



Toronto's Berczy Park was one of the recipients of the National Award for Canadian Society of Landscape Architects in 2018. It was designed by Montreal landscape architecture firm Claude Cormier et associés. Photo credit: City of Toronto.

Transforming the landscape

Five ways landscape architects are enhancing communities across Canada

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Sometimes the most impactful initiatives in our communities are ones that go largely unnoticed. That is often the case in the work done by landscape architects across the country. Their innovative designs bring people together, connect us to nature, and literally cool our cities.

Landscape architecture also has a large economic impact. For every dollar spent, it generates more than double in economic activity. Put another way, every \$1 million put into a project directly creates 13 jobs.

There has rarely been a better time for landscape architects and the work they are doing. Governments around the world are looking at ways to address climate change, seek ways to boost tourism revenues, and maintain real estate values.

Effective open space design goes an extra mile in ensuring that communities have functional and attractive urban spaces, parks, plazas, forests, accessible public transit, and community gardens, as well as safer roadways, and efficient walking and cycling networks.

Here are five ways landscape architects are making a difference.

1. Enhancing Public Street Safety

Everyone should expect well-designed public spaces in their local community. Strategies such as Vision Zero, urban braille, and Crime Prevention

Through Environmental Design (CPTED) are all examples being used across the country that have made a difference.

Vision Zero, a program aiming to reduce fatalities due to pedestrian accidents, was established in Sweden in the late 1990s. Due to its effectiveness, cities around the world have adopted the program, including many here in Canada.

The expertise required for the successful design of boulevards, medians, crosswalks, and bike lanes is essential to ensuring the safety and enjoyment of all who will use a public space. Qualified professionals consider the appropriate design and selection of materials, grading, universal accessibility, wayfinding signage, hierarchy, and relationships between people driving vehicles, walking, and cycling.

Urban braille helps the visually impaired navigate the streets by use of contrasting pavement colours, textures, and impressed symbols added to concrete sidewalks. These techniques aid them in knowing when they are approaching an alleyway, intersection, or the edge of the pedestrian sidewalk area.

CPTED is a set of best practice standards that were developed in a collaboration between qualified design and law enforcement professionals. They suggest the effective use of built environment and design for the reduction of crime. One of the

ways to achieve this is by using technical expertise to ensure that there is defined public space versus private spaces, while at the same time maintaining open sightlines and excellent lighting for public interaction.

The pedestrian is the most vulnerable user on the streets. And, by giving them priority, major improvements in safety can be achieved. For instance, the World Resource Institute reports that the transition of a portion of Times Square in New York City to pedestrian and cyclist only spaces has resulted in a 16 percent decrease in speeding and a 26 percent decrease in collisions resulting in injuries in the area. This type of intervention creates safer spaces and is possible in busy urban areas across Canada.

2. Protecting against Climate Change-Driven Natural Disasters

Most scientists agree that our climate is changing due to greenhouse gas emissions. The complex effects of climate change need to be understood and anticipated so professionals can make informed, insightful, and effective decisions – including around designs that make communities more resilient.

The changing climate is increasing the need for highly functional landscapes that support human use and enjoyment while also incorporating green infrastructure to withstand and mitigate damages from changing weather patterns.

The forest fire in Alberta's Edson Forest in June 2018 quickly tripled in size, destroying more than 1,200 hectares. This was the 76th fire within a four-month span during the spring-summer season, indicating how fragile many parts of our country are to wildfires.

Where timber-based monocultures and insect-decimated woodlots make quick fuel for fires, biologically diverse forests and well-managed natural areas contribute to slowing and controlling potentially devastating effects.

With climate changes come more severe rainstorms. Heavy rainfall in urban areas result in flash flooding – as 261 municipalities in Quebec experienced in the spring floods of 2017. These are the kinds of issues Canadians need to address in collaboration with municipalities.

3. Addressing Heat Islands and Improving Health

As urban areas have developed, the Canadian landscape has undergone a considerable change. The land that was once fertile is now arid and dry due to the construction of buildings and roads, leading to a phenomenon called “urban heat islands.”

These areas experience elevated temperatures, as compared to outer rural areas, due to greater heat absorption and lower water penetration levels. This leads to harmful health impacts. Studies show that respiratory and digestive systems of the public are impacted by rising temperatures. Numerous climate models suggest that Canada will see a dramatic increase in the number of hot days in the future.

Landscape architecture has multiple solutions to reducing urban heat. Solutions include: the use of light and reflective material selections rather than dark options that absorb heat; green parking lots made from environmentally friendly products to improve land permeability; planting trees to filter radiation; and rainwater harvesting to improve water storage, helping create a cooling effect.

Planting trees and large areas of vegetation, including green roofs, parks, and restored natural areas, all contribute to carbon sequestration and improved air quality.

Numerous studies have documented the health benefits of people interacting with nature. A view of nature from a hospital window alone can substantially improve recovery time, and people report feeling calmer and happier after being immersed in nature.

Parks, recreation, trails, playgrounds, and sports fields provide opportunities for people of all ages to participate in active living, resulting in further health benefits to those living in our communities.

4. Restoring Damaged Land

After centuries of neglect and destruction of the natural environment, we stand at a point where we can't overlook the increasing incidence of distressed landscapes and resulting implications for human wellbeing.

The solutions lie in creating landscapes that are not only aesthetically pleasing but also highly ecologically functional. Incorporating green infrastructure principles creates vegetation infiltration opportunities that can improve the quality of rainwater runoff and prevent down-stream sedimentation. Erosion and water quality issues like Lake Erie's algae blooms can also be reduced.

By using diverse plant pallets that are suited to each site's location, moisture regime, soil conditions, and exposure, we can support high levels of biodiversity in plant communities, as well as in the insects and animals that rely on these areas for food and habitat.

Another solution is buffering human uses from open waterways and vulnerable ground water sources with naturalized vegetation. We can prevent water contamination with nutrients, sediments, salt, and chemical runoff common to our roadways, walkways, and agricultural areas.

Design solutions work toward the protection and enhancement of our environment – in a sustainable manner.

5. Improving Equity and Accessibility

As the built form of cities increase in density, and access to natural areas and private outdoor spaces become the rarity, our public plazas, parks, and conservation areas grow more ecologically important for the resilience of our cities. Public spaces have become more significant to the wellbeing of the increasing populations and diverse demographics of people who rely on them.

The 80 Cities approach highlights the need to create cities that are easily navigable by citizens of all ages and levels of mobility. Its concept is that if a system can work for an eight-year-old as well as an 80-year-old, then it should work for everyone.

Universal accessibility is a concept being embraced across every order of government and by the professionals who work in the public realm. The goal is to create spaces that are safe, welcoming, and accommodating for everyone.

Outside of urban areas, similar work is being done to design accessible trail

options and visitor centres to responsibly introduce visitors to our provincial and national parks and conservation zones. In these biodiverse areas, considerations for safety and wellbeing extend to both the human visitors and protection of

the flora and fauna that are the main attraction.

Solutions for Communities

Every Canadian needs to think more broadly of how these issues impact

their community. Landscape architecture provides solutions that make our communities safer, resilient to climate change, healthier, environmentally sustainable, and accessible for all. **MW**

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