step to decolonizing the design process is acknowledging the need for a different approach to community engagement. Kornelsen (2018) points out, *"We need to take into account the rights-based aspect of community engagement. It is not just a humanitarian idea, it is not just charitable, and it is not simply engaging so that we can get more interesting data. I mean, the point is — if you look at the UN declaration on the rights of Indigenous peoples, look at the Truth and Reconciliation Calls to Action, and even Aboriginal and Treaty Rights in Canada's Constitution — these are fundamental rights that Indigenous people have to control — to take charge of and control the way we do work with them." This shows up in how we work with communities, "our institutions are not very good at relinquishing control of the process, or relinquishing control of the money, even. So, this is sort of the dry policy bit, where we are working on ways to transfer research money to communities, where the leadership can sit with the community, and the ability to decide how money is spent can sit with the community, and I think that is important for community engagement,"* (Kornelsen, 2018). When doing so, we seek to empower communities to help guide what they need in their spaces, shifting the current balance of power.

Free, Prior, and Informed Consent (FPIC) is a specific right defined by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) that defines the right for Indigenous peoples to be involved in decision-making that may affect them or their territory (United Nations, 2016).

Colonialism in decision-making shows up as one group assuming they can make the best decisions on behalf of all people, referred to as the Coloniality of Knowledge. If we consider both Indigenous and people living with disability and creating accessible spaces as examples, we know that this approach fails and increases a level of distrust within communities. In the below accessibility focus, the research shows that people who experience disabilities rarely trust built spaces or are consulted about their needs in spaces.

Accessibility Focus Study:

"Accessibility refers to the design of products, devices, services, or environments for people who experience disabilities,'' (Accessibility Services Canada, 2022). Within the Ontario Human Rights Commission, the term accessibility is synonymous with the disabled community (Ontario Human Rights Commission, 2022). An important note is that when discussing accessibility, it's prudent to take an alternative perspective, meaning putting the onus on the environment rather than the individual regarding accessibility. To put it similarly, accommodations are needed to make the environment more accessible; not accommodations are needed for a specific individual to interact within the environment. "A disability may be the result of combinations of impairments and environmental barriers, such as attitudinal barriers, inaccessible information, an inaccessible built environment or other barriers that affect people's full participation in society" (Ontario Human Rights Commission, 2022).

Despite the legal requirements for public spaces to be accessible to persons with disabilities, the number of disability-related complaints submitted to The Canadian Human Rights Commission suggests that such accommodations are ineffective and that there is an existing equity concern for persons with disabilities (Oud, 2018). The discrepancy also exists concerning the perception and trust in the accessibility of environments. Persons that do not require or depend upon the effectiveness of the accessibility of spaces assume high levels of trust. In contrast, persons with disabilities show low levels of trust in the process specifically made to benefit them (Oud, 2018). This phenomenon is cyclical in designing products, services, and spaces as, in most circumstances, the decision-makers do not have the perspective of a person having accessibility requirements, leading to designs that lack the practical application understanding. Oud (2018) suggests that able-bodied persons tend to minimize, dismiss, and deny the lived reality of people with disabilities, their experiences, and their daily challenges with diversity. Fine and Asch (1988) claim that many of the issues, inequalities, and difficulties faced by persons with disabilities are not a direct consequence of their disability, but rather more significant issues of physical and social barriers put in their way by external factors. External factors such as negative attitudes and perspectives held by decision-makers and the general public are formulated from inaccurate and harmful stereotypes, societal culture, and climate (Vornholt et al., 2018).

In a decolonized approach, is it possible to expand the principles of free, prior, and informed consent to be applied beyond Indigenous Nations to other communities as a practice of power-sharing and co-design? This is not to erase the unique rights that Indigenous people have to consult over land use, but rather to draw learnings from how FPIC can inform land development in a way that considers multiple voices.

FREE	Communities involved are free from coercion, threats, retaliation, and 'divide and conquer
PRIOR	When the project is in its conceptualization stage, people of diverse backgrounds are brought in, with a particular focus on Indigenous Nations
INFORMED	Communities involved are free from coercion, threats, retaliation, and 'divide and conquer
CONSENT	Communities have true power in the consultation with the ability to say 'yes' and 'no.'

By using this framework, processes are designed to trust that people understand the nuance of multiple conflicting agendas in a project and that they can think beyond their needs to be inclusive of a broader community. It also intentionally lets go of the concept of 'we know best' and considers instead that 'we do not know.' In doing so, power dynamics are drastically disrupted and can create space for radically different built spaces.

CASE STUDY

A growing awareness and wise practices is being developed around consultation when developing land. For instance, Collingwood recently embarked on a consultation and co-design process with an Indigenous Elder and an Indigenous Design company, some of the outcomes are presented below.

▶ CASE STUDY: 1

AWEN' GATHERING PLACE IN COLLINGWOOD, ON

The Awen' Gathering Place is a space along the Collingwood waterfront to recognize the First Nations' presence in South Georgian Bay and to create opportunities for the engagement of Indigenous and non-Indigenous peoples while fostering reconciliation through education and conversation.

Many people and industries were involved in the design process, including an Indigenous Elder, and an Indigenous design team was engaged as a co-design method. Involvement included: "Lafontaine Iron Werks, of Tiny, Ontario, joined forces with Nicola Logworks of Merritt, B.C., to produce the vision inspired by Dr. Redbird and colleagues. Locally, Envision Tatham provided site planning, design, and engineering services to ensure that the structure had the foundation and support needed. Local electrical contract, Spears Electric, ensured that the structure had the power needed to provide light and utility and make the Gathering Circle a very visible component of the town's waterfront skyline. Eco Blue Systems took on the challenging work of reclaiming the lands from their former use and developing a basis for trails, landforms, and the Gathering Circle structure, which will make Collingwood proud.

The project caught the imagination of District 6 of the United Steelworkers Union (USWD6), who generously volunteered resources and labor to complete the landscaping during their bi-annual convention at Blue Mountain Resort. With a long-standing and acknowledged connection to union members of Indigenous origin, the Steelworkers were moved by the idea of being responsible for 'building a bridge' to Reconciliation. More than 450 USWD6 members joined the build-day on September 6, 2018, to lay sod, assist with land forming and clean litter from the shoreline environment of Georgian Bay in Collingwood. USW representatives have acknowledged that this project was one of the most significant and most meaningful community outreach projects they have accomplished in their conference history" (Collingwood, 2022). The space is now open for free use for all the community, inclusive of ceremonies, celebrations, and gatherings. While this case study embraced the idea of co-design, an interesting space to explore would be the process and how power was shared throughout it.

Amplifying Best Practices: Planning for Seven Generations

"If decolonization is the removal or undoing of colonial elements, then Indigenization could be seen as the addition or redoing of Indigenous elements. Indigenization moves beyond tokenistic gestures of recognition or inclusion to meaningfully change practices and structures. Power, dominance, and control are rebalanced and returned to Indigenous peoples, and Indigenous ways of knowing and doing are perceived, presented, and practiced as equal to Western ways of knowing and doing...For non-Indigenous people, there can be a fine line between Indigenization and cultural appropriation. It is important to seek appropriate guidance while recognizing that guidance can come from many sources" (Queens University, 2020).

An essential part of decolonizing is embracing Indigenous ways of understanding the world. As noted, this is not about appropriating Indigenous sacred teachings; instead, we draw from teachings to deepen our approaches and respect non-Western ways of understanding land.

The Seven Generations Principle is a Haudenosaunee concept that references the need to design and plan for the seventh generation after you. It considers the sustainability of the space while also understanding that between you and the seventh generation, there will be multiple ways of needing and using spaces and resources (Haley, 2021).

Those seven generations are inclusive of humans but also of the creatures that crawl, fly and move through space as well. We can apply the Seven Generation Principle when designing by seeing it as an important part of shifting from Usable Design to Universal Design.

Accessibility Focus Study:

A design team needs to consider not just how persons with disabilities can interact with the product, service, or environment. However, also careful consideration should be taken regarding affordability, centrality, and transportation. So, what are the words for accessibility for everyone, for all people? This then starts the conversation regarding the differences and applications of usable design, accessible design, and universal design and the inclusion of these terms in recent years (Disabilities, Opportunities, Internetworking, and Technology [DOIT], 2022). These terms are all approaches to design that can result in products that look at inclusivity holistically, including persons with disabilities and other minority groups.

Simply put, the goal of creating a product, service, or public space is for people to use it in some fashion. These terms, rather than concepts of design, apply to the built environment, customer services, and other products and environments, including information technologies such as hardware, software, multimedia, distance learning courses, websites, curriculum, and instruction (DOIT, 2022). Products, services, and/or environments designed to begin easy and efficient use are referred to as usable designs (DOIT, 2022). The International Organization for Standardization (2022) defines Usability as the "effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment." Within this design, categorization tests are performed on the products to ensure usability; unfortunately, these tests do not often include minority groups such as persons with disabilities or Indigenous people (DOIT, 2022). Therefore, calling into question their overall inclusiveness and general usability is given that the usability stamp of approval might not be usable for all.

Moving on to the concept of accessible design, this process takes specific and special consideration of the specific needs and possible challenges faced by people with disabilities (DOIT, 2022). Within the design context, accessibility refers to the characteristic of products, services, and facilities that people with various disabilities can use independently without assistance or accommodation intervention (DOIT, 2022).

Universal design is a broader concept defined as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (The Center for Universal Design, 2008). Examples of universal design products include sidewalks with curb cuts and doors that automatically open when a person moves nearby (DIOT, 2022). Interestingly, products and adaptations that look as though they were meant for and benefit persons with disabilities benefit society overall. Take the automatic door, for example; if someone is walking into a building with their hands full, having a door that automatically opens would be beneficial and helpful in this situation and therefore make it easy to enter the building (DIOT, 2022). This product benefits people with disabilities, parents with baby strollers, delivery workers, a person with two coffees in their hands, and others. The universal design considers human characteristics such as age, gender, stature, race and ethnicity, culture, native language, and learning preference (DIOT, 2022).

Many Indigenous teachings, like the concept of the Seven Generations' principles, include humans and non-humans as part of the important relationships we need to consider when designing. Walia emphasizes the need for a Relationship Framework that understands human interconnectedness and "understanding the world through a Relationship Framework ... we do not see ourselves, our communities, or our species as inherently superior to any other, but rather see our roles and responsibilities to each other as inherent to enjoying our life experiences," (Walia, 2013). A decolonized approach pushes Universal Design, which can be seen as a gold standard for designing inclusive products for all humans (DIOT, 2022), to consider beyond the human and beyond the present moment in time. By grounding Universal Design in the principle of Seven Generations, a design team broadens the approach to considering the current and future use of space for the human and non-human community. By doing so, designers embrace the concepts of accessible design and universal design, which are both concerned with addressing the needs of users beyond those considered to be 'average' or 'typical' (DIOT, 2022) and into a transformative design process. When doing this, design teams should ask themselves:

- Beyond humans, what uses this space, how, and for what?
    - How can humans support that use?
- What are the demographic trends in this area? Is it aging? New families, that will grow up here? Students?
- How can this space reflect its history, its present, and its future in visual representation?
    - Inclusive of honoring Indigenous stewardship of the land
- How do we include diverse community voices in the testing of the space?
- Considering the lifespan of technology, how do we plan for rapidly evolving technological advances?

CASE STUDIES

In each of the below, the design has been approached in a manner that centers on accessibility and universal design. By doing so, they included multiple ways to participate in the intentions of the space. As you explore each, consider how if the Seven Generations principle was used, it could have further impacted the space.

ROBSON SQUARE BY CORNELIA OBERLANDER, VANCOUVER

"A sunken 'linear urban park' built in a prime locality of Vancouver surrounded by civic buildings; the Robson square is a one-of-a-kind urban space that leaves no user feeling left out. The space is easy and flexible to access by differently abled pedestrians, and the staircases connecting its various levels have been brilliantly integrated with ramps. The use of waterfalls cools down the concrete environment and gives it a softer look and feel" (Shah, 2022).

REGENT PARK AQUATIC CENTRE BY MACLENNAN JAUNKALNS MILLER ARCHITECTS, TORONTO

"Regent Park was once infamous for being home to low-income groups in the majority. However, after the establishment of the Aquatic Centre, the inherent value of the locality increased, and it is now one of the city's most loved community centers. Boasting an area of twenty-eight thousand square feet, this building is designed to be a safe space for all kinds of people. It caters to all classes and income levels. The openness and visual connectivity of the design make it a safe space for vulnerable groups of people. Quite unusually, the changing rooms here are not separated- there are common changing rooms for men and women with private cubicles, thus creating a sense of ease and belonging for the entire gender spectrum" (Shah, 2022)

CANADIAN TIRE JUMPSTART PLAYGROUNDS

A real-world example of accessible building and accessible design can be seen in Canadian Tire's Jumpstart construction of inclusive play structures (Jumpstart, 2022). Within the Jumpstart campaign, diverse, accessible structures were included to facilitate sport and play for every kid and their varying level of abilities. This demonstrates that buildings and spaces can be designed in an inclusive way to benefit all aiming to reduce barriers that persons with disabilities face daily (Jumpstart, 2022).

QUESTIONS TO ASK YOURSELF:

- If we consider nature as an essential member of our community, how could that be reflected in these designs?
- Who did these projects 'center', and how do the designs reflect that?
- Each of these projects creates opportunities for multiple ways of engaging in the space. Can you transfer any of the practices to the projects you are working on?

CLOSING

In each of the below, the design has been approached in a manner that centers on accessibility and universal design. By doing so, they included multiple ways to participate in the intentions of the space. As you explore each, consider how if the Seven Generations principle was used, it could have further impacted the space.

Consider, for example, that you are in charge of creating a plan for developing a new park. One relationship you are holding is with the land and waterways, along with all the relationships they hold. When we consider that relationship within the context of the above discussion, we must include the people who have traditionally stewarded that land and those presently using it and think of those who might use it in the future. Beyond the people, and as stewards, we must also think of the creatures that make their home in that space and the creatures that will continue to exist in our cities. When we change our thinking to embrace this, we stop being owners of the land and start being facilitators of it. With that mindset, this paper wants the reader to consider how designing spaces change the relationships we hold with the communities involved.

We encourage you to follow the structure of this document as a methodology itself

1. NOTICE COLONIAL PRACTICES:

1. How does colonialism show up in your work?
2. How are power, resources, and decisions consolidated or dispersed?
    1. Who are the primary stakeholders in formulating, deciding and implementing infrastructure in your community?
    2. Where does the technology your community uses come from? Who has access, control and sovereignty over data and technology in your community? (Chung-Tiam-Fook, 2022)
    3. How is data about communities being used?
3. How does that impact the relationships that you hold?

2. CONSIDER HOW TO DISRUPT COLONIAL PRACTICES:

1. Is there a way to disrupt power dynamics?
2. Have resources been allocated to community involvement?
3. Is there time and decision-making power provided to communities?

3. EXPLORE NON-WESTERN AND INDIGENIZING PRACTICES (WHERE APPROPRIATE AND WITH PROPER CONSULTATION)

1. How do you plan when considering the land as an essential member of the community?
2. How might all of the community need and use the space?
3. What technologies should be considered as community solutions?
4. How does your community define a technological tool? Are indigenous perspectives of smart technology included in your work with the community

Doing this, we set up the Smart City design process to create more equitable cities. While this paper used accessibility for people with disabilities as the overlapping example, the goal is to extend this approach to equity-deserving communities within any municipality. We also suggest that without starting with decolonization as the groundwork that informs not just technology inclusion but starts on the process itself, the design of Smart Cities is at risk of tokenistic inclusion and could continue to replicate the colonial priorities that cities have traditionally used. While a big statement, we intend this paper to challenge individuals to consider how they create change and motivate systems to change.

REFERENCES

Abraham, C. (2021). Toppled Monuments and Black Lives Matter: Race, Gender, and Decolonization in the Public Space. An Interview with Charmaine A. Nelson. Atlantis: Critical Studies in Gender, Culture & Social Justice/Atlantis: études critiques sur le genre, la culture, et la justice, 42(1), 1-17.

Accessibility Services Canada. (2022, August 20). Definitions. *https://accessibilitycanada.ca/aoda/definitions/*

Barry, J., & Thompson-Fawcett, M. (2020). Decolonizing the boundaries between the 'planner' and the 'planned': Implications of Indigenous property development. Planning Theory & Practice, 21(3), 410-425.

Bhawra, J. (2022). Decolonizing Digital Citizen Science: Applying the Bridge Framework for Climate Change Preparedness and Adaptation. Societies, 12(2), 71.

Centre for Teaching and Learning. (2022). What is Decolonization? What is Indigenization? Queens University. *https://www.queensu.ca/ctl/resources/decolonizing-and-indigenizing/what-decolonization-what-indigenization*

Chung-Tiam-Fook, Tanya. (2022, February 14). Civic-Indigenous Placekeeping and Partnership Building Toolkit. Future Cities Canada. *https://futurecitiescanada.ca/portal/resources/civic-indigenous-placekeeping-and-partnership-building-toolkit/*

Dang, T. K. (2021). Decolonizing landscape. Landscape Research, 46(7), 1004-1016.

Disabilities, Opportunities, Internetworking, and Technology (DOIT). (2022, May 24). What is the difference between accessible, usable, and universal design? https://www.washington.edu/doit/what-difference-between-accessible-usable-and-universal-design

Evergreen. (2021, August 21). Connecting Canada: Missing Pieces in Broadband Equity. Future Cities Canada. *https://futurecitiescanada.ca/portal/resources/connecting-canada-missing-pieces-in-broadband-equity/*

Evergreen. (2022). Welcome To Your Community Solutions Portal. Future Cities Canada *https://futurecitiescanada.ca/portal/*

Fine, M., & Asch, A. (1988) Disability beyond stigma: Social interaction, discrimination, and Activism. Journal of Social Issues, 44, 3–21.

Government of Canada. (2022). Katinnganiq: Community, Connectivity, And Digital Access for Life Promotion In Nunavut. Government of Canada's Smart Cities Challenge. *https://katinnganiq.com/*

International Organization for Standardization. (2022, June 21). *https://www.iso.org/home.html*

Jumpstart. (2022). Canadian Tire, Inclusive Play, Creating a more inclusive Canada. *https://jumpstart.canadiantire.ca/pages/inclusive-play?gclid=CjwKCAjwm8WZBhBUEiwA178UnJ7SrJv63YxePrZo5Ts_Bp115O47yN0IwwE8WE8iheBVWwK8r55G3RoCPOQQAvD_BwE*

Marshall, M., Marshall, A., & Bartlett, C. (2015). Two-eyed seeing in medicine. Determinants of Indigenous peoples' health in Canada: Beyond the social, pp. 16–24.

O'Donnell, P. M., Lahbil Tagemouati, N., Stephens, R., & Hender, M. (2016). Enabling access to public spaces to advance economic, environmental and social benefits. In Culture: urban future, global report on culture for sustainable urban development, (pp. 185–191). United Nations Educational, Scientific and Cultural Organization. ISBEN 978-92-3-100170-3

Oud, J. (2018). Academic Librarians with Disabilities: Job Perceptions and Factors Influencing Positive Workplace Experiences. Partnership, 13(1), 1–30. *https://doi.org/10.21083/partnership.v13i1.4090*

Ontario Human Rights Commission. (2022). What is a disability? *https://www.ohrc.on.ca/en/policy-ableism-and-discrimination-based-disability/2-what-disability*

Semple, W. (2020). Decolonizing Architecture: Stories From The Canadian North.

Shah, T. (2022, February 01). 15 examples of truly Inclusive Architecture - RTF: Rethinking The Future. *https://www.re-thinkingthefuture.com/rtf-fresh-perspectives/a938-15-examples-of-truely-inclusive-architecture/*

Spacing & Evergreen. (2019, October 23). The Future Fix Podcast: Who Governs the Smart City. Future Cities Canada. *https://futurecitiescanada.ca/portal/resources/the-future-fix-podcast-who-governs-the-smart-city/*

Spacing & Evergreen. (2021, March 3). The Future Fix: Smart Farms for Northern Communities. Future Cities Canada. *https://futurecitiescanada.ca/portal/resources/the-future-fix-smart-farms-for-northern-communities/*

Stanley, T. J. (2020). Commemorating John A. Macdonald: Collective Remembering and the Structure of Settler Colonialism in British Columbia. BC Studies: The British Columbian Quarterly, (204), pp. 89–113.

The Center for Universal Design. (2008). College of Design North Carolina State University. *https://projects.ncsu.edu/www/ncsu/design/sod5/cud/*

Vornholt, K., Villotti, P., Muschalla, B., Bauer, J., Colella, A., Zijlstra, F., & Corbiere, M (2018). Disability and employment–overview and highlights. European Journal of Work and Organizational Psychology. 27, 40–55.

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