

An NCC 120th Anniversary Initiative

Capital Building: The NCC's Urbanism Lab Discussions, 2014–2019

by Robert Ferguson

1899-2019 120 Years of Capital Building ans à bâtir la capitale



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### **About the Author**

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### **Foreword**

It has been five years since the idea for a "pop-up" space devoted to the public debate and discussion of urbanism took root within the National Capital Commission (NCC), and nearly five years now since that space hosted its first such event: a well-attended and well-received session on design excellence featuring a blue-chip panel of past winners of the Governor General's Medal in Architecture.

In the years since, that pop-up has become permanent, and the Urbanism Lab has hosted more than 50 such sessions, as well as countless other public gatherings and events. As a forum for public engagement in the building of the Capital, it has been an unparalleled triumph.

It has become indispensable to the success of the NCC as the organization executes its roles as chief planner and steward of federal lands and assets in Canada's Capital. As an incubator of ideas, the Lab's panels and presentations have heralded projects and plans that are—or are becoming—material elements of the Capital Region's character and identity: the master plan for illuminating the Capital at night, plans for linear parks alongside the Ottawa River, and the National Holocaust Monument are but a few striking examples.

It is also a tangible manifestation of the NCC's third role, that of "creative partner" in building the Capital, presenting sessions in collaboration with an array of organizations and individuals, including members of the Capital's diplomatic corps, community groups, academic and cultural institutions, Indigenous Canadians and more.

Over its first five seasons the Lab has become a vital part of the Capital community—a gathering place for people who love the Capital and the challenges and rewards of making it a world-class source of pride and inspiration to Canadians and the millions of people who visit every year.

This book is a tribute not just to the first five lively seasons of programming in the NCC's Urbanism Lab, but also to the NCC employees who have from the beginning driven this wildly successful initiative. To them I offer my sincere thanks and congratulations, and best wishes for many more in the years to come.

**Tobi Nussbaum**Chief Executive Officer

National Capital Commission

### Introduction

Jacques Gréber didn't exactly get his way. The French modernist and architect, hired by William Lyon Mackenzie King to rebuild Canada's Capital, produced a hugely influential plan. Looked at through the contemporary urban planning lens, the Gréber plan now seems controversial, but he understood that capital cities are different from "ordinary" cities, even large ones. Gréber hoped Ottawa could avoid feeling in competition with Toronto, Montreal or Vancouver, and that it would remain a small city (Alain Miguelez, "A Retrospective on Capital Planning," November 18, 2015). Our capital city is no longer small.

For the last 120 years, the role of the NCC and its predecessors has been to ensure Canada's Capital is a source of pride and inspiration to all Canadians, and that it reflects our national character and aspirations. Hopefully we have made those who launched our work—Sir Wilfrid Laurier, Frederick Todd and Edward Bennett—proud.

Living up to its mission means the NCC team everyday faces the question "What do we need to think about to plan and prepare for the future?" How do we

- 1. Generate ideas that have an impact and solve problems?
- 2. Create strong relationships?
- 3. Improve the way the NCC works?

In 2014 we recognized an opportunity to re-centre on our core mission as the planner and steward of federal lands in the Capital. Despite the NCC's small size, its talent in urban planning and design is deep, but we lacked a forum enabling discussion and professional development among planners, architects, landscape architects, surveyors, public scientists and the interested public.

Inspiration came from an odd place: Pixar, the animation studio best known for its popular feature films. It operates a think tank called Brain Trust, which presented an intriguing model: put smart, passionate people in a room together, charge them with sharing ideas, opinions and criticisms, identifying and solving problems, and above all, being candid.

Could we do something similar to create better outcomes for the Capital? An empty floor in our headquarters at 40 Elgin proved an ideal space for a pop-up laboratory where we could gather and talk about urbanism challenges; a place that would be a tangible manifestation of the NCC's commitment to being a creative partner within the community; a place that would provide a meeting place for people with a passion for the Capital and capital building. So began our experiment.

Thirty employees stepped up to create a capital-building forum that they began calling the "Capital Urbanism Lab." Together they mapped out five seasons of conferences, consultations and public events with invited experts that would focus on design excellence, public science, environmental sustainability, Indigenous place making and smart city technologies.

The NCC believes lessons are to be learned everywhere and, in its search for insights, the team created the place where anyone who's passionate about creating a great capital city—members of the public, community leaders and experts in various disciplines—can gather to exchange ideas.

Drawing the public inside the NCC for regular meaningful exchanges is very important to us. We designed this unique space specifically to open our doors to dialogue and debate about urban planning; to invite and encourage meaningful civic participation in the NCC's work. We think the openness and transparency that comes from the Lab's focus on public engagement contributes to positioning the NCC on the leading edge of consultation and urban design—not just in the Capital, but everywhere.

Has the experiment been a success? The Urbanism Lab—our desire to talk about design, planning and heritage—filled a void in the city. It helps us consider the Capital's identity and makes it part of a broader public discussion. The Lab offers, in a nutshell, the story of the Capital: the story of how we got to now, and an ongoing dialogue about who and what Canadian citizens want their capital city to be. From the outset it was clear the Lab would influence the future development of the Capital and foster new partnerships. It has done that.

The pop-up has stayed up and become the thought leader in the Capital for urban design and public science.

Nor is it an overstatement to say the Urbanism Lab is a unique forum that has captured the attention of the urban planning world. Every so often a presenter compliments us for holding an event that gives people a voice. Several, many of them Americans, have commented that were this event held elsewhere, it would not be so well attended; that maybe five cities would even try hosting a similarly styled Urbanism Lab. Moreover, for supporting this venture, they unfailingly compliment our audiences, all citizens evidently interested and concerned about development and, therefore, all urbanists.

The whole point of the Urbanism Lab is to bring cutting-edge topics to the public: invite world-renowned people to our forum so we all can learn from the best. There have been many highlights and lively events over its first five years, and many thousands of people who have attended our sessions. It is a hub for thought leadership and innovation, attracting attendees from federal departments, the municipalities, NGOs and public interest groups. Running at capacity since day one, its panel discussions, conferences, book launches, design charrettes and lectures have become an important public interface for the Capital's entire urban design community.

This gathering space also creates a locus for hundreds of activities each year outside the formal lecture series. It provides an important intimate space at the core of the NCC for board workshops, staff events, community consultations, international delegations and events with key partners; quarterly meetings and moose meat lunches with Algonquin leaders from the entire Ottawa River watershed have occurred at our round table in the Lab.

Throughout its five years the Lab has remained rooted in the work of professional staff members drawn from across the NCC. That it has not been hived off in a specialized unit is key to its success, and in turn, its success rests on their shoulders as they incorporate the Urbanism Lab's activities into their already demanding workloads. Their championing this pop-up idea over five years is a testament to its ongoing relevance and its potential to foster a great capital for all Canadians.

# Methodology: Introduction to the Categories

It is one thing to claim the Urbanism Lab has emerged as a world-leading incubator for ideas about capital building, become a meeting place for people with passion for design and conservation, and encouraged the development of valuable partnerships in the community; it is another to prove it. The appendix of this volume lists each of the topics discussed during the Urbanism Lab's first five years. We think it is an impressive list. What we learned in each of these sessions has been memorable and useful: innovative thinking that has led, very often, to tangible action. However, to make this slim volume a bit more engaging and readable—to stick with our theme of the Urbanism Lab as a publicly accessible think tank—we have, in the pages that follow, divided those roughly 100 presentations into nine categories. Each section provides highlights of the theme and information about representative presentations.

- 1. **Design Excellence** in architecture creates a healthy environment for citizens.
- 2. **Access & Mobility**: knowing where people are going, and how they get there, helps us make the city more liveable.
- 3. **Environment & Sustainability**: ecological urbanism helps us figure out how we interact with our surroundings, so we can reshape our cities for liveability.
- 4. **Land Use & Stewardship**: the Capital's green spaces and shorelines impact residents' wellness and sense of place.
- 5. **Heritage & Commemorations** is not only essential to the Capital's unique character; it is a key component in sustainable development and improving the urban experience.
- 6. **Public Science**: scientists and their research expand our knowledge of the lands we manage, so citizens can enjoy them knowing they are also being protected for the enjoyment of future generations.
- 7. **Indigenous Culture**: we are committed to ensuring the ideas of Indigenous leaders, architects and builders are reflected in our work of capital building.
- 8. **Capital Planning & Urbanism**: from the Capital's first projects launched by individual architects to our new "people's plan," layers of urban planning over the years have created a magnificent cityscape.
- 9. **Capital Experience & Outreach**: it is a collective effort to gather new thinking and meaningful visions that will ensure we build a lively, liveable, enjoyable Capital.

# 1. Design Excellence



Fostering design excellence in the Capital is a priority for the NCC, and the Urbanism Lab is a place where we can think about and share ideas about what "design excellence" means in the 21st century, and specifically in a national capital context. Such a session was hosted in the Lab in October of 2014.

Our inaugural discussion topic ("Design Excellence," October 3, 2014) set the tone for what would unfold over our first five years of Urbanism Labs. We learned from that very first session—as we've seen in each and every subsequent event—that when you gather urban planning leaders together in the same room, strong (and very useful) opinions emerge.

Finding innovative ways to bring forward design excellence in the Capital is an evergreen issue for the NCC, but first we have to know what design excellence means in our 21st century world and, specifically, what constitutes design excellence in a national capital context.

It sounds cliché to say building a city is an art, not a science ("The ART of City Building," March 16, 2016), but the speakers focusing on design excellence agree that creating spaces in the city is not just putting lines on paper: the biggest obstacle to design excellence isn't the requirement to produce good-looking buildings. We have to be careful with how we design and not just reduce it to an image, not just reduce it to a glossy picture in a magazine. Rather, we need to actually believe it will change how people live—and if it does that, more people will believe in it.

"We tend to judge the aesthetic value but it's not just what it looks like. It's not what you see. Yes, beauty is part of it but fundamentally it is about giving meaning to our lives. When we think of the work we think primarily of the well-being of the community we are working with, how the building will be transformative..."

Manon Asselin, Atelier TAG, Montreal

We have to look at architecture from a holistic perspective. It isn't just the traditional notions of architecture as providing great space filled with light, how the building is configured, how it operates, how it performs; those topics need to become a given—even sustainability, which is now a huge topic and a critical quality of a building. But fundamentally the building doesn't qualify as design excellence just because it stands up or has a zero footprint. It needs to go beyond all of those.

"It is more than the functionality of the building, it is how does it perform, how does it become a lively aspect of daily life. You look for freshness, you look for if the project in some way deals with an issue beyond what you would normally expect."

Alan Kongats, Kongats Architects, Toronto

Design excellence, then, is an approach that has nothing to do with budget or project type, or client type—and it doesn't have to cost more. Rather, it has to do with approach and the vigilance to find the required solution, and we have to find excellence within the budget.

"It has to surprise you, or change your expectations or challenge you in some way. That is a key component to it being design excellence, not just excellently built or the most sustainable project. There's all sorts of things it can achieve in terms of technical competency, but for us it has to surprise you, challenge you, confront you, provoke you, do something to you."

Colin Neufelt, 5468796 Architecture, Winnipeg

It is also important to note that design quality in 2019 is fundamentally no different now from any past point; we don't have different criteria in the 21st century. The fundamental goals of architecture—of providing spaces we can enjoy and support everyday life—are still valued. What has changed is the ability of designers to take control and provide a level of craft that didn't exist in earlier years. The rendering of views has always been a vital part of urban planning and architecture, but as technologies and tools evolve, our ability to graphically represent and understand the urban environment is being transformed. In 1984, the introduction of personal computers started enabling processes that we couldn't previously afford. Technology is not merely useful to the design process; renewing the Capital for a new era will be done with 3D modeling ("Imaging the City," December 4, 2017). These dramatic new advances in visualization are influencing our relationship with the natural and built environments in urban planning, design and policy-making.



Dramatic advances in the technology of visualization, including 3D modeling, are having an ever-increasing influence on urban planning, design and policy-making. "Imaging the City" was the theme of an Urbanism Lab session in December of 2017.

As planners of the National Capital Region, we believe great buildings are landmarks, but they are also symbols revealing the character and identity of a city or a nation. Design excellence elevates its surroundings and brings multiple benefits to communities, including knowledge and idea sharing, cultural and heritage awareness, community building and development.

City building is one of Canada's great new, innovative economic and cultural exports ("Canadian Design as a Cultural Export," March 28, 2018); Canadian urban designers and architects are sought-after around the world and are having an impact on international projects. The NCC has a role to promote Canadian design: our goal is to represent the Capital to all Canadians and to represent Canadians to the world.

"We're very polite and timid and humble, which are great attributes except when you are trying to create a voice, except for when you are trying to express yourself, except for when you want to join the international discussion of architecture and design. As a capital, Canada needs to champion itself...we have a voice, let's put it out to the world. Timidity isn't helping."

Colin Neufelt, 5468796 Architecture, Winnipeg

We need to tap into the creative realm if we are to continue creating a welcoming and vibrant urban area in Canada's Capital: art and culture plays a role in building place; it contributes greatly to the urban fabric and adds a lively element to cities—it creates the dynamic and successful capital city.

Design excellence, whether buildings or botanical gardens or other picturesque landscapes ("Gardens and Healthy Cities," October 30, 2018), plays a role in creating a healthy environment for citizens.

In 1889, Ottawa had only one park. Today, the extensive green spaces within the urban core are key features of the Capital experience. It is hard to imagine the Capital without its green spaces—not only do they define the Capital, but gardens are good for our health. As the official gardener of the Capital, the NCC supports the vision of a national botanical garden.

It's well known that access to green space pays health dividends; "vitamin G" has always been central to the mission of the NCC. We know that just looking at nature from a distance is good for physical health, psychological health, social health, intellectual health. For people recovering in hospital, those with a view of nature tend to get out of hospital one day sooner than those without a view. And a study of public housing in Chicago demonstrated the effects of a bleak landscape on the family dynamic: units offering even a modest view of nature had 15% less crime than in units lacking that view. The lack of access to nature is bad for our children because it leads to behavioural problems, obesity and compromised immunity.

"The botanical garden of the future has a serious task to accomplish by helping uprooted urban residents regain or maintain their lifegiving connection with nature."

René Pronovost, directeur, Jardin botanique de Montréal

We are also starting to apply an economic value to the green public realm of the Capital. Harry Jongerden, the executive director of the Toronto Botanical Garden told us "garden tourism has the highest revenues of any tourism activity in North America."

# "We're big. What we do is very influential."

### Harry Jongerden

As of 2013 there were 78 million visitors annually to 600 public gardens in the US. This rate of visitorship is larger than the numbers of people visiting either Las Vegas or Orlando each year, each of which receives 48 million visitors annually. And the revenues generated by these botanical gardens exceed the revenue of the amusement park industry. When you add it all up, Jongerden says, it's big money.



When the Ottawa Improvement Commission, the first predecessor to the NCC, was formed at the end of the 19th century, Ottawa had one park. Today, urban green spaces are an important part of the Capital's identity, and the NCC is the official gardener of the Capital. "Gardens and Healthy Cities" was the theme of a Lab session in October of 2018, at which we considered the positive effects these green spaces have on the health of the people who live in the Capital.



Building a great capital is more than just producing good-looking buildings. It's not just about appearances; it's about creating places that have a positive effect on how people live. Dov Goldstein, principal consultant at Lord Cultural Resources in Toronto, used the example of the National Gallery in his presentation to the Lab's session on "The ART of City Building" in March of 2016.

### 2. Access & Mobility

We may take our streets and roads for granted, but they make up 80% of all public space in all cities (Cynthia Nikitin, "Walk This Way: Designing a Pedestrian Paradise," September 25, 2018)—far more than the parks and shorelines that seem to get all the glory. While the "greening" of the Capital has been a constant for the NCC (e.g. Gatineau Park, Greenbelt), modernity and cars have been significant to our work as well: our very first project was building Todd's plan for the Rideau Canal Driveway, and cars were also central to the 1950 Gréber plan. Now, as we approach the third decade of the 21st century, our cities are at a crossroads. Climate change and advances in technology are influencing the infrastructure we choose to build over the next four years and giving us a chance to do-over our city streets.

### "The street is the river of life."

William Whyte, Author, Urbanist

Historically, streets were informal places functioning as important public spaces: how people transported themselves, but also places in which to see and be seen, to trade, to play; the place where life went on.

Streets should be for people, although planners have, for many decades, been designing them for cars instead of people. The modernists, like Jacques Gréber, wanted to spread things out and give us space.

"We have been building transportation through communities, not communities through transportation."

Cynthia Nikitin, Senior Vice President Project for Public Spaces, New York City

Newer voices now tell us it is a sense of enclosure and closeness that adds vibrancy and spark to a place, and that getting rid of congestion by getting rid of destinations doesn't solve the problem: we don't go to places because there is parking.

How can we create and manage spaces worth walking to and through, dynamic and multifunctional venue spaces that contribute to the urban fabric?

Our built environment has been shaped by really powerful formulae such as the shopping centre, or the roadway, but we've forgotten the unique features that made both of these powerful urban planning features. When we invited parkway historian Robert Fishman to the Urbanism Lab ("The Legacy of Parkways," October 16, 2014) he told us that one way we can think more creatively is to reflect on our planning history—to go back to an earlier era where the complexities had not yet been ironed out: if we are to escape these outmoded formulae "we need to go back to the past when these contradictions—road versus park—were not resolved" and recapture the essence of the parkway.

The parkway concept comes out of the transformation of Paris in the 19th century, and one of its main goals was to bring landscape directly into the city. Fredrick Law Olmstead understood how a linear parkway could extend the city. To Olmstead, the park was literally the way people could overcome the harmful effects of the city, and it was his decision to call this new urban amenity a "parkway."

# "There is nothing more favourable than a parkway, nothing more favourable to a healthy civic pride, civic virtue and civic prosperity."

### Fredrick Law Olmsted, landscape architect

By allowing people to get into the unspoiled countryside, parkways brought us into contact with nature. All they needed to achieve this dream were roads—Olmstead's parkways. First as carriageways, then as motorways, parkways were about respect for nature: they were parks with varied activities, in which the roadway plays an essential, but not an overwhelming, role.

"The essence of the parkway is not about the road or the trees, but about bringing people together. The essence is the park, not the road."

Robert Fishman, Professor of Architecture and Urban Planning, University of Michigan

Speed began influencing parkway design and by the 1960s the parkway had lost its sense of balance. Fishman says, however, that the parkway idea is still alive because people understand it and love it. But achieving what Olmstead intended is difficult and doing so takes a love of nature and sense of harmonious society that he brought to the process.

As Dr. Fishman spoke, we were listening. Situated at the confluence of three rivers and the world-renowned Rideau Canal, the Capital features numerous shoreline opportunities. Our parkway system reconnects people with the river and combines multi-modal connectivity and mobility with views, heritage, ecology, protected areas and active spaces. We invited the public to discuss best practices in the design of urban waterfronts to provide inspiration as it plans for a more accessible and vibrant waterfront in Canada's Capital Region. The Fishman presentation thus launched the whole conversation that led to the Ottawa River South Shore Riverfront Park Plan (located on the south shore of the Ottawa River between LeBreton Flats and Mud Lake) and the Ottawa River North Shore Parklands Plan—an example of innovative thinking at the Urbanism Lab that led to concrete action.

And another essential question for us to ask is how our cities will adapt to a future featuring self-driving automated cars. Robin Chase, the CEO of ZipCars and one of the world's leading thinkers on 21st century urban transportation and the advent of the autonomous car, told the Urbanism Lab ("Enroute to a Smart City," October 24, 2016) that Canada's Capital Region can set an example if we are willing to seize the moment. We can't, however, approach the future as a parochial city: smart cities means sharing.

# "The next decade will be defined by the automation of the automobile."

### Mark Fields, Chief Executive Officer, Ford Motor Company

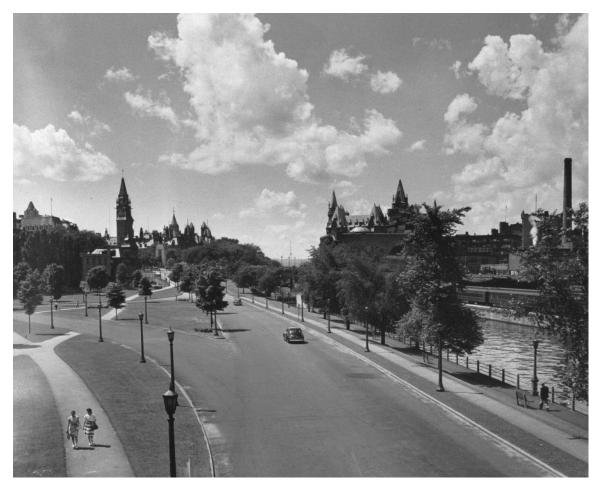
We admit to struggling with the requirements of smart-city technology; who doesn't? Looking ahead to the bicentennial in 2067, and our plans for Canada's Capital, we are aiming to be "Thriving and Connected" but what will that mean in the years ahead as the digital revolution evolves and affects employment, the environment, the economy and transportation? There is a direct link of transportation to jobs, prosperity, health and social well-being. Access to affordable, accessible and efficient transportation services brings numerous social benefits, and we need to provide more inclusive mobility services for people of all incomes, abilities and ages.

It is important to have broad discussions about the future of these technologies in terms of environment, ethics, employment—the arrival of autonomous vehicles holds implications for almost every aspect of our lives. So the Urbanism Lab will continue bringing people together to discuss the impact of automated cars on land use, transportation infrastructure, labour and our ability to address CO<sub>2</sub> emissions. Because transportation is a regional issue and needs coordinated transportation, the NCC welcomes disparate groups to discuss core principles for socially inclusive mobility: ensuring the cost of connection is affordable to users, and that services be in convenient locations where people live and work, be physically accessible and be available in sufficient quantity and quality ("Socially Inclusive Transportation," September 19, 2017).



Ensuring people of all incomes, abilities and ages have access to efficient public transportation is vital to a great city, given the direct link between this access and prosperity, health and social well-being. The Lab hosted a session entitled "Socially Inclusive Transportation" in September of 2017.

We'll make the city more liveable if we create a high-quality urban environment with people in mind, but to do that we need to know where people are going. People want to know what makes a place tick, and showcasing local assets is the way to create an authentic sense of place. In turn, Ron Redmond told us, tourists seek out the authentic because they want to know what the locals are doing. So we should build places because they are good for locals, knowing the tourists will follow ("Walk This Way: Designing a Pedestrian Paradise," September 25, 2018).



Building the Queen Elizabeth Driveway, shown here in a photo from around 1950, was the very first project in the history of planning in Canada's Capital and it is one of several scenic parkways among the NCC's assets. But in the 21st century the focus of planners is on making streets for people, not cars—and this was the subject of "Walk This Way: Designing a Pedestrian Paradise," a Lab session in September of 2018.

### 3. Environment & Sustainability

We need to reshape cities for liveability.

Civil engineering solutions of the 19th and 20th centuries valued economic efficiency over ecological resilience: in planning our cities we reverse-engineered the ecology of the city, burying and constraining nature rather than structuring our cities around its flows. Traffic congestion, uncontrolled urbanization and light pollution are symptoms of suburban dysfunction. Many people—including those of us in the National Capital Region—now live in mega-regions where sprawling settlements bleed into one another and encompass whole landscapes blurring traditional boundaries between the urban and the wild.

"Today we must be very deliberate in shaping our vast city regions, not only to fulfill the functional needs that we all have, but also to satisfy our emotional needs; not only to take care of personal requirements, but also to cover our collective social aspirations and expectations."

Larry Beasley and Jonathan Barnett Authors of Ecodesign for Cities and Suburbs

Resilience has to be about learning how to change, and discussions about ecological urbanism help us figure out how we interact with our surroundings in a way that promotes social connection, environmental sustainability and economic vitality.

Environmental sustainability is a key issue for us and influences our decision-making. The Urbanism Lab is leading discussions about incorporating the natural world into our built environment.

Ecological urbanism is a design that is in harmony with the functions of an environment at all levels, and its job is to reaffirm the relationship we have with the ecologies that sustain us ("Ecological Urbanism," December 10, 2014). Sustainable urbanism should give equal consideration to both the built environment and the natural environment.

Designers are rethinking how we light cities.

At first, lighting was functional, used primarily for security; the antithesis of artistic. Now, thanks to smaller, more energy-efficient lights, planners can ask "How do we live with lights?" With dynamic lighting they are creating distinct messages not evident during the daytime. Through illumination we can draw the viewer's attention to a particular part of a stage so people experience a city through a series of images. It allows designers to capture the spirit of the place and tell the story of a particular moment in history—all of which means we now balance the need of safety and security with storytelling.

When the NCC wanted to pursue an idea, originally identified in the 2005 Core Area Sector Plan, to create an illumination plan that integrated seamlessly into the architecture, we had to start a conversation that would show us the elements necessary to creating a meaningful and successful lighting plan for cities. It was a job for the Urbanism Lab, and is another example of innovative thinking from the Lab that led to action ("Capital Illumination," November 18, 2014). In 2017 we approved an illumination plan that is, at its root, a holistic vision for the nighttime illumination of the Capital, including buildings, streets, infrastructure, heritage and art.

More and more urban designers understand life needs night.

Some 30% of vertebrates and 60% of invertebrates are active at night, but urban lighting attracts birds to the built environment. So, looking upwards is becoming a critical element of our design vocabulary. Birds don't see windows, have little depth perception and don't expect barriers. Light pollution from poorly designed, or poorly used, lighting causes collisions and deaths.

The solutions to some of the above challenges are greening roofs, protecting views, designing for birds and managing light pollution ("Planning the Sky," February 15, 2018). Green architecture and design have decreased the environmental impact of the built environment, but biophilic design—recognizing the innate connection of humans to nature—takes it to the next level.

If we are to preserve the harmony between sustainable design and environmental measures in both cities and suburbs, and make suburbs viable economic centres, we need to implement the eco-design agenda—but it requires collaboration and public engagement, changes to regulatory reform, and zoning for wealth creation ("Eco-Design for Cities and Suburbs," October 1, 2015).

For 120 years the NCC has been the steward and planner for the Capital Region, and conversations around this theme are integral to the development of our principles and practices. Sound urban planning principles contribute to building more resilient cities to help face the increasing pressures related to climate change, and sustainable design is high on the NCC's list of priorities.



Night walks allowed members of the public to provide comments on the current nighttime context. Lighting our cities isn't just about security anymore. Planners and designers are using advances in lighting technology to create nightscapes that are visually arresting, environmentally sensitive and distinct from their daytime appearance. "Capital Illumination," a Lab session in November of 2014, tackled this topic—and it's just one example of an idea discussed in the Urbanism Lab that has become a reality, as the NCC's Capital Illumination Plan is being implemented.

### 4. Land Use & Stewardship

A great capital reflects the country it represents. Just like Canada, its Capital Region—home to Canada's Capital Greenbelt and, to the north, Gatineau Park—is famous for open spaces and waterfronts.

The region's residents value how natural capital positively impacts their wellness and sense of place: they understand the importance of the urban tree and want to know about the tree

canopy in the National Capital Region; they appreciate that one of the defining features of the Capital of Canada is the convergence and concentration of the various waterways weaving themselves through the region.

The environment resonates with the NCC as the planner and steward of the Capital; it is our responsibility to protect and preserve the Capital's natural heritage. A priority is to offer public access and new connections to discover the Capital's forests, shorelines and waterways. But what is the value of these so-called green assets?

The concept of "capital" is fundamental in economics: we're familiar with financial capital (money), physical capital (infrastructure) and human capital (workforce). "Natural capital"—the web of plants, animals and biological, chemical and physical processes supporting and influencing life—may receive less attention, but green spaces and the natural environment produce benefits that can't easily be measured according to traditional metrics.

The economic value of the NCC's green network is remarkable: forests, agricultural lands, wetlands, prairies, pastures, grasslands and freshwater systems provide services with a minimum value of \$332 million per year, or greater than \$5 billion over 20 years ("The Benefits of Natural Capital," December 7, 2016).

Parks are wonderful tools to protect wildlife and wild spaces, but also fulfill other purposes such as recreation and tourism ("Parks Planning Inside and Out," March 9, 2017). We have the opportunity to enjoy such a beautiful expanse of wilderness, and the recreational opportunities it provides, just minutes from our urban core. It is also the basis of prosperity, a hub for economic activity supporting thousands of families in the region ("Gatineau Park Forum," April 25, 2018).

Many of our parks are also affected by land use such as agriculture, residential development and industry. This makes park planning a challenge. How do we fulfill the mandates of our parks, so they develop in harmony with their natural surroundings? It is a pivotal time for Gatineau Park, which ranks second in Canada behind Banff National Park in terms of visits: popularity equals congestion, and the park faces environmental pressures. How Canada's national parks maintain a healthy balance between the conservation of protected natural areas and thriving local communities identifies practices that can be applied in Gatineau Park—it and Banff face common challenges in protecting natural environments and shared solutions for the protection of these treasured natural spaces, and we can learn together. Finding the necessary balance will be an important component of the sustainability and success for both parks ("Parks Planning Inside and Out," March 9, 2017).

Urban agriculture—the food that is grown and consumed within and around cities, and the regional capacity to meet local food needs—is now a buzz phrase. People want to know where their food comes from, and they demand we treat our urban and rural areas in a sustainable way. Sixty years ago when the Greenbelt was established, these weren't concepts anyone discussed. Yet, today, urban agriculture is growing in popularity and plays an essential role in the resilience and sustainability of cities ("Growing Trends in Urban Spaces," November 15, 2016).

"Most global food crises have been infrastructural, involving breakdowns in regional distribution systems—not crises of inadequate production. The periurban fringe is the most undervalued, misunderstood and unregulated component of a region's food system."

Michael Conrad, Columbia University

More and more urban regions are showing the foresight to take supporting a diverse and sustainable food supply into account in their planning—and the National Capital Region, home to the world's largest publicly owned greenbelt, is part of this trend.

The Plan for Canada's Capital builds on the unique position of the 90 protected farms within the Greenbelt, which are very near to the centre of our large, urban region. The NCC's vision is that by 2067 "The Greenbelt will forever protect natural systems, agriculture and opportunities for outdoor recreation and education that will inspire Canadians and contribute to the sustainability and quality of life in Canada's Capital Region."



Urban agriculture, like the work carried out at the NCC's Moore Farm in Gatineau, plays a significant role in the resilience and sustainability of cities. This was the subject of a session, "Growing Trends in Urban Spaces," in the Lab in November of 2016.



Gatineau Park is Canada's second-most-visited park, a source of recreation and relaxation for thousands of people every year, and a driver of substantial economic activity in the Capital Region—which creates the challenge of encouraging people to enjoy the park to the fullest while continuing to conserve important ecosystems and habitat. This was the subject of "Parks Planning Inside and Out" in the Lab in March of 2017.

# 5. Heritage & Commemorations

Spanning 8,000 years, the archeological history of Canada's Capital is rich and diversified. Much of this heritage remains intact and is a source of knowledge of past lifeways in the region, including providing an Algonquin-Anishinabe perspective. It is, however, a story that is little known to the public. It is also a heritage we risk losing without increased emphasis on sustainable growth and conservation approaches. The erosion of shorelines is a global challenge and a particular concern for Canada, which has the largest coastline in the world; important Indigenous heritage and legacy traces are being literally washed away.

The NCC, through its Urbanism Lab is carefully examining the challenges we face and investigating strategies that have proven successful elsewhere.

We face similar challenges with preserving our built environment. Given our commitment to being one of the leaders in heritage preservation and planning in the Capital, it should come as no surprise that the NCC encourages dialogue about new ways of thinking about heritage.

"Can we reconceptualize heritage in a way that places greater emphasis on its experiential and social dimensions and on local values and perceptions? In doing so we may greatly enhance its relevance to future generations."

Victoria Angel, ERA Architects, Toronto

Some believe it is time to give heritage a renewed meaning and a vital role to play in contemporary society—it is a key component in sustainable development ("The Way Forward for Heritage," February 19, 2015). Doing so will require planning organizations to think more expansively and inclusively about heritage, and retool our programs and investments in heritage to ensure they are positioned to enhance the lives of all citizens and neighbourhoods.

Too often, people see conflict between heritage preservation and achieving sustainability ("Heritage: A Driver of Sustainability," February 16, 2017). We see that as a false dichotomy and have long believed the combination of heritage and sustainability, together, contribute greatly to the Capital's unique character. It is, in fact, an essential relationship.

The historic environment doesn't exist merely for a few heritage buildings, but our formal heritage system in Canada has tended to focus on conserving selected properties and creating monuments instead of emphasizing the whole of an area. One lesson from the Urbanism Lab is that it is time we shifted from this traditional focus to a more integrated form of urban development that takes heritage as a starting point.

Valuing heritage in our communities, architecture and public spaces helps us shape a more sustainable future impacting everything from sense of place and cultural tourism to job creation and climate change. This isn't just an issue we face every day; it is being discussed by the international community in the context of the United Nations sustainable development goals.

"Heritage conservation contributes to creating a sustainable built environment and resilient communities."

Mark Brandt, MTBA Architects, Ottawa

Protecting heritage isn't merely about conserving buildings—we need to figure out what adaptive reuse means ("Reuse and Renewal: Designing Futures for Historic Places," February 14, 2019). When it comes to the reuse of historic places, the success of a project depends on a deep understanding of the history of the property and its meaning for people. Renewal helps structures stand the test of time, and the ingenious adaptive reuse of old

infrastructure—turning what may be old eyesores into places of delight—changes how citizens and politicians, developers and planners think of improving the urban experience.

The conservation community now has an opportunity to demonstrate best practices for conserving the modern to the green community; there is an opportunity to collaborate.

There's a rich texture of 20th century built heritage to think about in the Capital—it's one of our strengths. Architects, landscape architects and engineers of the 20th century used experimental materials and construction techniques to create buildings and shape places ("Conserving the Modern in Canada," May 7, 2015). They espoused radically new philosophies in their architecture, dramatically changing the shape of our cities. Yet there is a stigma surrounding buildings of the modernist period; people question the need to conserve them and see the "modern" as outdated.

"It's hard to understand conserving the modern in the Capital without understanding the modern in the Capital."

Barry Padolsky, Barry Padolsky Associates, Ottawa

Today, this modern heritage is threatened because we haven't got our heads around the significance and legacy of planning and design in the 1960s and 1970s. What architectural legacy have we inherited? What does modernism mean to us? The NCC is continuing a conversation started in 2005 by the Trent Conference that led to a new understanding about the heritage value of mid-20th century buildings. We have layers of history in Ottawa and we should think about them as a continuing feature rather than as little jewels; they are all linked. Ottawa is a walk through time that, in all its messiness, is worth conserving ("Conserving the Modern in Canada," May 7, 2015).

"Any discussion about landscapes, or heritage in general, whether modern or 19th century, it's always about 'what makes a good city?' Regardless of the era, regardless of the style, it's about what makes a good city."

John Zvonar, Conservation Landscape Architect, Heritage Conservation Directorate, PSPC, Ottawa

The Capital was transformed in time for Canada's centennial year ("Capital Heritage: 1967–2017," October 11, 2017): railways were relocated, and parkways constructed; new buildings were erected and old buildings demolished (or in some cases, protected) —all in the name of forging a strong Canadian identity. These changes in the Capital took place in the context of dramatic urban renewal across Canada and the western world as the

conservation movement emerged. More than 50 years later, conserving post-war construction has challenges, not least of which is a lack of agreement about the need to protect these buildings. Fortunately, there is growing recognition that some things might be worth keeping. Within our approach to built heritage in the Capital, the NCC has attempted to highlight the legacy of that period and discuss what it means for heritage conservation in 2017.

Commemorations—monuments—are also an essential part of the NCC's heritage work and its capital-building mandate. The National Holocaust Monument was approved by Parliament in 2011 to honour the six million Jews killed, including one million children, and millions of others who died in the Holocaust. It was the largest memorial project in Ottawa since the 1939 National War Memorial and is a significant addition to the Capital.

The architect Daniel Libeskind was selected to design the monument, "Landscape of Loss, Memory and Survival." Claude Cormier—who has been called an emerging voice for North America, whose striking and unconventional creations infuse projects of solemnity with nuanced messages of resilience, hope and optimism—was the project's landscape architect. Both discussed their respective work at Urbanism Lab presentations.

More than 400 people attended the Libeskind presentation to hear about the thinking process that went into the creation of the monument, and his struggle to address the question "How do we preserve a memory of evil while introducing a sense of hope in this world?" He understood that "we are only beginning, 70 years later, to fathom what we don't understand about this event" and that there is an urgency to convey the singularity of the Holocaust because "time is running out: time is running out for memory as survivors die. We can see the revisions of history; we can see rewriting of history as the witnesses die."

"The moment of the Holocaust, the idea of the Holocaust, the fact that it has happened in our time has created a tremor in the idea of humanity. Humanity is no longer seen the same way as it was before those events happened. We see the world differently. We see what people are capable of doing, which we never should have known."

Daniel Libeskind, Architect, Founder, Studio Daniel Libeskind



The National Holocaust Monument is the largest commemorative project in the Capital since the National War Memorial in the middle of the 20th century. More than 400 people attended a special lecture by its architect, the renowned Daniel Libeskind, presented by the Urbanism Lab at the National Gallery in January of 2015.



The Capital's shorelines contain an archeological record stretching back thousands of years, and understanding and protecting this history of the Indigenous heritage of the Capital is part of the NCC's mandate. In December of 2015, the Urbanism Lab hosted a session dedicated to this legacy, entitled "Archeology in the Capital Region: Discovering Our Past."



In the wake of catastrophic flooding in recent years, the NCC has had to make sustainable design a priority, and rebuild damaged assets such as our riverside pathways to a higher standard of resiliency. "Eco-Design for Cities and Suburbs" was the subject of a Lab session in October of 2015.



In February of 2019, the Lab hosted a session entitled "Reuse and Renewal: Designing Futures for Historic Places," which focused on the renewal of historic structures like the Strutt House, an architectural treasure in Gatineau Park and one of the NCC's 2017 Confederation Pavilions.



Vincent Massey pavilion structures at Hog's Back park, designed by Hart Massey: the architect's work was inspired by time and place: these buildings relate to their setting more than most. It is the landscape that holds all the various components of the built environment together, and they are good examples of 1950s era confidence.



The four-acre parcel that would become the Garden of the Provinces and Territories was thought to be unsuitable for buildings. It had been used for stables and an undertaker, and Jacques Gréber considered it "blighted." It was, however, an important link in the Capital, point of entry to the downtown core from the Western Parkway, and a counterpoint to the National War Memorial. As one of the few remaining examples of high-quality landscape design from the early 1960s—in Ottawa, in Canada and even around the world—it was a good example at the "Conserving the Modern in Canada" session in May of 2015.

#### 6. Public Science

The Capital is blessed with a rich natural heritage, vast expanses of green space and diverse ecosystems. Protecting and preserving this natural heritage is a significant part of the NCC's mandate as the steward and planner of 11% of land within the National Capital Region. The protection of our parks, pathways, beaches, agricultural land, ecologically sensitive land and heritage properties requires a high level of expertise.

We can't say enough about the importance of our ongoing partnerships with members of the scientific community: scientific researchers contribute significantly to our knowledge that we share with the public so we can all learn together how best to use and enjoy these lands ("Public Science Urbanism Lab," November 16, 2017).

Some of the fascinating research that scientists are conducting on NCC lands includes

- the carbon study project at Mer Bleue Bog
- the bird and biodiversity stewardship at the Lac Deschênes–Ottawa River Important Bird Area (IBA)
- a study of Gatineau Park *canids* (wolves and coyotes)
- surveys of at-risk bat species, bird species at risk in Gatineau Park, a turtle inventory; an aquatic species inventory in Gatineau Park that identified 234 species including insects, crustaceans, molluscs, fish, amphibians, reptiles, birds, mammals
- Mud Lake vegetation management
- monitoring animal biodiversity
- restoring wetlands at Black Rapids Creek
- studying the emerald ash borer, which kills trees from the top down, and was introduced and spread via wood packaging, firewood and infested trees

After habitat loss, invasive species, including plants, are the second most important contributor to biodiversity loss. Invasive species can change the nitrogen composition of soil, suppress other vegetation and outcompete native plants, negatively affect songbird populations, inhibit recreational activities and host diseases ("Invasive Species," April 28, 2015). We are working to help people understand which plant species in the Capital are invasive, and what impact are they having, and to ensure biodiversity in Canada's Capital Region, economy and society are protected from the adverse impacts of invasive plants.

The earth's surface, whether field, forest or ocean, interacts with the atmosphere and influences climate. Bogs are also very important: covering 1.1 million km² in Canada, they help mitigate climate change by storing large amounts of carbon, which influences how much heat and moisture get put back into the atmosphere. But they are usually located in hard-to-reach areas of the north, making them hard to study. Not the Mer Bleue Bog ("Secrets of Nature," October 22, 2015).

Located in the southeast side of the Capital Region, the 28 km<sup>2</sup>Mer Bleue Bog is large, very accessible and very easy to study. Since it is representative of northern bogs it has been

designated an important site where many scientists have been involved in research over the last 17 years; it has, in fact, become an international magnet for peat land research. The Mer Bleue Peatland Observatory began continuous measurement of the fluxes of water, energy and carbon gases in May 1998, making it the longest continuous record from a northern peatland in the world.

Forests may get more attention, but bogs are more important. As a forest matures, its carbon uptake caps out, but a peatland's carbon uptake remains consistent: the Mer Bleue Bog is working today just as efficiently as it did thousands of years ago. We remain committed to studying what happens with Mer Bleue in the future, how peat responds to climate change.

The urban forest, which includes trees on streets, in parks, woodlots and yards, is an integral part of the Capital's health, ecosystem, value and experience ("The Urban Forest: From Science to Poetry," May 17, 2016). The NCC, as custodian of Gatineau Park, the Greenbelt, capital parks and other green spaces on federal land, appreciates the vital roles it plays. Trees not only beautify by hiding unsightly views, but they enhance nice ones; they improve home values and result in better sales in shopping areas; areas with more trees have lower crime rates; they improve health by lowering attention deficit hyperactivity disorder (ADHD), lowering blood pressure and protecting from sun exposure; the shade they cast helps reduce energy use and protects us from the wind; and they act as a filter for pollutants.



The Mer Bleue Bog in the Capital's southeast is a natural wonder that, besides being a popular spot for hikers and nature-lovers, has become the focus of research by scientists from around the world. Science is a frequent subject of Lab sessions, including "Secrets of Nature" in October of 2015, which featured the bog, "The Urban Forest: From Science to Poetry" in May of 2016 and "Invasive Species" in April of 2015, among others.



The Urbanism Lab is a place where we're often able to hear the results of work by the NCC's many partners in the scientific community, at events such as the one focused on public science held in November of 2017.

### 7. Indigenous Culture

Most of us in the Capital are now familiar with the introduction acknowledging

"Canada's Capital is built on unceded Algonquin Anishinabe territory. The people of the Algonquin Anishinabe Nation have lived on this territory for millennia. Their culture and presence have nurtured and continue to nurture this place."

This statement underscores our commitment to learning from Indigenous leaders so we are more aware of our past, and to discussing how the Indigenous outlook should be reflected in the NCC's work of capital building. The role of Indigenous Canadians in the Capital of the future is central to the plan for Canada's Capital.

National Aboriginal Day in Canada is June 21, a day to celebrate the culture and contributions of Canada's Indigenous peoples. For the NCC, it becomes a day we use the Urbanism Lab to highlight the accomplishments and contributions of Canada's Aboriginal architects and builders, their strong sense of identity, dedication to sustainability and commitment to inclusivity in design and building.

Indigenous planning and design grows from a deep sense of kinship and collected experience. The design process ("Aboriginal Architecture and Design," June 21, 2016) is strongly influenced by the "four directions" allegory:

The East is the child whose habit of asking questions, sense of exploration, wonder and discovery is all about "seeing it."

- In the South is the youth who wants to "feel" change, vision and ideas; to know there is a different way and a new strategy, and new techniques for finding a place within the community.
- The adult in the West gives us strength, sense of action, ability to take care of what we have, sense of responsibility to work, build and repair, and desire to establish connections and relationships enabling us to "do it."
- And in the North reside the elders who, because they "know it," help us remember what is important and think ahead. Their sense of long-term planning is strategic, there to help remind people of what we have.

The Indigenous Place Making Council (IPMC) facilitates the transformation of Canadian communities, institutions and public places to better-reflect the rich and diverse contributions of Canada's founding people. Its thinking speaks to the NCC's priority to build a strong nation-to-nation partnership between residents of the Capital and the Algonquin Anishinabe Nation on whose lands the Capital sits.

The IPMC and NCC brought Indigenous youth from across the country to the Urbanism Lab to participate in a design exercise aimed at the celebration of Indigenous presence in the fabric of our Capital ("Indigenous Placemaking," June 20, 2017). We asked them to consider how we should

- reclaim space and reset relationships
- create dialogue around uncomfortable subjects
- change the public memory
- preserve and restore the intrinsic Indigenous character of the region

We intended these questions to be the beginning of a conversation, and a process, that would lead to the next chapter of our Capital's narrative. Using them as guidance, each of the three design teams chose locations and developed spaces where Indigenous people could recognize themselves in the urban fabric and create places of social connection to bring all Canadians together in a space of inspiration and common cause. Their concepts highlighted the river as the life of the Capital, proposed an alternate route to Confederation Boulevard focused on telling the Indigenous narrative of the Capital, and created a place within the Capital to acknowledge uncomfortable truths and begin a dialogue about them.

Master-planning activities elsewhere have led to successful and thriving communities that are self-governing and financially independent. Other panellists to the Urbanism Lab have given us examples of Indigenous communities that have successfully developed community projects, programs and pride through specific projects impacting the social and economic development of their communities ("Building Successful Indigenous Communities," June 20, 2018).



Indigenous culture, tradition and contributions to Canada are often the subject of sessions in the Lab, as we seek to build a strong relationship between the Capital and the Alqonguin Anishinabe Nation, the original inhabitants of the territory where the Capital was built. The NCC is committed to ensuring the Capital reflects its Indigenous legacy, by working with the Algonquin Nation to create spaces such as Pindigen Park, inaugurated in 2017.



In June of 2017 the NCC partnered with the Indigenous Place Making Council to bring Indigenous youths from across the country to the Urbanism Lab to participate in a design project aimed at developing ideas for spaces within the Capital in which Indigenous people could see reflections of themselves.

# 8. Capital Planning & Urbanism

Ottawa is not just a city; it is a capital city. And there aren't just layers of history where Wellington Street meets the Rideau Canal; there are many layers.

Urban planning has created a magnificent cityscape, but understanding the history of capital building is important to ensuring we know how we got to now—and how we can point ourselves toward the future.

Throughout the 19th century Ottawa seemed more frontier lumber town than national capital, but Sir Wilfrid Laurier believed Canada deserved something better. With the 1899 launch of the Ottawa Improvement Commission—the NCC's predecessor—Laurier initiated a federal agency mandated to planning an improved and more attractive city. Not long after, Laurier reflected on the growing sense of Canadian identity and suggested the addition of an archives building to the nation's capital would help "make the City of Ottawa the centre for intellectual development in this country, and the Washington of the North." The archives building was subsequently constructed between 1904 and 1906, and opened officially in early 1907. This Ottawa landmark housed Canada's archival heritage until 1967. Today, all Canadians and visitors from other countries can admire a modern and beautiful city with landmark sites that have a direct link to Laurier's planning efforts.

What Laurier initiated, his successor continued: Prime Minister William Lyon Mackenzie King is responsible for establishing the Capital as we know it today; what Laurier intended it to be. Mackenzie King gave Jacques Gréber a mission to give the Capital a dignified, noble, majestic face. The Gréber plan, in turn, brought modernism to the people of Canada—and the birth of modern planning practices that we've lived with for years.

Now, almost 70 years later, the passage of time allows us to finally take stock of Gréber's plan and how it played out ("A Retrospective on Capital Planning," November 18, 2015).

Gréber recognized the Capital's abundant space and advocated that we not live on top of each other like his fellow Europeans. Rather, his message seemed to be "Go out and enjoy your space." The modernists believed in leaving space between detached buildings, making the buildings retreat and giving them a sense of isolation. They thought on-street parking was a scourge, and stores an intrusion; you shouldn't be living near them. Main streets were dissolved, and malls built; rail lines were pushed to the edges of the city with new roads replacing them. They also gave us parks, and parkways, Gatineau Park and the Greenbelt, which take advantage of the Capital's striking natural beauty.

The Plan for Canada's Capital (PFCC), 2017–2067, the latest iteration in the project Laurier began 120 years ago, builds on previous plans and capital-building projects that have made a lasting contribution and strongly influenced the unique character of Canada's Capital Region. More importantly, it was a consensus-building process involving some 22,000 Canadians, and doesn't reflect the work of a single planner as were the earlier plans identified with Todd, Bennett and Gréber. And this plan calls for federal sites to become

better integrated into the urban fabric of their surroundings (launch of the Plan for Canada's Capital, 2017–2067).

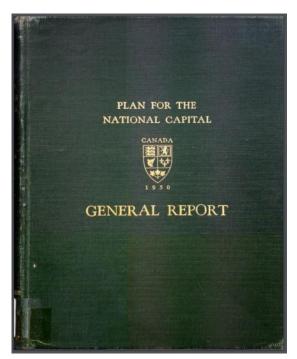
A metropolitan area is a densely populated urban core surrounded by towns, suburbs and villages. A key feature is the interdependence of all the local jurisdictions. If you look at the National Capital Region from a satellite image, it looks like a really unified metropolitan region, but it is also fragmented by municipal boundaries and other sorts of governance structures. All cities are different and have different problems/different challenges, distinct economies, distinct characters, but they need a way to grapple with the complex dynamics of what's happening in their real estate markets and in their transportation systems and how they are intertwined, in order to make more informed decisions.

How do you do public policy and planning, coordinate service delivery and share costs? Metro governance is how all these groups collaborate; it impacts everything from services to spatial design ("Metropolitan Governance and Big Data," January 10, 2019). Governance matters so people have access to local government. We need to find ways to coordinate across those.

Capital cities share issues about an endless list of topics, including building height, view-shed, security, the commemorative landscape and cross-agency collaboration, making dialogue and shared learning essential. Washington—one of the world's great planned cities that continues to build on its legacy of planning dating to the 18th century—is a capital city that we consult with and look to for inspiration. Its National Capital Planning Commission (NCPC) is the federal planning agency for the United States' capital and is the counterpart to our NCC. The NCC works with our partners in other international capitals, like the NCPC, in an alliance enabling us to learn together.



It's important, when we consider the Capital's built legacy, not to focus solely on historic structures like the Parliament Buildings or Rideau Hall. The Capital is home to many more contemporary buildings, and the Lab session "Conserving the Modern" in May of 2015 drew attention to the heritage value of mid-20th century buildings and the need to preserve their architectural history.



Some elements of the Gréber report of 1950, such as its opposition to urban density, run counter to modern thinking. But what is undeniable is that Jacques Gréber's vision for the Capital is also responsible for our many parks and parkways, as well as the Greenbelt and Gatineau Park—defining elements of the Capital that make the most of its natural beauty.



Former Prime Minister William Lyon Mackenzie King commissioned noted urban planner Jacques Gréber to create a vision for Canada's Capital that was dignified and noble. The resulting "Plan for the National Capital" was part of a tradition of grand Capital plans, and the most influential—until 2017, when the NCC launched the ambitious "Plan for Canada's Capital 2017–2067." This new plan draws on the creativity and passion of some 22,000 Canadians from across the country and will govern the development of the Capital up to Canada's bicentennial year in 2067.

# 9. Capital Experience & Outreach

Capital building always has been a collective effort. How can organizations like the NCC continue engaging communities so we build the spaces Canadians want?

The role of citizen participation in urban design and architectural criticism is very important, so we reach out to engage audiences in dialogue wherever they want to congregate. The Urbanism Lab is one type of forum, but we also value the important role played by social media ("Okay, Google: How do I engage my community online?" March 20, 2019). The key is to reach today's audiences where they spend their time, by leveraging new and existing digital platforms: online discussion contributes greatly to the vitality of architectural discourse and will have an important influence on our Capital for many years to come.

The voices of young people are central to the foundation we're building for a future of leadership and capital building ("Youth Engagement in City Building," April 6, 2017). As we plan the future of our Capital, we are getting new generations involved in planning, the generations who will be turning these plans into reality. The plan for the next 50 years of developing Canada's Capital will mobilize these new thinkers with meaningful visions for change and cutting-edge solutions.

What drives our work? Today's top firms and top talent demand places that work for people: engaging places, mixture and amenities; the integration of buildings, streets and open spaces. The Urbanism Lab exists to address and discuss how to make our cities more liveable in the 21st century. Efforts are under way here and around the world to create healthy walkable neighbourhoods, where mixed uses, biking and public transit are more attractive. The 10-minute neighbourhood is a pedestrian-friendly place where almost everything you need is within a short walk or bike from your home ("The 10-Minute Neighbourhood," May 17, 2018—this Urbanism Lab topic was selected to complement the theme of the International Making Cities Livable Conference held in Ottawa; the Lab was part of the conference program).

What's so hard about that?

o habit o few precedents

building codesfiscal realitiespoliticstransit

o security concerns o stormwater management

We know change is hard, for political and financial reasons. And sometimes government is to blame: even though we live drastically differently from before, old zoning codes haven't caught up.

We can, however, expedite change by finding creative solutions and experimenting—even if just for a day. Sometimes even we have to admit that rebelling against all the things that "aren't allowed" is how to change (Did we really say that?). We can experiment with short-term projects that bring new life into the Capital.

"What these projects do is expose a gap between where a lot of people want to go to make cities more liveable, and the way we build on cities. And there is a big gap there."

Mike Lydon, Author, Tactical Urbanism

Those red Muskoka chairs you see around Dows Lake, at Remic Rapids or in the ByWard Market? All examples of the NCC practising tactical urbanism; same with public art, or Sunday Bike Days. Tactical urbanism is a term used to describe low-cost, temporary changes to the built environment; pop-up projects, small changes with big impact; actions that are quick, temporary and low-cost ("Tactical Urbanism," October 29, 2015). It's an approach offering a way to gain more support for cities to invest in permanent projects, and to allow communities to shape urban spaces in new and innovative ways.

People like it, and we like it: it says we are not just about big ticket things, but also smaller ventures that generate interest. Citizens can help cities learn new ways of working and moving forward. What is the next great idea? We're listening.

"There is nothing utopian about a city built for living."

Mike Lydon, Author, Tactical Urbanism

Building a city is a holistic process and urban planning has a role to play in making people happy. There is a relationship between the built environment and psychological well-being: some places fill us with joy, while we seek to avoid others at all costs ("The City and the Brain," December 13, 2018). Fredrick Law Olmstead knew cities needed open spaces for gathering and feeling good; to break down the barriers preventing us from connecting with others. We like the buzz of life; we like vitality in urban life. What we don't like are boring streetscapes that increase sadness and stress.

If certain kinds of built settings can be psychologically positive, we need to better understand the neuroscience behind our experiences in public spaces and create new frameworks for deploying ideas.

# "How often is the human experience at the centre of architectural value?"

Jonathan Enns, Assistant Professor of Architecture, University of Waterloo

The topics discussed in the Urbanism Lab aren't just pie-in-the-sky; they are relevant to everyday concerns. Not surprisingly, we've talked about design as it affects our Capital as a winter capital. People in this capital city embrace and enjoy all four seasons; it may be semitropical here in the summer, but at heart we're a Nordic capital. It's just part of our DNA to think that if it is going to be cold, we should still have fun, and it is remarkable to think that on any given day when the Rideau Canal Skateway is open, at least 15,000 to 20,000 people will go out for a skate ("Winter Cities," February 12, 2015).

However, not everyone thinks this way, Patrick Coleman told the Urbanism Lab. He points to a cultural bias against winter cities: people perceive cities in the north to be cold, uncomfortable places where it is hard to live and sometimes harder to get around. The opposite is true: winter cities can be dynamic and invigorating, but negative perceptions affect the ability of winter cities to attract and retain new residents, young people and professionals, and businesses, all of which affects a city's ability to achieve its broader economic, social and cultural goals.

"Making winter part of the conversation really can have a lot of positive results. Doing things to try to create a winter culture and make people proud and happy of where they live—that's what this is all about."

Patrick Coleman, Executive Director, Winter Cities Institute

The NCC is working to create dynamic and invigorating winter spaces—to create a winter culture that makes people happy. Moving the community to a winter culture helps emphasize what is unique about this place, improves attitudes and breaks those negative stereotypes. Making winter part of the discussion—considering snow management in urban design and planning or selecting tree species that offer attractive winter characteristics—creates opportunities to improve the wintertime quality of life, encourages participation in the outdoor activities that make this community unique and helps celebrate the Capital as a stage for winter living.

And when it warms up, our Capital shift gears. Literally. *Ciclovía* is a Spanish word meaning a street open for cyclists. In 2020 we'll celebrate 50 years of *ciclovía* in the Capital—only we call it Sunday Bikedays—a program highlighting the Capital's parkway corridors and adjacent parks. Sunday Bikedays is a very popular program, and participation is on the rise because it is seen as a family outing, and a way to relax, have fun, get some exercise and

enjoy the city. It provides an opportunity for Canadians to experience the Capital in an active manner and to appreciate the national significance of its actual assets.

But what is the possibility of transforming a leisure activity into a sustainable mobility practice? Around the world, Open Streets projects aim to make spaces public and socially equitable, promote healthy lifestyle and activity, and encourage cycling as a means of urban transportation. For us, Sunday Bikedays not only contributes to how people experience the Capital, but it also promotes the use of alternative means of urban transportation such as biking, walking and public transit.







Canada's Capital is a northern capital, renowned for its winter spaces and activities, such as the world-famous Rideau Canal Skateway, the Sir John A. Macdonald Winter Trail and Winterlude. Addressing the joys and challenges of being a winter capital has been addressed in the Lab, at sessions such as "Winter Cities" in February of 2015.



Next year we'll celebrate the 50th anniversary of Sunday Bikedays, our great summer tradition of closing the parkways to cars and trucks on Sundays to allow cyclists—as well as skaters, walkers and joggers—to take over. It's part of a broader effort to encourage active transportation in the Capital, the subject of an Urbanism Lab session in February of 2016.

## Conclusion



After five seasons of programming, the NCC's Urbanism Lab has become an integral element of conversations about building a great Capital that inspires and evokes pride in all Canadians. It is our place to talk about innovative ideas, and about how to put those ideas into action.

Our Canadian Capital presents us with a remarkably rich and diverse heritage to reflect upon and celebrate. The Urbanism Lab over the last five years has told the engaging story about its identity: who we are, where we've been and where we're going. It has, in effect, said, "This is Canada's Capital."

Urban planning was introduced to Canada's Capital in 1899, so this year marks the 120th anniversary of our organization and the organizations that preceded it—120 years of achievement in building an inspiring capital that is a source of pride for all Canadians and a legacy for future generations.

Yet, "who are we?" is a surprisingly vexing question. Organizations using the lens of history to examine their culture find authentic stories and values that unite citizens, stories and values that can be passed to the next generation and provide insights about the direction of future strategy. More than anything, the rich heritage that we share has the power to bring people together and create a sense of belonging.

Dialogue is critically important for developing this shared sense of identity. Being known as a place to hear leading ideas, being a focal place for discussion and launching important public conversations is part of the leadership for which people want organizations to take responsibility.

That is why the Urbanism Lab exists: it is our place for talking about the Capital's identity, and how that identity and innovative thinking can be put into action. And through dialogue—as an incubator of ideas—the Urbanism Lab challenges all to learn so we can, together, build a better capital city.

This anniversary year will be an opportunity to strengthen the bonds that bring us together and jointly to celebrate our collective achievements in building Canada's Capital: this is your Capital. The Urbanism Lab will continue to be an integral part of that achievement.

# Acknowledgements

The NCC recognizes the current and past team members and partners, who contributed to the preparation of this publication and the last five years of the NCC's Urbanism Lab initiative:

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# Appendix: Urbanism Lab 2014–19 Summary—List of all events and speakers

#### Season 1

October 3, 2014

Topic: "Design Excellence"

- Colin Neufelt, 5468796 Architecture, Winnipeg
- Alan Kongats, Kongats Architecture, Toronto
- Manon Asselin, Atelier TAG, Montreal
- Diarmaid Nash, Moriyama & Teshima Architects

October 16, 2014

Topic: "The Legacy of Parkways in North America"

 Robert Fishman, Professor of Architecture and Urban Planning, University of Michigan

November 18, 2014

**Topic: "Capital Illumination"** 

- Véronique Koulouris, Commission de la capitale nationale du Québec (CCNQ)
- François Roupinian from Lightemotion, Montréal
- Martin Conboy from Conboy Lighting Design, Ottawa

December 10, 2014

Topic: "Ecological Urbanism"

- Nina Marie Lister, Associate Professor, School of Urban and Regional Planning, Ryerson University
- Philippe Clergeau, Museum nationale d'histoire naturelle de Paris
- Joan Tarragon, XTU architects, Paris, France
- In partnership with the Embassy of France

January 26, 2015

## **Topic: Daniel Libeskind**

In partnership with Carleton University. This event is part of Carleton University's Forum Lecture Series and is presented by Gluskin Sheff and Associates.

## February 12, 2015

## **Topic: "Winter Cities"**

- Patrick J. Coleman, Executive Director, Winter Cities Institute (Hancock, Michigan)
- Vivian Manasc, architect, Manasc Isaac Architects, and member of the NCC's Advisory Committee on Planning, Design and Realty (Edmonton)
- Mike Ellis, MCIP, Senior Planner, City of Whitehorse, YT (Whitehorse)

## February 19, 2015

# Topic: "The Way Forward for Heritage in the Capital"

- Victoria Angel, Senior Heritage Planner, ERA Architects Inc.
- Odile Roy, Directrice, Division Design, architecture et patrimoine, Ville de Québec
- Catherine Nasmith, Heritage Architect and Advocate, Toronto

## March, 31 2015

# Topic: "Capital Illumination Workshop"

- Dr. Mark Kristmanson, CEO of the NCC
- Louise Filiatrault, Secretary-General, Canadian Commission for UNESCO
- Stephen Willis, Executive Director, Capital Planning, NCC

#### April 21, 2015

## **Topic: "Design of Urban Waterfronts"**

- Christopher Glaisek, Vice-president of Planning and Design for Waterfront Toronto
- Chris Reed, founding principal of Stoss Landscape Urbanism of Boston, MA



## April 28, 2015

# Topic: "Invasive Species: Regional Issues and Local Actions"

- Iola Price, Ontario Invasive Plants Council
- Naomi Cappuccino, Carleton University
- Eric Richard, Les amis de la montagne, Mount Royal Park

# May 7, 2015

# Topic: "Conserving the Modern in the Capital"

- Susan Aglie, Director, Winnipeg Architecture Foundation
- Francine Vanlaethem, Professor, Université du Québec à Montréal, and author of Patrimoine en devenir
- Michael McClelland, Principal, ERA Architects, and co-editor of Concrete Toronto

## June 11, 2015

# Topic: "Placemaking and Capital Identity"

- Françoise Mercure, president and director general Commission de la capitale nationale du Québec (CCNQ)
- Juan Vargas, director of planning and architecture, Commission de la capitale nationale du Québec (CCNQ)

#### Season 2

October 1, 2015

Topic: "Eco-Design for Cities and Suburbs"

• Larry Beasley, Vancouver urban planner, and Jonathan Barnett, co-authors of *Ecodesign for Cities and Suburbs* 

October 22, 2015

Topic: "Secrets of Nature"

- Christie Spence, Senior Manager, Natural Resources and Land Management, NCC
- Professor Elyn Humphreys, Carleton University
- Alex MacDonald, Senior Conservation Manager, Nature Canada

October 22, 2015

Topic: "Meeting With the Scientific Community"

October 29, 2015

Topic: "Tactical Urbanism"

• Mike Lydon, co-author, *Tactical Urbanism: Short-Term Action for Long-Term Change* 

November 18, 2015

Topic: "A retrospective on Capital Planning"

- Professor David Gordon, of Queen's University's School of Urban and Regional Planning, and author of *Town and Crown: An illustrated history of Canada's Capital*
- Alain Miguelez, urban planner and author of *Transforming Ottawa: Canada's Capital in the Eyes of Jacques Gréber*

December 3, 2015

Topic "Archeology in the Capital Region: Discovering Our Past"

- Ian Badgley, Archaeologist, Heritage Program, NCC
- Jean-Luc Pilon, Curator, Central Archaeology, Canadian Museum of History
- Chief Kirby Whiteduck, Algonquin First Nation of Pikwàkanagàn

## January 14, 2016

# Topic: "Urbanism Online: #capital"

- Brandon Donnelly, blogger at brandondonnely.com
- Jillian Glover, blogger at thiscitylife.tumblr.com
- Marc-Andre Carignan, kollectif.net
- Robert Smythe, blogger at urbsite.blogspot.com

## February 16, 2016

# Topic: "The Urban Forest: From Science to Poetry"

- Michael Rosen, Registered Professional Forester, and President, Tree Canada
- Dr. Tom Smiley, Bartlett Tree Research Laboratory, Charlotte, North Carolina, and Clemson University
- Jérôme Dupras, Université du Québec en Outaouais
- Diana Beresford-Kroeger, author and scientist

## February 24, 2016

## Topic: "Bikedays: Treasured Traditions and Building the Future"

- Ruth Meza Junco, Assistant Director, Department of culture and sustainable transportation, and Program Manager, *Muévete en Bici*, Mexico
- Linda Ginenthal, Manager, Active Transportation and Sunday Parkways programs, Portland, Oregon
- Bruce Devine, Senior Manager, Operations, Facilities and Programs, NCC, Ottawa

## March 16, 2016

## Topic: "The ART of City Building"

- Dov Goldstein, Principal Consultant, Lord Cultural Resources, Toronto
- Mark Robbins, President and CEO, American Academy in Rome

#### June 21, 2016

# Topic: "Aboriginal Architecture and Design"

- Douglas Odjick, Algonquin Anishinabe First Nation
- Eladia Smoke, Smoke Architecture inc.
- Brian Porter, Two Row Architect, Ohsweken, Ontario
- Alfred Waugh, Formline Architecture, Vancouver

## Season 3

Sept 20, 2016

# Topic: "Capital Building: A View From Washington"

- Marcel Acosta, Executive Director, National Capital Planning Commission (NCPC)
- Beth White, Commissioner NCPC



October 24, 2016

Topic: "Enroute to a Smart City"

• Robin Chase, co-founder of ZipCars

November 15, 2016

## **Topic:** "Growing Trends in Urban Spaces"

- Michael Conard, Columbia University, Graduate School of Architecture, Planning and Preservation
- Éric Duchemin, Université du Québec à Montréal, Institut des sciences de l'environnement, and Director of the Laboratoire sur l'agriculture urbaine Gatineau
- Claude Sirois and Sylvain Bertrand, Moore Farm, Centre d'écologie et d'agriculture urbaine de Gatineau

December 7, 2016

# Topic: "The Benefits of Natural Capital"

- Stephanie Cairns, Director, Sustainable Communities for Smart Prosperity Institute
- Karel Mayrand, Director General, Quebec and Atlantic Canada Region, David Suzuki Foundation
- Jérôme Dupras, professor at the Department of Natural Sciences of the Université du Québec en Outaouais, and researcher at the Institut des Sciences de la Forêt tempérée



January 23, 2017

# Topic: "Building Momentum With Design Excellence"

Partnership with the Forum Lecture series hosted by Carleton University's Azrieli School of Architecture and Urbanism.

- Morten Schmidt, partner and co-founder of Schmidt Hammer Lassen Architects
- Andy Fillmore, urban designer and Member of Parliament for Halifax

February 16, 2017

# Topic: "Heritage: A Driver of Sustainability"

- Jean Carroon, Goody Clancy Architects, Boston and author of Sustainable Preservation: Greening Existing Buildings
- Mark Brandt, MTBA Architects and lead author of Building Resilience, Practical Guidelines for the Sustainable Rehabilitation of Buildings in Canada
- Brenda Odjick, Kitigan Zibi Anishinabeg

March 9, 2017

# Topic: "Parks Planning Inside and Out"

- Randall McKay, Manager of Planning and Development for the Town of Banff
- Louis-Marin Levac, Director, Department of Urban Planning for Ville de Mont-Tremblant (Directeur, Service de l'urbanisme, Ville de Mont-Tremblant)
- Richard Scott, Senior Planner, Rouge National Urban Park Initiative Parks Canada

April 6, 2017

# Topic: Youth Engagement in City Building"

- Deborah McKoy, Executive Director, Center for Cities and School, University of California Berkeley
- Genna DiPinto, Chair, City of Edmonton Youth Council
- Pierre-Olivier Bouchard, Co-President, Gatineau youth commission
- Josiane Cossette, Agent, Gatineau youth commission

May 9, 2017

Topic: "Canada's Capital in 2067"

NCC employees presented on the three pillars that make up the Plan.

June 20, 2017

# Topic: "Indigenous Place Making in the Capital"

• Calvin Brook, Indigenous Place Making Council (IMPC)

#### Season 4

## September 19, 2017

# **Topic: "Socially Inclusive Transportation"**

- Professor Karen Lucas (Leeds University, United Kingdom)
- Craig Hutton (Transport Canada)
- Gary Bradshaw (Cycling Without Age)
- Isabelle Ducharme (Kéroul)

## September 27, 2017

## Topic: "An Evening with Claude Cormier"

• Claude Cormier, landscape architect

## October 11, 2017

# Topic: "Heritage, Circa 1967"

- Susan Macdonald (Head, Buildings and Sites, Getty Conservation Institute)
- Andrew Waldron (author, Exploring the Capital: An Architectural Guide to the Ottawa-Gatineau Region)
- Claudine Déom (associate professor, Université de Montréal, School of Architecture)

## November 16, 2017

# Topic: "Meeting with the scientific community, Gatineau Park, Greenbelt and urban lands"

- Christian MacQuarrie, research scientist, Canadian forest service
- Yann Surget-Groba, Professor, Université du Québec en Outaouais (UQO)

### December 4, 2017

## Topic: "Imaging the City"

Presented in conjunction with Carleton University's Azrieli School of Architecture Forum Lecture Series

- Fadi Masoud, Assistant Professor, John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto
- Emma Greer, Project Manager/Senior Architect, Carlo Ratti Associati
- Stephen Fai, Associate Professor and Director, Carleton Immersive Media Studio (CIMS), Azrieli School of Architecture and Urbanism, Carleton University

## February 15, 2018

# Topic: "Planning the Sky"

- Jane Wakiwaka, Sustainability Manager, The Crown Estate, and Wild West End in London, United Kingdom
- Dr. Christine Sheppard, Director, Glass Collisions Program, American Bird Conservancy
- Rémi Boucher, Scientific Coordinator, Mont-Mégantic International Dark Sky Reserve

## March 28, 2018

# Topic: "Canadian Design as a Cultural Export"

- Andrew King and Lucie St-Pierre, Lemay
- Don Schmitt, Diamond Schmitt Architects
- Trevor Boddy, curator and architecture critic

## April 25, 2018

## Topic: "Forum on the Gatineau Park Master Plan"

- Heather Clish, Director of Conservation and Recreation Policy, Appalachian Mountain Club
- Alaric Fish, Manager, Planning and Development, Canmore
- Mélanie Lelièvre, General Director, Appalachian Corridor
- Stephen Woodley, Co-Chair, Joint Task Force on Biodiversity and Protected Areas, International Union for Conservation of Nature

#### May 17, 2018

# Topic: "The Capital and the Healthy 10-Minute Neighbourhood"

- Benjamin Grant, Urban Design Policy Director, SPUR (San Francisco Bay Area Planning and Urban Research Association)
- Vance Bedore, Principal Portfolio Urban Planner, Public Services and Procurement Canada

June 20, 2018

# Topic: "Building Successful Indigenous Communities"

- Vicky Wallace Godbout, Première Nation Malécite du Madawaska / Madawaska Maliseet First Nation
- Patricia Dunnett, Metepenagiag Mi'kmaq Nation

#### Season 5

September 25 25, 2018

# Topic: "Walk This Way: Designing a Pedestrian Paradise"

- Ron Redmond, Executive Director, Church Street Marketplace, Burlington, VT
- Cynthia Nikitin, Senior Vice President, Project for Public Spaces (PPS), NYC
- Renée Daoust and Réal Lestage, Daoust Lestage, Montreal, QC, and designers of the Place des festivals/Quartier des Spectacles

October 30, 2018

## Topic: "Gardens and Healthy Cities"

- Harry Jongerden, Executive Director, Toronto Botanical Garden
- René Pronovost, directeur, Jardin botanique de Montréal | Espace pour la vie
- Alice Hutton, Royal Ottawa Health Care Group

November 20, 2018

## Topic: "Beyond Green Buildings"

In partnership with the Canada Green Building Council and the Embassy of the United States in Canada and hosted by The Royal Canadian Geographical Society

- Doug Farr, President and founding principal, Farr Associates, and author, Sustainable Nation: Urban Design Patterns for the Future
- Isabelle Thomas, Full professor, Université de Montréal
- Amy Buitenhuis, Strategic Policy Lead, Resilience Office, City of Toronto

December 13, 2018

## Topic: "The City and the Brain"

- Colin Ellard, author and associate professor of Psychology, University of Waterloo
- Jonathan Enns, assistant professor of Architecture, University of Waterloo, and Director of the Humanics Lab

January 10, 2019

# Topic: "Metropolitan Governance and Big Data"

- Enid Slack, Munk School of Global Affairs and Public Policy
- Dr Paul Waddell, UC Berkeley
- Mario Gauthier, UQO

February 14, 2019

# Topic: "Reuse and Renewal: Designing Futures for Historic Places"

- Bernard Serge Gagné, ABCP architecture
- Laura Waldie, senior planner for heritage, City of Cambridge
- Tom Morrisson, PhD (Engineering), and principal engineer at Heritage Standing Inc., Fredericton, N.B.

March 20, 2019

# Topic: "Okay, Google: How do I engage my community online?"

- Eric Leclair, Manager, Communications, Knowledge Exchange and Municipal Relations
- Ottawa Public Health
- Kevin Miller, Manager, Communications, Public Safety Canada
- Harold Fudge, Supervisor, Communications, Hydro Ottawa
- Dominique Jolicoeur Content Strategist, National Capital Commission

April 24, 2019

## Topic: "Fantastic Trees and Where to Find Them"

- Jarlath O'Neil-Dunne, Director, University of Vermont Spatial Analysis Laboratory
- Ghislain Breton, Team Leader, Development and Spatial Planning, Québec City
- Astrid Nielsen, Registered Professional Forester, and General Manager, Eastern Ontario Model Forest (EOMF)

May 2, 2019

## Topic: "Capital Riverfront Challenge"

The NCC Urbanism Lab team will present the winners of the Capital Riverfront Challenge. This competition invited students from across the country to come up with ideas for key parcels of riverfront land in Canada's Capital Region

# June 20, 2019

# Topic: "Washing away: The Erosion of Archaelogical Legacy"

- Matthew Betts, Curator, Atlantic Provinces Archaeology Canadian Museum of History
- Nadine Kopp, Project Archaeologist, Paterson Group
- Christine Ruddy, Manager, Algonquin Way Cultural Centre
- Marianne-Marilou Leclerc, Archaeologist, Parc national du Lac-Témiscouata, SÉPAQ