

# ReNew

January/February 2021

C A N A D A

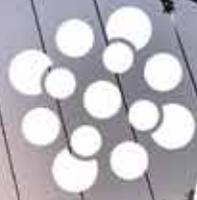
The Infrastructure Magazine

- + Top 100 Projects Analysis
- + One Smart Hospital
- + Fifteen Headlines

# ON THE RISE

Megaproject  
Development  
Breaks  
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Plateau

Top100  
Projects  
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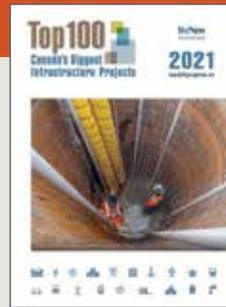
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# ReNew

CANADA  
The Infrastructure Magazine

JANUARY/FEBRUARY 2021

## SPECIAL INSERT



### Top100 Projects 2021

Our fifteenth annual report on Canada's biggest infrastructure projects is inserted into the centre of this issue.

For additional details on this year's Top100 report, visit [top100projects.ca](http://top100projects.ca)

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# USER-FINANCED CONSTRUCTION

By Andrew Macklin

November 3rd, 2020. Election day in the United States. And yet, rather than watching what was unfolding south of the border, my attention was drawn to a media release sent by the Government of Alberta earlier that day. In particular, the words ‘user-financed construction’.

The term, appearing in a quote from Alberta Minister of Transportation Ric McIver, was used to describe the methodology behind the province’s big announcement that it would welcome user fees or tolls on newly-constructed transportation infrastructure assets. “By building new roads and bridges now, user-financed construction will strengthen economic growth and competitiveness at a time when Albertans need it most,” he stated.

Just six weeks earlier, our team at ReNew Canada had held a national discussion on whether or not it was time to again consider the collection of transportation user fees at a time when municipalities are struggling to pay for upkeep of crumbling infrastructure assets. We talked about how collecting fees would help address these asset management shortfalls, placing the financial burden on the user rather than the general public. But the panellists also understood that the political appetite for such fee collection initiatives wasn’t there; those creating the legislation were not about to support the introduction of such a system for infrastructure funding. And there were more than right in their assessment.

But Alberta has found a way around that in a very thoughtful way by starting with collecting fees on

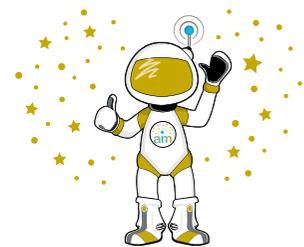
new infrastructure that replaces a service people were already paying for. Alberta’s first user-financed construction project will be a new bridge across the Peace River, replacing the aging La Crete Ferry. And instead of building the bridge decades from now when the province can afford it based on where it falls on the list of provincial investment priorities, they can build it now, and use the fees collected to pay for construction and upkeep.

It starts there, with a single project where user fees are collected to pay for a valuable service: the chance to get home quicker, more efficiently, for a nominal fee. And this model can be considered now throughout the province for any and all new transportation initiatives.

User fees don’t have to be massive to help cover costs. Just ask users of the Macdonald bridge in Halifax or the Coquihalla Highway in British Columbia. But we can no longer expect municipalities to find the millions of dollars for asset upkeep when there are so many other stresses on the budget. Something has to give. Perhaps now, with Alberta introducing a thoughtful solution with ‘user-financed construction,’ other provinces will step up and follow suit. Otherwise, infrastructure deficits will continue to grow with no solution in sight. 🍀

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This year's Top100 Projects surpassed the quarter-of-a-billion mark, with over \$253 billion in projects included.

Learn more about this year's list on page 10.

RFP ISSUED FOR ALBERTA SCHOOLS P3



The Alberta government has shortlisted three qualified groups to deliver five new high schools through a public-private partnership (P3). The groups invited to participate in the request for proposals (RFP) are: Alberta Partnership for Learning, Concert-Bird Partners, and Plenary-Maple High Schools.

“We have talented, experienced teams right here in Alberta who can help build the schools Albertans need,” said Prasad Panda, Alberta’s Minister of Infrastructure. “I am confident that this process will provide savings for Alberta taxpayers while ensuring our students have world-class schools to learn and grow in. Next fall, we will have a successful P3 contract in place with shovels in the ground for these five much-needed high schools.”

The five new high schools included in the P3 bundle are:

- **Blackfalds:** Grade 9-12 school, Wolf Creek Public Schools.
- **Edmonton:** Grade 10-12 school in the southeast, Edmonton Public Schools.
- **Edmonton:** Grade 10-12 school in Heritage Valley, Edmonton Catholic Schools.
- **Langdon:** Grade 7-12 school, Rocky View Schools.
- **Leduc:** Grade 10-12 school, Black Gold School Division.

These five new high schools are part of the more than \$10 billion infrastructure spending announced as part of Alberta’s Recovery Plan. The RFP process will be completed in July 2021. Proposals will be examined for each consortium’s capacity to complete the project and to ensure its bid provides Alberta taxpayers with good value for dollars spent.

A contract with the successful P3 consortium is expected to be in place by the end of September 2021. This is the first P3 project issued by the Government of Alberta since the UCP took office. ♣



REPORT REVEALS MAJOR INFRASTRUCTURE GAPS IN NUNAVUT

Nunavut Tunngavik Incorporated (NTI), the land claims organization that represents the Inuit of Nunavut, released the first-ever comprehensive comparison of infrastructure between Nunavut and the rest of Canada.

The 300-page report contains detailed analysis and research on 18 different areas of infrastructure, and presents an update on a challenging state of affairs—including infrastructure gaps in all areas (transportation, healthcare, communications, etc.) and under-investment and lack of action on the part of the federal government. The organization warns that the territory’s infrastructure gap will only continue to grow unless major interventions are made.

“With this report, I believe we have an opportunity to turn the conventional narrative of infrastructure needs in the Arctic on its head,” said Aluki Kotierk, president of NTI. “Together, with our federal and territorial partners we can develop a new collective understanding of Nunavut’s infrastructure needs that respects our aspirations and roles.”

The NTI represents the territory’s 33,000 Inuit and their rights under the Nunavut Agreement. NTI is governed by a board of directors, including six members nominated by Nunavut’s three Regional Inuit Associations: the Kitikmeot Inuit Association, the Kivalliq Inuit Association, and the Qikiqtani Inuit Association. Closing the infrastructure gap is one of the core priorities established by the NTI board.

Inuit Tapiriit Kanatami, the national organization representing Canada’s 65,000 Inuit, has identified eliminating the infrastructure deficit as a core priority for Inuit Nunangat more broadly. This comprehensive research project measures the infrastructure gap between Nunavut and the rest of Canada.

This work represents a necessary first step in efforts to close this gap—next steps will require further leadership from Inuit organizations and meaningful partnership with local, territorial, and federal governments.

To read the full report, visit [tunngavik.com](http://tunngavik.com). ♣

NEXT ISSUE: MARCH/APRIL THE ECONOMICS OF INFRASTRUCTURE

Tough Roads to Build

A look at Canada’s complex transportation projects.

A Price on Transportation

Should cities start charging for road use?

U.S. Election Impact

Will a Biden presidency be good for Canadian infrastructure?

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Credit: Sustainable Marine

# CANADA INVESTS IN TIDAL ENERGY

**The Canadian government** has announced its largest-ever investment in tidal energy—\$28.5 million to Sustainable Marine in Nova Scotia to deliver Canada’s first floating tidal energy system.

“We are harnessing the power of our tides to power our homes, our businesses, and our communities. This is how we build our clean energy future,” said Seamus O’Regan, Canada’s Minister of Natural Resources.

Sustainable Marine developed an innovative floating tidal energy platform called PLAT-I that has undergone rigorous testing on the waters of Grand Passage for nearly two years. A second platform is

currently being assembled in Meteghan, Nova Scotia and will be launched in Grand Passage later this year for testing before relocation to the Fundy Ocean Research Centre for Energy (FORCE) in 2021. These platforms will make up the tidal energy array.

The objective of the project is to provide up to nine megawatts of predictable and clean renewable electricity to Nova Scotia’s electrical grid. This will reduce greenhouse gas emissions by 17,000 tonnes of carbon dioxide a year while creating new jobs in the province. The project will also demonstrate the ability to harness tides as a reliable source of renewable electricity to power

homes, vehicles, and businesses.

Tidal energy—a clean, renewable energy source generated by ocean tides and currents—has the potential to significantly reduce Canada’s greenhouse gas emissions and improve local air quality by displacing electricity generated from fossil fuels.

Funding for the project comes from Natural Resources Canada’s Emerging Renewables Power Program, part of Canada’s more than \$180-billion Investing in Canada infrastructure plan for public transit projects, green infrastructure, social infrastructure, trade and transportation routes, and Canada’s rural and northern communities. ♣



Credit: City of Ottawa

# OTTAWA APPROVES DESIGN FOR BARRHAVEN LRT PROJECT

**A major light rail transit (LRT) project** has received the green light from the City of Ottawa’s Transportation Committee, but is pending approval from city council and funding from upper levels of government.

The committee has approved Stage 3 recommendations from the environmental assessment for Barrhaven Light Rail Transit (LRT) and rail-grade separations.

This LRT project would result in the extension of the line by 10 kilometres and seven stations. Double tracks would be elevated between Baseline Station and the Nepean Sportsplex, transitioning back to grade and following the existing southwest Transitway alignment to Barrhaven Town Centre, where a new park-and-ride facility would be built.

The design includes three bridges to separate VIA Rail tracks from Woodroffe Avenue, the southwest Transitway and Fallowfield Road, along with interim measures to make transit more efficient and reliable along Woodroffe Avenue.

The estimated \$3-billion project could be implemented in two phases:

- \$2 billion to extend LRT between Baseline Station and Fallowfield Station and building three bridges over the VIA Rail line.
- \$1 billion to extend the LRT to Barrhaven Town Centre.

As the recommended alignment of the LRT extension would affect

120 private rental units, the committee approved a motion to create a working group to examine options on how to assist the residents who are facing future relocation. The working group, which would include multiple city departments, Ottawa Community Housing representatives from the affected communities, the Ward Councillor, and the Council Liaison for Housing and Homelessness, would make recommendations to the Finance and Economic Development Committee by the end of the year.

The plan has to be approved by Ottawa City Council before it can obtain funding commitments from the federal and provincial governments. ♣



## Urgent action needed now to save 41,000 construction-related jobs in Ontario

**RCCAO commissioned a report** by Prism Economics and Analysis that examined the possible impact of cancellations of construction maintenance and repair projects by municipalities.

The analysis, *Averting a Crisis: The Need to Protect Ontario's Infrastructure Investments*, indicates that Ontario is headed for a worsening economic crisis if investments for these types of projects dry up.

More than 41,000 construction-related jobs will be lost in Ontario if deferrals and cancellations continue based on the unprecedented 35-per-cent drop in government and institutional building permits.

RCCAO is grateful for the work that the federal and provincial governments have done to get funds to municipalities, but maintains urgent action is still needed to ensure they can balance their budgets.

“We recognize that the federal government has put historic amounts of money on the table and the province has provided matching cost sharing for many programs as well as working

collaboratively with municipalities to quickly administer the process to get those funds out,” said RCCAO board chair Peter Smith. “However, despite the Herculean effort of the governments, municipalities are still projecting significant deficits for 2021 and will have no choice but to continue to raid their capital funds in order to balance their budgets.”

The volume of work has been decreasing and civil and engineering contractors are reporting they have fewer bidding opportunities. It is vital that federal and Ontario investment to support municipal infrastructure be accelerated during the pandemic. Municipalities need a commitment that they will have the support they need to balance their budgets.

“The worst case scenario for 41,000 workers in Ontario would be that despite all the incredible work and collaboration between the federal, provincial and municipal governments during this pandemic, the actual municipal deficit problem is not solved before February and the 2021 construction year is lost,” said Smith.

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Credit: Canada Infrastructure Bank

For the CIB to have success, projects like Montreal's REM, one of the Bank's first investments, will need to be part of a robust pipeline of projects structured to secure private funding.

**Inset:** Canada Infrastructure Bank CEO Ehren Cory

# LEADING THE BANK

New leadership ushers in the next phase of the Canada Infrastructure Bank.

By Andrew Macklin

The timing of the hiring may have been coincidental, but it likely could have lined up any better. Just a few weeks after the federal government's announcement of the \$10-billion Growth Plan, to be executed by the Canada Infrastructure Bank (CIB or Bank), Ehren Cory was named the Bank's new CEO. Cory's new opportunity follows a successful run as the chief executive officer at Infrastructure Ontario.

Cory was on day eight of the new job when I was able to catch up with him. We spoke about his passion for infrastructure, the role of the Bank, and the opportunities that lie ahead for the Canada Infrastructure Bank.

Here is what Ehren had to say.

**Looking at what came next for you following your tenure at IO, what was the appeal of joining the Canada Infrastructure Bank versus the other opportunities you considered?**

My own personal motivation very much is to figure out how do you leverage the private sector to do public good. I think there's an incredible opportunity for us to bring the best of both of those worlds together: to achieve public policy goals, to achieve public good, through leveraging the best of private sector thinking and capacity in all forms, including

capital. Bringing in new pools (of funding) and getting more infrastructure built faster is really what motivates me.

Infrastructure, what I love about it, Andrew, is that it's inter-generational, it's long lasting, it shapes communities, and it drives economies. I think there is no better space to be in.

Once I knew I wanted to stay in infrastructure, the promise of the Bank was just so appealing. The idea of, at a national scale, to play a role in filling a critical gap which I think the Bank can do in getting more built more quickly at better value to taxpayers, was too good to pass up.

**With a handful of projects at various stages of development and a \$10 billion Growth Plan mandate from the federal government, where do you start? How do you start to have an impact in the earliest days of your work with CIB?**

I feel like my timing coincides really nicely with the maturity and the evolution of the institution. So, in terms of where I focus, I feel the Growth Plan is, in the short term, absolutely the priority. It gives us the opportunity to test some new models, to expand our work into some new sectors

of the infrastructure space. We're seeing that with our Alberta irrigation project for instance. I think other areas like zero emissions buses and energy retrofits for buildings are also really good examples of taking the power of the CIB to some new sectors. So, the Growth Plan does that. And, maybe even more importantly, what the Growth Plan does is that it gives us the opportunity to set up a track record of execution and of successful investments that we can then use as a platform to grow from.

I don't lose my sight at all of the longer term, and I think that the nice thing about managing a funnel of investments is we can work in different time horizons: short-, medium-, and long-term. But overall, my initial focus is: let's deliver on the fundamentals of the Growth Plan, let's build a track record of credibility and success for the CIB.

**During the discussion you had at the Canadian Council for Public-Private Partnerships' conference, you mentioned this idea of trying to structure deals in a way that the market would invest in. Can you expand on what you meant by that?**

I think what's really exciting for the CIB is that we are designed to fill in a gap.

I like how John (Casola) put it: it is simple but it is very elegant. There are projects in this world that are commercial, that don't require government intervention, that happen all the time across our country. That's investments like transmission or broadband in urban areas where the customer base is such and the revenue base is such that those projects are investable, and bankable and happen.

At the other end of the spectrum, there are social infrastructure that are truly the domain of government. They are publicly funded, they don't come with their own funding source of any kind, and they are through traditional public financing means and that's appropriate.

And there is this huge area in the middle that are projects that are on the margin: they have economics to them that are challenging or they have other hurdles. But they are fundamentally good projects that just need a nudge to get over the line. That's the place where the Bank can uniquely play and that the whole concept of the CIB is to figure out how do we fill those structural gaps, how do we leverage different pools of capital and different deal structures, and have the Bank play a bridging role to fulfill those.

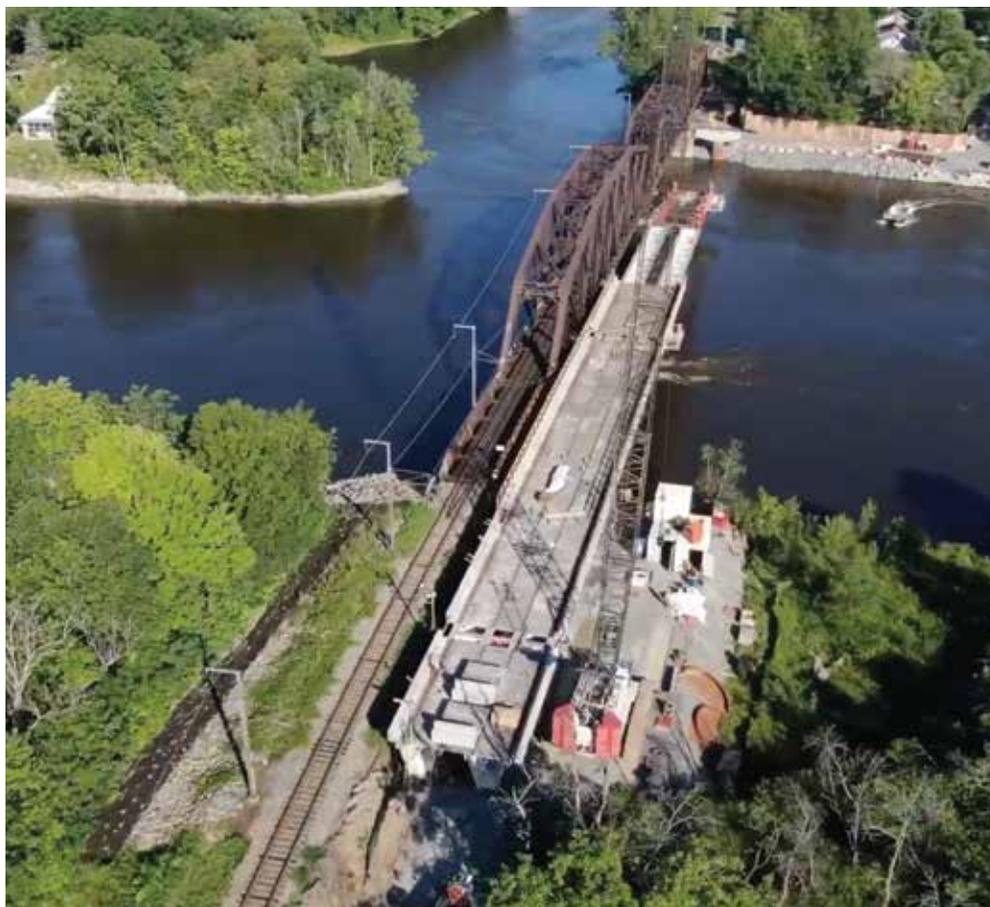
If you accept that, then the real question is: how best do you identify where those gaps are? One way, for sure, is to talk to project owners: provinces and municipalities who have good projects that could go faster or come to reality more quickly and at better value to taxpayers. We're doing that, and I think that's incredibly important. They are the owners of those projects and they are the people that are our partners and that we want to support.

But the other way, which I think is equally important, is to turn the other direction and to talk to those pools of capital, talk to an institutional investor, talk to the very sophisticated Canadian landscape and eco-system of infrastructure investors. We have some of the best in the world here. And to better work with them to see what they see as the gaps to their participation in those projects.

### As you look at the opportunities ahead of you, where do you hope the Bank will be five years from now?

When I think about where we want to be, there's three core elements that I am focused on.

The first is, delivering results. Three-to-five years from now, we have got a real track record for the CIB and we have shifted fully from start up into execution mode. We've got an incredible deal flow; our funnel is huge. Now, over the coming months, the goal is really to change that and turn that into delivered investments. The Growth Plan set that tone, our first investment coming out the Growth Plan Alberta irrigation does,



Credit: REM

and we need to follow that up. If we do that well, three-to-five years from now, the CIB will have a true track record across sectors and across this country. And that will open up even more doors and more opportunities for us.

So that's priority one.

Priority two is to then really grow that universe; expand private investments and grow the Canadian market. What I mean by that is to reach out to the institutional investor side. I think we are doing a great job with project owners and understanding how we can play a role in their projects, but I think on the market side we can be doing even more to proactively engage them, up front, to structure those transactions and figure out how to involve them in the creation of public infrastructure. Three-to-five years from now on that hopefully we've grown the pool of investors, grown the types of projects we're doing, maybe grown the definition a little bit of how we think about infrastructure in this country and there's some new and creative areas there.

That's the second thing that I would like to look back on.

And the third is around having built, and continuing to build, the CIB as an institution, and as a part of the overall infrastructure landscape in Canada.

I am so impressed by the team at the CIB. They've put in a lot of hard work, a lot of sweat equity over the last two years, and there's a great foundation there with a lot of expertise. I think we are going to continue to

build on that, adding to our depth of knowledge in specific sectors, because I don't think you can be a good investor until you have a good depth of understanding. Making sure regionally we're covered. We've got an office in Calgary and we are covered in the West. We've got an office in Montreal, and they are really focused on the Quebec and Atlantic markets. But I think we are going to need to continue to expand our reach to all parts of the country, east, west, north. Working with Indigenous partners as well as municipalities and provinces. Playing our role in that eco-system.

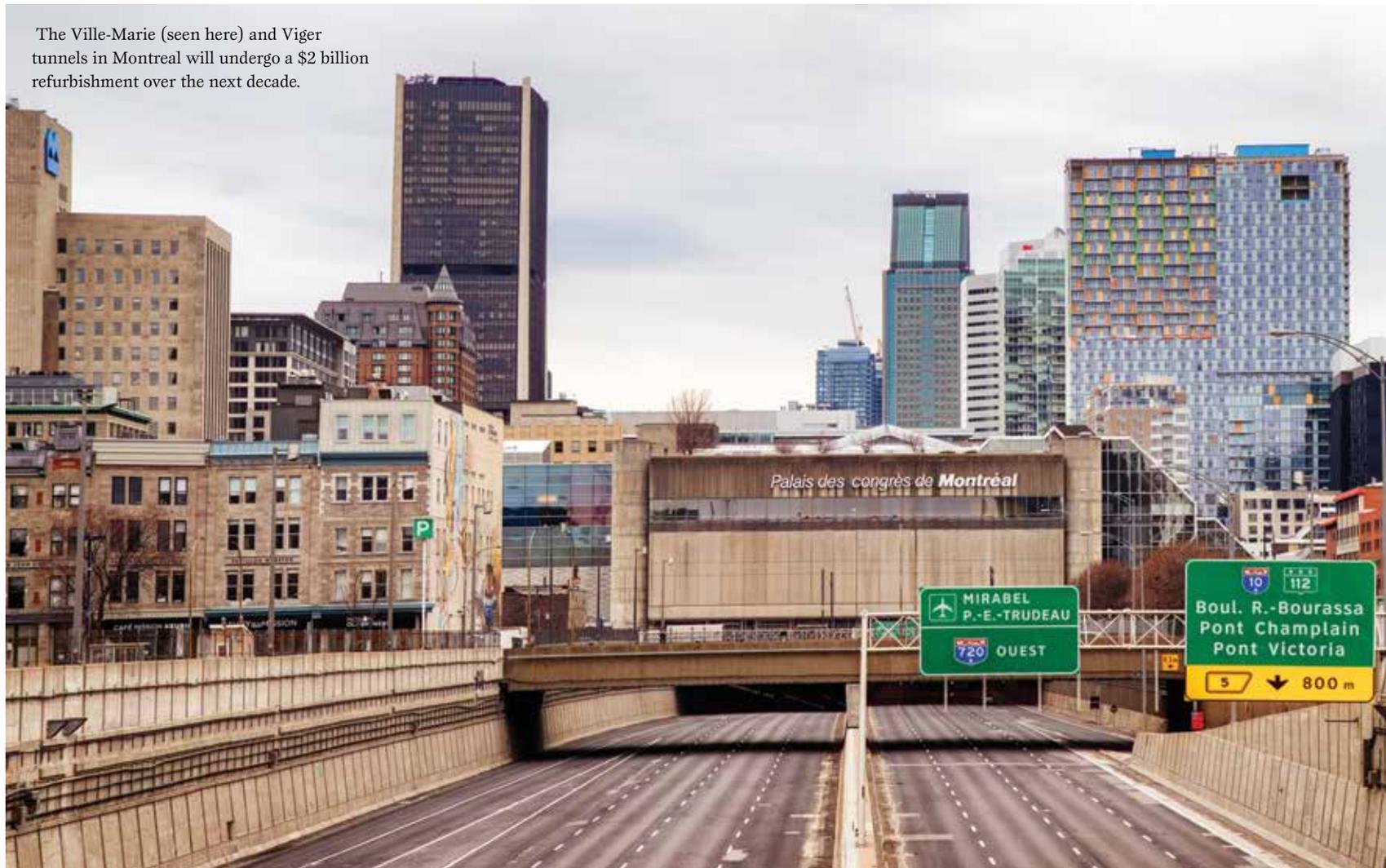
But I think really, in three-to-five years from now, if we've been successful on this third mission, the CIB itself will be a strong institution. It will have the capabilities it needs, and it will be a strong institution that is embedded with the rest of this landscape of public sector owners and private sector investors, constructors, and the infrastructure industry at large.

If we can get those three right, the track record of success, growing and expanding that market to new sectors, new types of projects, and new investors, and then building the CIB as an institution and solidifying its role in the broader infrastructure landscape, that would be success.

*Ehren, thank you for taking the time out of your busy schedule to speak with us. 🍁*

**Andrew Macklin is the managing editor of ReNew Canada.**

The Ville-Marie (seen here) and Viger tunnels in Montreal will undergo a \$2 billion refurbishment over the next decade.



# CANADA'S INFRASTRUCTURE MEGAPROJECTS

Analyzing the results of our 2021 Top100 Projects report. *By Andrew Macklin*

Nearly 10 months since Canada began feeling the impacts of the COVID-19 pandemic, infrastructure megaproject development in the country has not slowed down. Sure, there were delays along the way but construction eventually got back to 100 per cent, new health and safety measures were implemented, teams worked even harder to still meet deadlines, and massive builds were completed. It was a year like no other, and yet, despite bumps in the road, some results stayed the same.

In the case of Canada's Top100 Projects, the overall value continued to grow, with an increase of almost \$13 billion to \$253.77 billion versus last year's \$240.8 billion. The list turned over 16 projects, 12 of which were due to substantial completion being reached, and 14 never-before-listed projects found their way into the 2021 report.

Of the 10 projects valued at \$1 billion or greater removed from the 2020 list, just one was valued at more than \$2 billion despite 30 projects reaching that threshold in the 2020 report.

Of those 10, only seven were due to reaching substantial completion, with three others removed due to project cancellation. However, only one of the three cancellations was as a result of the pandemic.

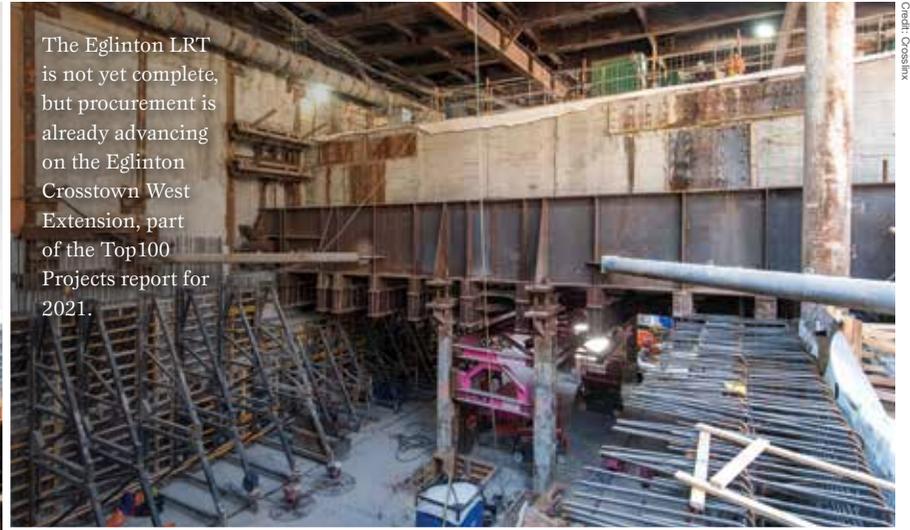
In the 2021 version of the report, four of the 16 new projects in the 2021 report carry a value, capital cost or P3 contract value, of over \$2 billion. The new projects were fairly evenly split with the key development sectors, with four projects each from the transit, transportation, and energy sectors, along with three from the buildings sectors.

Here is a breakdown of megaproject development activities across Canada, starting on the west coast.

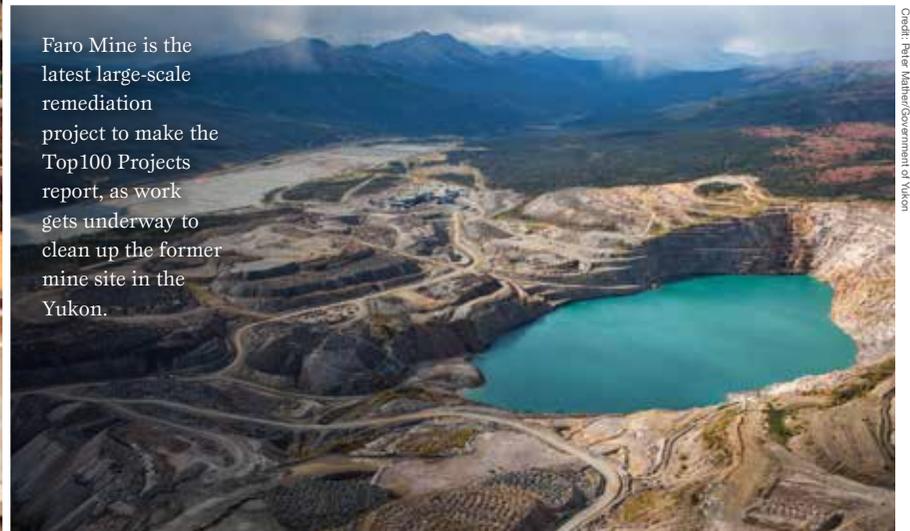
## British Columbia

The government's continued focus on health care and transportation developments, along with some targeted transit investments, have kept B.C. as the third largest project for megaproject developments in Canada. There was one very unfortunate removal from the 2021 list, as Vancouver International Airport announced the cancellation of its CORE program in September.

The development of megaprojects in B.C. was interrupted in the latter part of the year, as the province shifted its focus to an election. However, returning Premier John Horgan announced additional funding for the Surrey Langley SkyTrain Project which, if the campaign promise is kept, will add \$1.5 billion to the cost of that project to extend the line.



The Eglinton LRT is not yet complete, but procurement is already advancing on the Eglinton Crosstown West Extension, part of the Top100 Projects report for 2021.



Faro Mine is the latest large-scale remediation project to make the Top100 Projects report, as work gets underway to clean up the former mine site in the Yukon.

Credit: Crosslink

Credit: Peter Mathew/Government of Yukon

## Alberta

Alberta's involvement in the megaproject landscape continues to be driven by new assets under development in both Edmonton and Calgary.

Just one of the three projects leaving the list, Crowchild Trail Upgrades, came from the province's two major centres, while two of the three new additions (Zwozdesky Centre and Calgary Event Centre), are based in the key urban centres. However, the Grande Prairie Regional Hospital finally reached substantial completion, a welcome sign after the project became a centre of controversy under the previous government.

Transit development continued to move forward, with the successful proponent named for the \$2.6-billion valley Line West LRT in October. Expect the proponent for the \$5.5-billion Green Line LRT to be named in 2021.

## Saskatchewan

Saskatchewan continues to have a couple of projects on the list, as the development of new energy assets and transportation upgrades are the drivers of new megaprojects in the province. The Great Plains Power Station is the latest natural gas power plant

to be added to the list, as Saskatchewan looks to tap its resources as a solution for eliminating coal-fired power generation.

The next big transportation project, the Saskatoon Freeway Project, is likely still a few years away. It will be the next significant transportation project undertaken in the province.

## Manitoba

The Keeyask Generating Station remains the focal point of infrastructure megaproject development in Manitoba. Access to the station was cut off at one point in 2020 as concerns over the spread of COVID-19 from neighbouring communities caused roads to be blocked off. However, the project remains on schedule for completion in 2021.

The only change to the 2021 report in relation to Manitoba was the completion of the Manitoba-Minnesota Transmission Line, giving the province the opportunity to sell excess clean power to the United States.

## Ontario

This is the first time in several years that the number of projects in Ontario actually dropped, as seven projects were removed while just three new ones were added. Five

projects reached substantial completion, while two others were removed for no longer being active (Hamilton LRT and the Deep Geologic Repository).

It will come as no surprise that all three new Ontario projects are related to transit in the Greater Toronto Area. The Ontario Line and Eglinton Crosstown West LRT are key components of the transit growth strategy for Toronto, while the Bloor-Yonge Station Capacity Improvements are vital for the development of the third component of the expansion plan, the Yonge North Subway Expansion.

No new health care assets were added to this year's report, however that will change dramatically over the next few years assuming the dates in the province's P3 Market Update remain the same.

## Quebec

Ontario's loss is Quebec's gain. La belle province added four projects to the list this year, with new projects in the transportation, transit, and energy sectors added to the list.

The biggest beneficiary of the new Quebec-based investments represented in this year's report is commuters in Montreal. All three new transportation projects involve the city's road network. The Deconstruction



Faro Mine in the Yukon.

**Top100**  
 Canada's Biggest  
 Infrastructure Projects

For additional  
 information about the  
 2021 Top100 Projects report,  
 visit [top100projects.ca](http://top100projects.ca)

Credit: Peter Mathew/Government of Yukon

## OFF THE LIST

Here is the list of projects no longer listed as part of the Top100 Projects report:

- Turcot Interchange
- York VIVA Bus Rapid Transit
- Vancouver International Airport Upgrades
- Crowchild Trail Upgrades
- Cortelucci Vaughan Hospital
- Romaine Complex Transmission Line
- Alberta Carbon Trunk Line
- Highway 407 Phase 2 Extension
- Deep Geologic Repository
- Hamilton LRT
- Capital Region District Wastewater Treatment Project
- CAMH Phase 1C Redevelopment Project
- Grande Prairie Regional Hospital
- Wilson Facility Enhancement and Yard Expansion
- Regina Revitalization Initiative
- Manitoba-Minnesota Transmission Line

of the Champlain Bridge will impact those drivers to a lesser degree, but that's because they are already reaping the benefits of the new bridge.

The province continues to upgrade its clean energy infrastructure, with the addition of another key refurbishment project (Carillon GS) to the list, as well as the new Micoua-Saguenay Transmission project.

### Atlantic Canada

There is only one change to the report for Atlantic Canada in the 2021 Top100 Projects. The Government of Nova Scotia's awarding of a \$711.9-million contract for the Highway 104 project, a significant widening of the 100-series highway running west to east in the northern part of the mainland, is the only change. Next year will be a different story of course, as the Muskrat Falls project will reach substantial completion sometime this year.

There are a few megaprojects under development in Atlantic Canada right now, but none are likely to be far enough along in the procurement process to make the list for, at least, a few more years.

### Northern Canada

Like Atlantic Canada, there is just one

change to the report for Northern Canada in 2021, and it is the addition of a new project. The Faro Mine Rehabilitation Project is underway in the Yukon, with preliminary studies and environmental assessment (EA) underway. The project currently carries a \$500 million budget, although that figure could grow based on the findings of the EA.

Unlike Atlantic Canada, there is the prospect of several new projects in the foreseeable future. Proposed energy and transportation projects are well into early stage development, and the securing of project funding is the last key hurdle in many cases. The territories have shown a recent ability to adapt their funding models by engaging the private sector (Yukon Resource Gateway Project) and the Canada Infrastructure Bank (Kivalliq Hydro-Fibre Link). 🍁

**Andrew Macklin is the managing editor of ReNew Canada.**

Information submissions and project updates are welcomed year-round, and can be submitted directly to me at [andrew@actualmedia.ca](mailto:andrew@actualmedia.ca).



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After a difficult start to the fall construction season, a freeze in November allowed construction teams to access much of the area needed in order to build the transmission line.



All photos: Manitoba Hydro

# POWER UP

Manitoba–Minnesota Transmission Project up and running. *By Andrew Snook*

After more than 10 years of planning and regulatory hurdles, the Manitoba–Minnesota Transmission Project (MMTP) went into service on June 1, 2020. The MMTP is a 213-kilometre, 500-kilovolt AC transmission line built to deliver additional electricity to Manitoba Hydro’s neighbour to the south, Minnesota Power.

The transmission line starts at the Dorsey converter station located near Rosser, northwest of Winnipeg, travels south around Winnipeg and passes near the Riel Station (east of the city) along what is known as the Southern Loop corridor. It then continues south to the Manitoba–Minnesota border and connects to the Great Northern Transmission Line (constructed by Minnesota Power), the name of the line on the U.S. side of the border to which MMTP is connected. The line terminates at Iron Range Station located northwest of Duluth, Minn. The cost for the MMTP was approximately \$490 million.

“The new interconnection strengthens the overall reliability of Manitoba’s

electricity supply, allows Manitoba Hydro to fulfill current export sales agreements and increases access to markets in the United States,” said Riley McDonald, media relations for Manitoba Hydro. “In just under eight months, Manitoba Hydro and its contractors constructed 502 towers, strung them, and connected it to the regional grid—all over some boggy and challenging terrain. MMTP’s completion on-time and on-budget was a triumph in the face of weather hurdles, a compressed construction schedule due to regulatory approvals, and a global pandemic.”

Eryn Brown, project manager for MMTP, says there were several challenging aspects that needed to be overcome to get this impressive piece of infrastructure over the finish line.

“All the work on preparatory materials and on the regulatory front, and the great efforts that went into all the stakeholder engagement—and then there was the battle with a shortened construction schedule (from an expected two to three years down to just eight months), heavy rainfall at the

beginning of construction, and a pandemic at the end,” Brown said. “All this, and to still come in on schedule and on budget — that’s a testament to the amazing abilities of the team and the staff who worked on MMTP from all phases of the project.”

## Regulatory Hurdles

To get the green light for the MMTP, Manitoba Hydro needed to obtain approvals on both the provincial and federal levels.

“Provincially, the project is a Class 3 development under the Manitoba Environment Act, which required a comprehensive scoping process and Environmental Impact Statement (EIS). A Clean Environment Commission Hearing was held and recommendations from that body informed the Environment Act Licence that was ultimately issued at the provincial level,” Brown explained. “Federally, because the project is an international power line and affected an existing international power line (Riel IPL), a Federal Certificate was required. This required a comprehensive federal application and a public hearing with

Helicopter stringing was used for parts of the 213-kilometre transmission line, providing clean power to the State of Minnesota.



the Canada Energy Regulator (previously known as the National Energy Board, or NEB). The project needed to meet requirements of both the NEB Act (now the CER Act) and the Canadian Environmental Assessment Act.”

The regulatory review process for the project took close to four years to complete. The EIS for the project was filed with the Province of Manitoba on September 2015 and the licence was received on April 2019. The application with the NEB was filed on December 2016 and the certificate was received on August 2019.

There were several challenging aspects that needed to be overcome to get this impressive piece of infrastructure over the finish line.

“In the U.S., Minnesota Power was responsible for acquiring the state and federal approvals to construct the Great Northern Transmission Project,” Brown adds.

### A Wet Season

The construction of the MMTP had to be managed through an unusually wet fall season. This created challenges for getting heavy equipment onto the project site.

“Construction access matting was deployed heavily across the project and there were over 30,000 mats deployed over areas of the 214-kilometre long transmission line,” Brown says.

An early winter storm with a significant snowfall took place in October, which forced construction to slow down while contractors dug themselves out of it.

“Weather was more favourable after this. The ground froze in early November, which allowed contractors access to most areas of the project site under frozen conditions,” Brown says. “Winter temperatures were not

unseasonably cold or warm—both of which would have made working more difficult—and spring thaw wasn’t until the end of March, which gave the contractor an extended season across the entire project area.”

After the MMTP went into service on June 1, the work wasn’t quite complete. There was still cleanup and deficiency work on the line that needed to be performed, as well as additional commissioning of

station equipment. Although the COVID-19 coronavirus pandemic was declared partway through the construction of the project, it did not cause any delays.

“We scheduled that work during two different outages in October and was completed faster than expected and without any issue,” Brown said. “All COVID-19 protocols were in place during this work and construction staff were able to complete all tasks on time.”

### Lessons Learned

After spending more than a decade on a massive infrastructure project, there are always lessons learned from the experience that can carry over to working on and managing future projects. For Brown, the construction of the MMTP showed the value of solid planning.

“As with any large project, planning ahead and anticipating delays is key. One of the biggest lessons we learned is that through careful planning and diligent work, our teams and contractors are capable of doing great things in short periods of time,” Brown says. 🌱



**Andrew Snook is a freelance business-to-business writer based in Mississauga, Ont.**

All photos: MacKenzie Health



West view of Cortellucci Vaughan Hospital capturing the bright walkway linking the parkade to the hospital.



The operating birthing suites at Cortellucci Vaughan Hospital will feature the latest in smart technology to ensure moms and babies get the best care possible.



The brightly lit Vic De Zen Family Welcome Centre is the first space patients and visitors see when they walk in to Cortellucci Vaughan Hospital.



One of hundreds of inpatient rooms at Cortellucci Vaughan Hospital featuring floor to ceiling windows to bring natural light inside.



East view of Cortellucci Vaughan Hospital with the Giovanni De Gasperis Eugene Kohn Learning Centre in view.

# ONE SMART HOSPITAL

Adding health care capacity to one of Canada's fastest growing regions.

*By Andrew Snook*

It may surprise you to hear that this year will mark the opening of the City of Vaughan's first hospital. With a population of approximately 325,000, it is the largest city in Ontario to not have its own hospital. That is, until now. The Cortellucci Vaughan Hospital finished constructed in September and is set to open in early 2021 to the public to service the residents in southwest York Region. The \$1.7-billion hospital project was largely funded by the Province of Ontario, which invested \$1.3 billion into the much-needed health care infrastructure.

The contract for the construction of the hospital was a DBFM (design-build-finance-maintain) with the bid awarded to Plenary Health, which is comprised of Plenary Group (Canada) Ltd. (developer and financial advisor); Stantec Architecture Ltd. (design); PCL Constructors Canada Inc. (design builder); and Johnson Controls Canada LP (facilities management).

The Cortellucci Vaughan Hospital will be the first smart hospital in Canada, providing residents a variety of features including a state-of-the-art emergency department; modern surgical services and operating rooms; advanced diagnostic imaging; specialized ambulatory clinics and intensive care beds; and integrated smart digital technology systems.

The building has been constructed to meet Leadership in Energy and Environmental Design (LEED) Silver standards with a focus on healthy indoor environments, reduced greenhouse gas emissions, and efficient use of energy, water, and other resources.

The new hospital is 1.2-million square feet in size and has 11 floors. It features a capacity of 342 beds with room to expand; a birthing centre equipped

for 4,000 births each year; the capacity for 24,000 additional medical imaging exams each year; 1,800 parking spaces; and 80 per cent of the acute care patient rooms will be single occupancy.

“This is a greenfield net new hospital. It’s the first net new hospital to be undertaken in Ontario in over 30 years,” said David Stolte, vice president of strategy and redevelopment at Mackenzie Health. “The other projects that are new hospitals are replacement hospitals, replacing aged buildings. This will change Mackenzie Health from having a hospital in Richmond Hill to having hospitals in Vaughan and Richmond Hill.”

The opening of the Cortellucci Vaughan Hospital will mean there are now two hospitals serving the southwest York Region. Until now, the Mackenzie Richmond Hill Hospital has been serving Vaughan residents. But now the area’s residents will have an additional hospital that is equipped with state-of-the-art medical technologies, as well as additional medical staff, physicians, and volunteers that will be able to serve both locations.

“We have advanced systems that are integrated, where devices and systems can actually have communication with each other, and will be, over time, phasing in a number of these connections and workflows. This will have many benefits with some of them directly for the patients. For example,

**The design processes help achieve what is important from a patient perspective and design spaces that enable the best patient experiences.**

in a patient’s room, having the ability to have that electronic medical record available at the bedside with a tablet, and that tablet able to provide information about their condition and being able to control the physical environment like lights and shade,” Stolte said, adding that patients will have the ability to understand who their care patient team is. “This makes things more efficient and a safer care environment for staff to deliver care in.”

The Cortellucci Vaughan Hospital has been developed in a well-placed location in the City of Vaughan with working cooperation with the city to put in place the municipal infrastructure in advance of the project.

“The City of Vaughan secured the land and was on a long-term land lease for that land,” Stolte said. “The hospital is programmed for 342 beds, but it has significant capacity

available that’s been built into the hospital to expand into the future through shelled space and other soft space that can be temporarily located and moved in the future with some additional space to have over 550 beds. There is a good growth strategy built into this project.”

Stolte says the hospital was designed using the perspective of its future patients.

“Many planning efforts were made dating back to 2010 to ensure that we understand what’s most important from a patient’s perspective,” he said. “The design processes help achieve what is important from a patient perspective and design spaces that enable the best patient experiences.”

### No Vacancies

The southern York Region has been served by Mackenzie Health in Richmond Hill for more than 50 years, with the Mackenzie Richmond Hill Hospital opening in 1963. Although the hospital has gone through several expansions since that time—with the most recent expansion taking place in 2009—it has been unable to keep up with the quickly growing populations of Vaughan, Richmond Hill, and the surrounding communities.

“It has been unable to have the right level of capacity for the growing population. The population of Richmond Hill and Vaughan have explosive growth rates of roughly

550,000 people [combined]. Then, add on portions of surrounding communities like King and western parts of Markham, and the population accessing it is even higher than that. This has outstripped the ability of Mackenzie Richmond Hill Hospital to have capacity to deal with that. Mackenzie has had most significant overcrowding challenges compared to all the other hospitals in province,” Stolte said.

Staffing for the new hospital is currently underway. There will be 3,000 total staff trained to be able to work between the two hospitals, with 1,500 new staff coming onboard, as well as 100 new physicians and 350 volunteers.

“The staff and the leaders of the Mackenzie Health had the unique opportunity to plan for a new hospital where many people will stay in Richmond Hill. There’s a large degree of

recruitment in Vaughan and Richmond Hill to provide care in the two sites,” Stolte said.

### Constructing in COVID

Some of the biggest challenges the project faced were related to the onset of the COVID-19 coronavirus pandemic.

“Obviously, this is something that hadn’t been captured or thought would happen within the implementation of the project. It posed challenges for the hospital team, in that the hospital needs to be focused on care delivery,” Stolte said. “Although we have a dedicated project team that is located at the construction site, a lot of what a hospital does to assist with the completion of the project is to have operational users and providers be part of that process to review construction on site and to see space as its developed and make certain decisions along the way. I needed to adjust that through the process so the operational focus could be on COVID and the pandemic and be able to see that project through in a different way. Credit goes to PCL and Plenary Health for being able to continue the construction process despite the pandemic. I know it was a lot of work.”

Stolte added that keeping the lines of communication open between staff at Mackenzie Health and the consortium building the new hospital has been key to the project’s success.

“That team really came through to be able to hold onto that schedule,” he said.

The experience of constructing a major piece of infrastructure through a pandemic will help build up organizational resilience, and organizational and leadership capacity, Stolte noted.

“I think what it does is it’s an accomplishment that draws on so many individual skills and team skills. It really builds up resilience and confidence to take on those next challenges,” he said.

Having been on the project for its entire 10-year duration from planning to the final construction, Stolte is excited to see the many of the ideas brought forth by the team at Mackenzie Health come to fruition.

“To see the early ideas play out through an entire process has been really rewarding,” he said. “To see those early efforts from 2011 and 2012 feed directly into the project and physical manifestation off how that plays out in the hospitals... I think we can all say that the early efforts paid off.” ❁

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**Andrew Snook is a freelance business-to-business writer based in Mississauga, Ont.**



Credit: Region of Waterloo

Send us your best infrastructure image, and you may see it featured here. Email Managing Editor Andrew Macklin at [andrew@actualmedia.ca](mailto:andrew@actualmedia.ca) for details.



## The Centre of Attention

Preliminary design of the Region of Waterloo's new King-Victoria Transit Hub. — Staff



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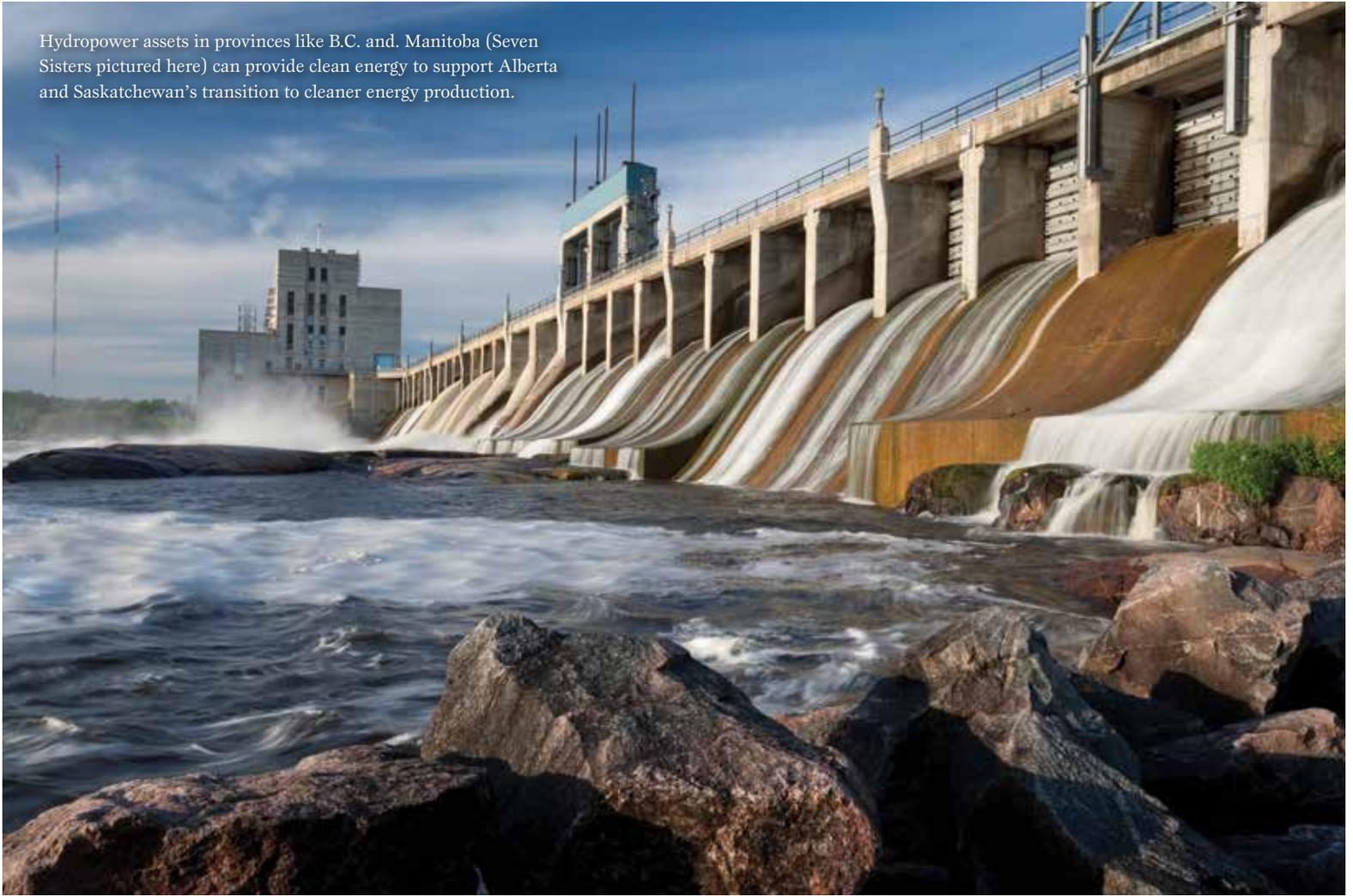
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Hydropower assets in provinces like B.C. and Manitoba (Seven Sisters pictured here) can provide clean energy to support Alberta and Saskatchewan's transition to cleaner energy production.



# ELECTRIFYING THE ECONOMY

Canada's path to a clean energy future. *By Andrew Macklin*

Canada is one of the largest clean energy producers in the world. The country is well on its way to reducing emissions from energy even further, as coal is phased out of the four remaining provinces in the next decade.

But what happens when a commitment is made to electrifying the Canadian economy? Where does this new supply of clean energy come from, and how do we scale that infrastructure in time to reach a set deadline? These questions were part of the conversation at ReNew Canada's October 2020 InfraIntelligence discussion series event, with support from Valard Construction, on electrifying the economy.

According to Natural Resources Canada, the Canadian energy industry generated 641.1 terawatt-hours of electricity in 2018. Approximately 67 per cent of Canada's electricity comes from renewable sources, and 82 per cent comes from non-GHG emitting sources. Canada is the third largest producer of hydroelectricity, and the fifth largest producer of clean energy in the world (as of 2019).

As previously mentioned, coal is still used for energy generation in four countries: Nova Scotia, Saskatchewan, Alberta, and New Brunswick. The Government of Canada declared in December 2018 that traditional coal-fired power generation must be phased out by 2030. Plans to remove coal-fired generation have resulted in new energy projects in Alberta and Saskatchewan in recent years, several of which have focused on natural gas, as both provinces have an abundance of resources available. New Brunswick and Nova Scotia are less far along in their transition, as they continue to weigh options for rehabilitated, new, or imported renewable energy to replace coal.

In addition to coal, approximately 11 per cent of Canada's electricity sector is oil, gas, and other forms of fuels. Other than natural gas supplies, this number represents the numerous remote and Indigenous communities, and resource sector operations, not connected to the grid, relying instead on the import of diesel fuel for energy production.

Eliminating these GHG-intensive forms of energy production can be done. Robert Hornung, president of the Canadian Renewable Energy Association, suggested that there is no shortage of opportunity for further development of green energy resources.

"We have a tremendous amount of untapped energy resources [...], whether it's hydropower in terms of refurbishment, [...] a lot of untapped wind and solar potential, or the green renewables being piloted across the country right now. So, we have an abundance of resources that really put us in a position to not only clean our electricity system [...] but also expand that system going forward."

## Power Sharing?

Where that additional power is located is one of the first problems that needs to be solved. In provinces where hydroelectric generation is not an option, what is the alternative? Thousands of acres devoted to wind and solar farms? The creation of new nuclear power generation facilities? Biomass and

Re-powering the first generation of wind farms using new technologies has potential to add significant new energy resources to the grid.



biofuels? Geothermal? Energy storage?

The answer to that may not start with a specific type of technology. Instead, it should start with opportunities to breakdown provincial trade barriers in order to get more power running west to east rather than north to south. As Valard Construction's vice president of Ontario operations Keith Sones pointed out, some energy production in Canada is regionally trapped. "We have lots of energy available, it is not necessarily

Saskatchewan, New Brunswick, and Nova Scotia. All four are next to provinces that have high levels of hydroelectric production currently (B.C., Manitoba, Quebec, and Newfoundland), and could feed excess power to the provinces. As an example, the completion of the Maritime Link in late 2017, which can provide power from the Muskrat Falls project to Cape Breton Island.

The creation of a more robust provincial/territorial transmission system would also

transmission line through northern Ontario that will connect 17 First Nations communities to the provincial grid, all of which are currently burning diesel for power generation. In total, the project is estimated to avoid 6.6 million tonnes of CO<sub>2</sub> equivalent GHG emissions over 40 years.

### The Transportation Challenge

As significant as the elimination of coal and the removal of fossil fuel-based energy generation are for helping to reduce the greenhouse gas emissions in Canada as part of the electrification of the Canadian economy, one of the biggest opportunities comes from the transportation sector.

According to Natural Resources Canada, the transportation sector produced GHG emissions of approximately 186 megatonnes of carbon dioxide equivalents in 2018. The evolution of electric vehicles is an opportunity to reduce this output significantly, but does not come without its challenges.

The primary challenge is the lack of a clear federal direction on the electrification of the sector. Right now, there is no federal mandate stating when vehicles in Canada will need to be zero emissions. When that plan is introduced, there are a lot of important things to consider. And it starts with infrastructure.

Infrastructure development, regulatory barriers, and education, are all part of the focus needed for the transition to an electrified economy.

available where it is needed." Unlocking the opportunity to move energy resources to where it is needed takes two key drivers: governance that opens the doors to free trade among the provinces and territories, and the transmission infrastructure to facilitate the movement of power amongst the provinces.

This could, to start, help eliminate some of the gap left by the elimination of coal in the four aforementioned provinces: Alberta,

help energy asset owners, both current and future, a reason to consider adding further capacity to the grid. With a strengthened network that reaches some of the more remote parts of the province, parts relying on diesel and heating oil for power, available clean energy capacity could replace some of the fossil fuel generation. The Wataynikaneyap Transmission Project is an example of this, as the new 1,800-kilometre

## ELECTRIFICATION OF THE ECONOMY

We asked attendees a couple of key questions about the future electrification of the economy. Here is what they had to say:

**What is the single biggest obstacle facing electrification?**

**Government policy 47.4%**

**User Habits 21.1%**

**Lack of Infrastructure 21.1%**

**Oil & Gas Industry 5.3%**

**Other 5.3%**

**Which energy resource is best suited for expansion to meet future energy needs?**

**Energy Storage 50%**

**Hydroelectric 30%**

**Nuclear 10%**

**Wind 10%**

**Solar 0%**

**Geothermal 0%**

“We have to look at the infrastructure as a whole because electrification requires a number of different things,” explained Sones. “It requires manufacturing, it requires charging stations that aren’t going to impede the economy, which means different technology has to be deployed. Something has to provide that electricity to the charging stations in the first place.”

A thoughtful, robust strategy for the build-out of the infrastructure needed for a national charging network will be key and, as Sones also noted, that includes understanding the differences between a build-out in a major city versus a small town.

The clear mandate from the federal government, including real estimates on the new energy capacity needed in order to electrify the transportation sector by a targeted date, would then signal energy asset owners that more clean energy will need to be produced, which again opens up a number of options. Do you look at the refurbishment of hydroelectric plants to add capacity? If so, as noted by HydroPower Canada Acting President Patrick Bateman, those decisions need to be made soon as a number of key assets are about to undergo, or are undergoing, major refurbishments to extend the asset’s life.

“Having long-term climate change targets that lay out how much clean energy we’re going to need in the decades ahead is really needed when the investments are multi-decade investments,” said Bateman.

There are also opportunities to add capacity through current solar and wind assets through the process of re-powering. This is already happening with some of the earliest wind farms erected in Canada, as technological improvements have resulted in the ability to use half as many turbines to produce three times as much power. Hornung noted that is happening quite extensively right now in the European market. Solar, wind, and pumped-storage hydropower are options for electricity generation on under-utilized lands, such as aggregate pits and quarries and landfills.

It could also spur private sector interest in energy development. The Alberta market is already driven by private asset owners, and two projects underway are among the 100 largest public sector infrastructure assets under development in Canada (Travers Solar Project and Cascade Power Project). In the other Canadian markets, private investors could look for opportunities to use capital to help drive clean energy development. We’ve already seen the commitment of \$2.5 billion towards clean power as part of the Canada Infrastructure Bank’s (CIB) Growth Plan. The CIB has already signed a Memorandum of Understanding with the group developing the proposed Kivalliq Hydro-Fibre Link.

The biggest stumbling block towards electrification is not at the project level,

up with evolving energy technologies, creating the need for a new, fundamental approach to energy distribution.

There would also be a need to provide additional resources for the labour market in order to meet the demands of electrification.

“We have the labour force, but [...] we do not have the full skill set,” explained Sones. “We have enough human resource to be able to execute this work across the country, but currently, many of them are occupied doing other things.” The University of Alberta, for example, has recently launched a renewable energy training program to meet the shortage of skills in the sector in the province. The programming, focused on getting engineers and technicians working in the field, is targeting, in part, workers in the oil and gas industry who already have some of the right skills, but not with a focus on how they can be utilized in the field of renewable energy.

Infrastructure development, regulatory barriers, and education are all part of the focus needed for the transition to an electrified economy. But it will take support for all three to initiate a successful transition.

“What I would like to see is not just a simple goal stated, but a pathway to get there,” stated Kevin Palmer-Wilson, a research associate with the Institute for Integrated Energy Systems at the University of Victoria. “That means comprehensive support on each individual technology level.”

If the federal government is going to make the long-term shift to a green economy, as it has suggested, then it needs to be sure to

The primary challenge is the lack of a clear federal direction on the electrification of the (transportation) sector.

as Sones noted. The challenge is the regulatory and market barriers that currently exist. There are the regional barriers previously mentioned, which the panellists agreed could be eliminated with a more regional or national approach to energy generation rather than the provincial and territorial silos that currently exist. But even at a micro level, small projects like the integration of rooftop solar on residential and commercial buildings is met, in most cases, with a highly complicated process that can impose fees that no longer make the project fiscally viable. Hornung suggested it can be a struggle for utilities to keep

consult with the energy sector. There are resources available to provide the needed electricity, and there are additional projects ready to go, but the energy sector needs to have a seat at the table to help identify obstacles, discuss the needs for infrastructure both for generation and distribution, and incorporate energy innovations as they become financially viable. A failure to do so could jeopardize Canada’s ability to meet the lofty targets that it sets for emissions reductions. ✿

**Andrew Macklin is the managing editor of ReNew Canada.**



Walter Gaudet, senior vice president and buildings + places regional business line leader for Canada for AECOM shares a laugh with a few colleagues.



The 2020 Top100 Projects Dinner was held at The Carlu in Toronto and attended by over 300 guests.



Morrison Hershfield president and CEO Anthony Karakatsanis and WSP president and CEO Ryan Brain engaged in a discussion.



Hatch senior project manager Ellie Moradinezhad with EXP executive vice president of major projects Reece Bailey.



Actual Media president and CEO Todd Latham shared a story with Morrison Hershfield vice president of business development Loui Pappas and geotechnical engineering technologist Darrin Sellick from Golder.



Golder's marketing specialist for NA infrastructure & power sector Kendra Mulhern with colleague and environmental assessment specialist/planner Sarah Schmied.

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The construction industry is making necessary adjustments to apprenticeship programs, as these workers can no longer stand alongside colleagues on jobsites to gain first-hand knowledge.



# TRAINING APPRENTICES

Evolving the way we educate the workforce during a pandemic. *By Phil Gillies*

**C** OVID-19 struck a major blow to apprenticeship training in Ontario. The training of thousands of apprentices ground to a halt in March. Many of the 90-plus union and contractor-sponsored campuses resumed operations in June and July—with changes necessitated by the pandemic. Regular classes were largely up and running by September—but with reduced class sizes and new procedures in place.

We visited the Interior Finishing Systems Training Centre (IFSTC) in Woodbridge—where apprentices are trained in drywall acoustic installation, drywall finishing and plastering, exterior insulating, and hazardous materials handling. We found a tight safety regimen in place to protect trainees and staff. Where there would normally be four different entrances to the campus, everyone now goes through one secured entry point. Two staff members were conducting health screening for everyone coming in. Ample supplies of Personal Protective Equipment (PPE) were in evidence at several points in the building.

Where IFSTC would normally have 68 trainees onsite there are now 35. About six classes a day were meeting with about eight-to-ten students in a typical class. Class members were socially distanced, and all

were wearing masks. The Centre says that more trainees will be joining programs in January. Returning trainees will have to get used to some practical changes in the Centre's operation—social distancing is observed throughout the facility. And as in most organizations, IFSTC has shifted away from paperwork and toward increased electronic communications. There is a lot of cleaning and sanitizing going on. And

big move to remote learning. E-learning is used only to facilitate in-class training. The Centre's staff feel that in-person instruction is a vital part of proper training. There may be a move toward more online instruction down the road, but staff feel improvements are needed to the existing e-tools. While the tools are user friendly, minor accommodations are needed so that all trainees are comfortable in using them.

**Continued building of infrastructure, commercial, and residential projects will be important to our country's post-pandemic recovery.**

the students have to bring their own lunch, coffee, and snacks—for the time being there will be no coffee truck or other catering facilities on site.

Returning trainees will see a lot of familiar faces, however. Administrators at IFSTC are proud that no staff were laid off throughout the pandemic. Those who had fewer classroom or administrative duties went to work cleaning and sanitizing.

Interestingly, IFSTC has not made a

The Finishing Trades Institute of Ontario in North York, affiliated with the International Union of Painters and Allied Trades, also reports that some trainees may not have necessary computer skills to benefit from remote learning. Some may not have access to a computer at all, so arrangements are in place to accommodate them. Nobody is to be left behind in this new regimen. This centre continues to operate at 50 per cent capacity. They are employing staggered start

times to help with social distancing. Centre administrators told us they are continuing to accept new applicants—nobody has been discouraged from pursuing their skilled trades ambitions.

And there's good news from FTI—the centre has had no reported COVID infections at all.

Meanwhile training has continued at the College of Carpenters in Vaughan. Enrollment is down somewhat. Last year they had 80 trainees enrolled, now they have 72. When the pandemic hit in March, they were in the middle of a flooring program. That program resumed in June, and most trainees returned. This fall, they report that more trainees want to rejoin programs than can be accommodated because of spacing. Classes that normally have 15 students currently have eight. The College used the onset of the pandemic as an incentive to accelerate the development of online courses. Before the pandemic only Workplace Hazardous Materials Information System (WHMIS) was offered remotely. They now offer eight courses online. The College has a proposal before the Ministry of Labour, Training and Skills Development to offer five more online courses.

The Carpenters have deployed a highly innovative COVID-19 screening mechanism at the entrance of their College. A futuristic Citizen Care Pod has replaced a screening tent. This retrofitted shipping container uses integrated artificial intelligence for enhanced contact tracing, safety and security. All people entering the College go through this pod, which it is believed will provide unparalleled capabilities for detecting virus symptoms. The Carpenters Union were the first to deploy one of these pods, which are now being looked at by organizations throughout Ontario.

Canada has a shortage of skilled tradespeople which is slowing the pace of construction. The pandemic has not helped with this situation. Continued building of infrastructure, commercial, and residential projects will be important to our country's post-pandemic recovery. We will continue to focus on developments in the construction training centres and will report on their progress in returning to full training programs going into 2021. 🍁



**Phil Gillies is the executive director of the Ontario Construction Consortium (OCC).**

# SHOVEL-READY



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# ANSWERING THE CALL



Integrating a robust alarm management program into the construction of the new Groves Memorial Community Hospital was essential for meeting the long-term needs of the staff that work in the facility.

Credit: EllisDon

## The value of real-time patient communication and technology management in hospitals. *By Robert Barnes*

Hospitals run on efficiency. Imagine then, a building of substantial size with a maze of complex systems that do everything from receiving vital code calls (i.e. Code Blue), to signaling staff duress, to locating essential equipment, to protecting newborn infants. All of these diverse systems must communicate with hospital staff, and with each other. With thousands of signals running through a hospital each day—there must be a digital “traffic cop” that manages the flow and priority of this information—this is the alarm management platform.

Each new project agreement requires an increasing level of integration between disparate hospital systems and can result in technical challenges that are not easy to overcome. EllisDon’s Energy and Digital Services (E&DS) team started to experience these issues on prior P3 projects such as Providence Care and Joseph Brant Hospital, but it was on that Groves Memorial Community Hospital project in Fergus, Ontario that they knew they needed to change their approach.

A typical alarm management platform uses analog or basic technology to send all alarm codes or patient requests to one central place, like a desk. Human interaction is then needed to send the code, or request onto its next destination. While this works, there can be inefficiencies, or even human errors, on how those workflow alerts get transferred to

both the patient and staff. Despite decades-old technology being competent enough to move along every request, there are opportunities to create a thriving hospital workflow environment through one single intelligent alarm management platform.

### Needs and Issues with Workflow

“We had several disparate systems that we needed to monitor using one application. This application allows us to configure alerts to be sent to a mobile device using three notification escalation levels, pages overhead, and e-mail notifications,” said Gwyneth Cheeseman, clinical systems integration lead at Groves Memorial Community Hospital.

One of the key attributes the E&DS team has is a deep understanding of system integration, alarm management, workflows, and use case development within the healthcare vertical. Using this knowledge, they went to the market to search for a technology solution that was leading-edge and highly flexible to client needs. After an exhaustive search, EllisDon partnered with Intellect Dynamics, an experience developer and systems integrator who would provide the foundation of the integration platform while E&DS would supply the product development and healthcare expertise.

“The staff requested that alerts be captured in one place to avoid multiple alerts for the same issue. From that application, the alerts

are then routed to where they need to go, and clinical staff have the alerts on their mobile devices and receive them from anywhere, so they can respond to the alert using that mobile device. For urgent/emergency alerts, multiple groups are notified at the same time decreasing any delays in the response time,” continued Cheeseman.

With a view to meeting the goal of operational efficiency and customized workflows, EllisDon E&DS developed, installed, and commissioned integratED at Groves Memorial Community Hospital.

“The integratED platform is web-based, mobile, multilingual, provides a fully customizable Unified User Interface, secure interactive messaging, supports an unlimited number of data points, and supports an unlimited number of workflows,” said Zoltan Szalay, senior manager of integrated solutions, Energy & Digital Services, at EllisDon.

### Resistance to Change

Initially, Groves Memorial Community Hospital was strongly opposed to a new approach. They were concerned about the criticality of the platform and feared that a company known mostly for its construction expertise, would not be able to deliver a viable solution.

“We were the flagship site for the product, so there was hesitation primarily because hospitals don’t get into the business of

industry leading technology. Normally, we'll find the best product solution and implement it but being on the leading edge of technology isn't a priority," said Cam Yates, vice president, Support Services, CIO, Groves Memorial Community Hospital.

The E&DS team made a strong case for a new system, and through the implementation process the hospital began to understand both the power and flexibility of the workflow solutions they were offering.

"Our previous system was very old technology, very analog and it was therefore very difficult to realize efficiencies because the system could only do so much. Implementing integratED gave us the opportunity to rethink and redesign many of our workflows, because now the technology could keep pace and actually align our care delivery workflows to our patient safety and experience goals," said Rebecca Stuart, director, quality and patient safety, at Groves Memorial Community Hospital.

**Patient Efficiencies and Positive Results**

The most important way to measure new technology in a health care setting is to look

at the positive results impacting patients and staff on an everyday level.

"Response time is one of the things patients most complain about. In older nurse call systems the escalation workflow is generally, if I don't respond to my bell right away it becomes something that rings overhead and gets loud which is really disrupting especially if it's 2 a.m. Instead, we have the alerts go to people's phones and the escalation is helping us achieve our goal of having a quiet hospital which is so much better for patients and staff," said Stuart.

Due to the automation and mobility of this new platform, Groves Memorial Community Hospital has a seamless streamlined workflow process so each staff member, including security staff, can carry out their required roles without causing delays in response times.

"Safety items, such as a Code Blue being automated, is time that a nurse doesn't have to spend to calling that code into a switchboard so he/she can stay in the room and respond to the patient, knowing the announcement will be automated and help is on its way," continued Cheeseman.

The benefits of integratED became

strongly apparent this year. During the global COVID-19 pandemic, accessibility of PPE became a crucial part of each staff member's daily life. The ability of staff members to rapidly assess patient needs through technology enabled the staff to carry-on with their vital responsibilities with minimal disruption.

"PPE conservation is so important during the pandemic, and being able to speak to patients through the handheld when they call allows the nurse to assess and prioritize their response without having to garb up in PPE just to enter the room to identify what the patient needs," explained Stuart.

Technology is shaping the future of our hospitals. The success of our new intelligent alarm management platform at Groves Memorial Community Hospital sets the stage to solve operational challenges through technology. ✦



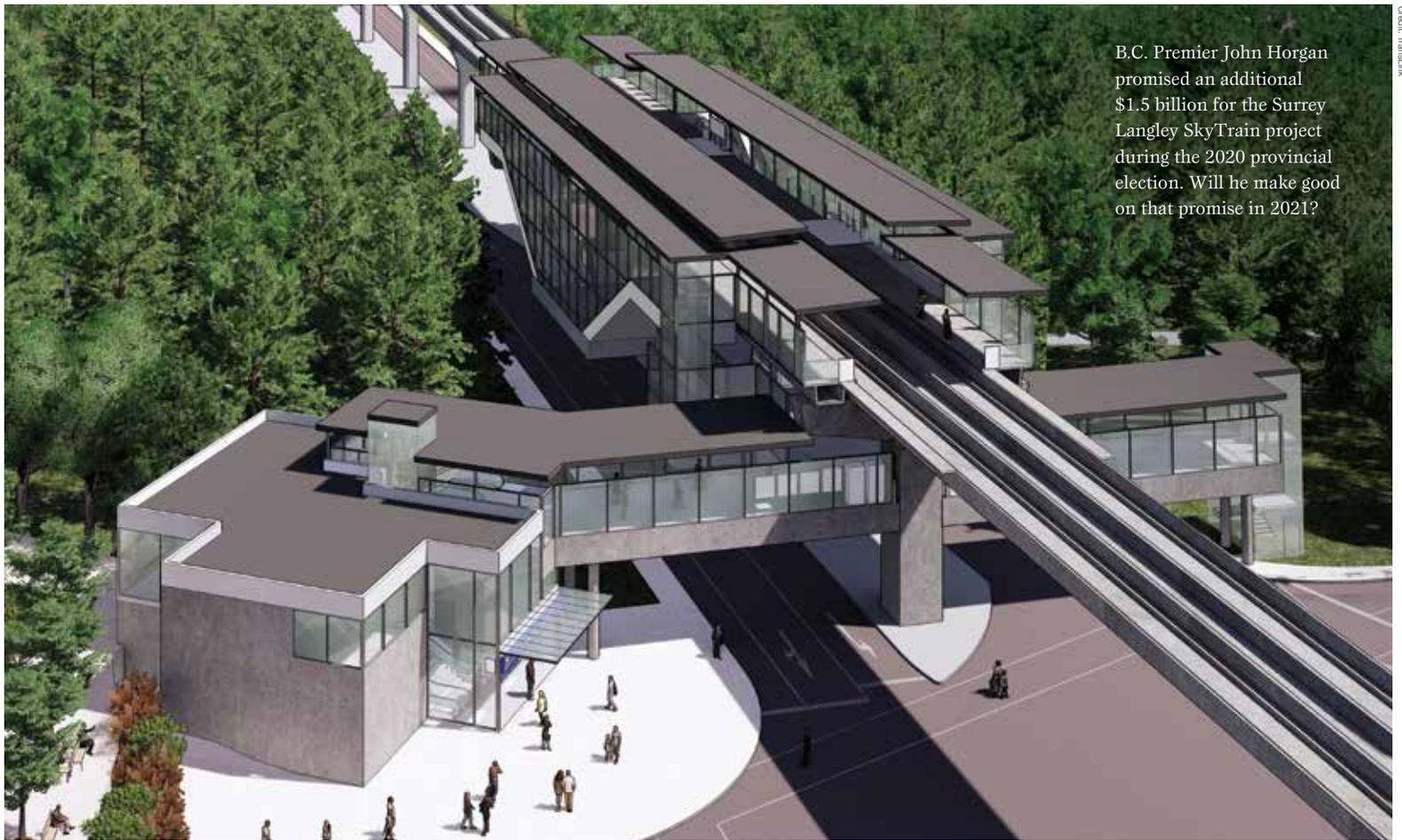
**Robert Barnes is the vice president of energy and digital services at EllisDon.**

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B.C. Premier John Horgan promised an additional \$1.5 billion for the Surrey Langley SkyTrain project during the 2020 provincial election. Will he make good on that promise in 2021?

Credit: TransLink

# FIFTEEN HEADLINES

Stories that could, and should, make headlines in 2021. *By Andrew Macklin*

**T**his year we wanted to do more than provide our annual list of infrastructure stories we expect to read in 2021. It was a valuable exercise, but rarely contained a sense of need or vitality that the list should require.

Instead, we present a list of fifteen headlines: one for each province and territory, along with a Toronto-focused piece and a federal government story. Each of these headlines aren't necessary the stories we expect to see, they are stories that, with justification, we think need to happen in 2021. Some were tougher than others to decide, with multiple strong options in most cases.

Let's start out west.

## **Horgan keeps election promise, commits additional \$1.5 billion for Surrey-Langley SkyTrain Project**

Originally proposed as an LRT, Surrey Mayor Doug McCallum claimed a few years ago that the line could be built as a SkyTrain extension for the same price. The experts told him he was wrong, and he was.

During the September/October 2020 election campaign, Premier John Horgan made this commitment during a campaign stop. Looking closely at the election results,

you could make the argument that the announcement made an impact on the vote.

Politics and LRT vs. SkyTrain aside, the need for the entire length of the line to be built was strong when the business case was made. Premier Horgan following up on his promise and getting the entire new line built is vital.

## **Alberta issues RFQ for South Edmonton hospital**

The City of Edmonton has not seen a new hospital facility built in 32 years. The City is experiencing substantial population growth, and is expected to reach two million citizens in the next 50 years.

This project has been promised for a long time, but provincial governments have failed to move the ball forward. The project site has been selected. The demand has been demonstrated. Despite a fiscally-conscious government and a blow dealt by the pandemic, getting the new hospital built is still a priority that needs to be addressed.

## **Funding secured for Saskatoon Freeway project**

Saskatchewan's next megaproject is the new transportation link in Saskatoon.

Similar to the recently-completed Regina

Bypass, this is a vital transportation link that will divert the highway away from the city's urban core, reducing congestion and allowing for more efficient movement of goods and people through the region.

Currently in the midst of planning studies, this is the kind of project that can have a strong economic impact through efficient movement of goods through Saskatchewan. That's one of the types of investments the federal government wants to support as part of pandemic recovery funding.

## **Federal, provincial support for North End Nutrient Removal Facilities**

The final component of the City of Winnipeg's North End Sewage Treatment Plant, \$828 million of the overall \$1.789-billion project, does not have the funding necessary to proceed with procurement. New license requirements for the facility cannot be met using the plant's existing technology, thus making the need for the upgrade to this as well as the power supply and headworks and biosolids facilities.

Despite changes to provincial regulations causing the need for these upgrades, provincial funding for the project has not been committed. That would be a very welcome commitment to make in 2021.

### Canada supports GTA subway expansion

Metrolinx is moving forward with the plans for the Ontario Line, Eglinton Crosstown West, Yonge North, and Scarborough subway/LRT projects. With a combined price tag of well over \$20 billion, the missing piece to the puzzle still remains the lack of a commitment from the federal government to pay a share of the projects.

By the time these projects would be built, based on current timelines, the need for their construction should be clearly demonstrated once again, as it was pre-pandemic.

### Flood relief projects announced for Ottawa, Muskoka

Following the severe floods in both regions in 2019, and the subsequent study conducted by the Government of Ontario, infrastructure solutions are needed to ensure that damages are minimized. We've seen Alberta and Manitoba make investments in the hundreds of millions to prevent billions in damages in regions of their respective promises. We're not sure if those are the numbers needed in this situation, but funding for a concrete solution is. We can't predict when the next flood will be, or how severe it will be.

### U.S. opens doors to Quebec clean energy resources

With billions invested, and billions more in the pipeline, Hydro-Québec has energy resources to share with surrounding markets, including the U.S. northeast. There has been some reluctance south of the border, both from environmental groups questioning the energy provider's green footprint and U.S. providers trying to hold on to the local market. But the region needs clean power, and Quebec has the resources. All that is needed is for the varying levels of government can help clear the way for the flow of clean power from Quebec.

### NB Power announces plan for Mactaquac GS refurbishment

We know that this project is in the works, after the January 2020 announcement of a technical collaboration with Hydro-Québec on certain refurbishment components aimed at extending the life of the station to 2068.

The current schedule calls for the economic and environmental regulatory approval process to take place between 2020 and 2023. However, a clear signal that this project will be able to move forward, regardless of cost, would secure long-term energy sustainability for the province, rather than relying on power from Quebec for decades to come.

### Prince Edward Island gains support for long-term coastal resilience plan

There are few glaring infrastructure needs in the province, save for the typical road upgrades and ensuring infrastructure meets the needs of the province's population growth. However, coastal resilience is a real concern, as rising water levels threaten to do significant damage at all ends of the province. The biggest challenge with the need for long-term thinking on coastal resilience could be the cost, so support from the federal government in this regard would be highly beneficial to ensure that secure plans can be put in place.

### Muskrat Falls reaches substantial completion

After everything that has happened with this project, reaching the finish line feels like it should be a huge accomplishment. And it is very close. This might be the one 'sure thing' headline on this entire list.

How the project's elevated cost impacts the province in the short-and-long term is not entirely appreciated just yet, but producing clean power for the region is, if nothing else, a very positive environmental step forward. Especially if...

### Nova Scotia's imported power allows coal plants to close sooner

We know that Nova Scotia will be a significant beneficiary of the completion of the Muskrat Falls project, providing clean power for a province still relying on coal generation.

The new clean power for the grid will make up for some of the energy lost with the closure of Nova Scotia's coal generation plants. And the sooner those plants can be closed, the better. The province still has some work to do, but hopefully 2021 can mark the beginning of the end to the use of coal in N.S.

### RFQ issued for Kivalliq Hydro-Fibre Link

In February 2020, the Canada Infrastructure Bank signed a Memorandum of Understanding with four organizations for the development of the project, which would provide clean energy resources from Manitoba to Nunavut, as well as fibreoptic cable to improve broadband connectivity.

This is a key project for removing Nunavut's reliability on diesel power, reducing GHG emissions by an estimated 380,000 tonnes annually.

### CIB, GNWT announces investment in Taltson GS expansion project

The Government of the Northwest Territories have a handful of significant infrastructure projects that need to get built very soon.

By now everyone knows the challenges they faced, and they need real financial support to get these projects built.

Perhaps the easiest way to get one of these key projects underway is through a funding partnership with the Canada Infrastructure Bank, building off of the advisory services agreement signed between the CIB and GNWT in July 2019.

### Bi-national railway receives preliminary environmental approval

The proposed Alaska-Alberta Rail Corridor, carrying an estimated price tag of over \$17 billion, would create a new option for getting Canadian goods to Asian consumer markets.

One of the most significant challenges for the project will be the environmental impacts. Yukon represents a large portion of the environmental challenges, with a massive stretch of the railway running through the territory. The railway's ability to get built will likely depend on the project being able to minimize damage to the territory's sensitive ecosystem.

### Canada releases draft national electrification strategy

If the Government of Canada is going to be serious about the country's green focus, this needs to be a piece of that puzzle. We've seen them implement an end date for coal power generation in the country, and that is one step, but it isn't the only step.

What is needed is a national electrification strategy, one that prepares the country for the removal of fossil fuels from every day use. That includes the electrification of the transportation industry, a strategy for funding the infrastructure needed to do this, a strategy for increasing national energy generation, and more. In order to do the decades of work to get us there, a strategy is needed soon. 🍁

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**Andrew Macklin is the managing editor of ReNew Canada.**




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Think there is a bigger headline that we might have missed? Please let us know and we would be happy to include your idea in the online publication of this article. Email us your thoughts at [andrew@actualmedia.ca](mailto:andrew@actualmedia.ca)

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Maintaining transit services with minimal ridership during the pandemic came at a severe cost to municipalities in 2020. How will that impact the way they invest in infrastructure in 2021?

# 2021 POLITICAL OUTLOOK

Infrastructure's role at the heart of the recovery.

*By John Allen*

At the start of the year, 2020 was expected to be a relatively quiet one politically in Canada. After a global pandemic and three provincial elections it was far from that, and any predictions for 2021 come with some fairly large caveats. Going into 2021 the onus will be on adapting infrastructure to become more resilient, repairing the damage done by the pandemic, and advancing projects that get people back to work and deliver lasting benefits for local communities. What governments are able to collectively achieve will depend in a large part on the rate of infection, how much the virus has been brought under control, and how well different levels of government can work together.

## From Ready to Worthy

Despite the budgetary pressure brought about by the pandemic, governments across Canada recognized the importance of infrastructure investment in limiting the economic fallout with most provinces either maintaining or increasing spending. The priority being to get people working on low-risk shovel-ready projects like maintenance and repair, and adapting infrastructure to reduce the risk of COVID transmission. Going into 2021, the emphasis is shifting to projects that can serve multiple policy goals, or “shovel-worthy” projects as they have become known.

Canada's Infrastructure Minister, Catherine McKenna, often talks about “stretching the dollar,” making sure investments not only create local jobs and economic opportunities, but also contribute to achieving climate goals, and enhance social equality and cohesion. The requirement to include low carbon concrete in federal construction projects as of 2021 provided an early indication that the Liberal government would look at the full range of tools at its disposal to meet its wider policy

goals. We can expect more of this kind of creative approach in 2021.

Another tool that will be playing a major role will be the Canada Infrastructure Bank. Originally proposed in the Liberal's 2015 election platform, the Bank has taken time to build up from scratch with inevitable growing pains. It now sits firmly at the heart of Ottawa's economic recovery efforts in bringing in private finance to amplify government spending. The recently announced \$10 billion Growth Plan focused on five areas chosen for their potential to deliver the highest impact: zero emissions buses, clean power, building retrofits, broadband, and agricultural infrastructure. Perhaps most significant was the \$500 million put aside for project acceleration, which could unlock some creative thinking for how the public and private sector can work together.

## Provincial-Federal Dynamic

The provinces came into the pandemic facing very different economic challenges. Alberta and Saskatchewan were already suffering from low oil prices, exacerbated by the pandemic-driven collapse in demand for oil. Federal support for the oil sector was targeted at cleaning up orphan wells and reducing emissions, but not the direct support being called for. At the same time, both provinces have been busy building out plans for economic diversification covering areas from clean energy, to tourism, to agriculture; projects that mesh better with the federal climate agenda, and some useful ribbon-cutting opportunities that will hopefully go some way to reduce the sense of alienation between the Prairies and Ottawa.

There are promising signs too. Alberta is looking to draw in more private finance for infrastructure, is actively looking for opportunities to expand the use of public-

private partnerships, and is working on a formula to crack the promise of unsolicited proposals. It is also an increasingly enthusiastic partner of the Canada Infrastructure Bank with a new major irrigation project and a Calgary-Banff train already on the roster.

The NDP in British Columbia used a bump in popularity to call an early election and duly won a majority mandate. B.C. is possibly the most aligned with the federal government agenda with affordability, reconciliation, and fighting climate change key campaign principles similar to those of the federal Liberals. B.C. promised an additional \$3 billion annually over three years for infrastructure. Housing affordability has always been a major issue especially around Vancouver and Premier Horgan is tackling the issue on many fronts, from building more affordable housing stock and encouraging community partnerships, to making it easier for developers to build more houses through a streamlined permitting process, to expanding transit.

Further East, Ontario's PC government had been busy chopping away at the provincial deficit, but in a break from the past, they committed to maintain levels of infrastructure investment upon election. When COVID-19 struck, the Halton Courthouse—a project nearing the end of the procurement process—was deemed surplus to requirements. The government citing a newfound ability to run more proceedings online reducing the need for physical courtroom capacity. Commitments to transit that stood at the start of the pandemic remain largely intact, with changes in legislation designed to accelerate projects and foster more transit-oriented communities.

With an election in 2022, the Ford Government will focus on maintaining momentum on its infrastructure projects.

The crown jewel is the Ontario Line, a subway project that can trace its origins as a concept back over 100 years. It would be a notable feather in the cap if Doug Ford's government can achieve real progress on this and three other priority subway expansions. It seems the province and the City of Toronto have put differences aside and are more united behind a common end goal even though the journey to this point was rocky.

Provinces are also using the opportunity to tackle some long running structural issues that cause project delays and add significant costs. Ontario introduced the Building Transit Faster Act back in February to help speed up utility relocations, securing municipal approvals, and getting land access. This originally just covered their subway expansion program but was expanded to cover other infrastructure, especially transit, highways, and transit-oriented communities, through the Ontario Rebuilding and Recovery Act.

Quebec also tabled a bill to accelerate infrastructure projects, that had to be revised and re-tabled after concerns were raised that the original left the province open to corruption and collusion. The new bill streamlines approvals for low risk projects

and applies to 181 projects covering schools, roads, transit systems, and seniors' homes.

### Municipal Hurt

Municipalities have been particularly hard hit by the pandemic. Municipal revenue from user fees like transit and parking evaporated, property tax deferrals are on the rise, and costs are rising to deal with the community impacts and adapt to social distancing. Municipalities build and maintain 60 per cent of public infrastructure. Capital spending has slowed due to uncertainty and the need to plug operating budget gaps. In the short-term, the federal and provincial governments stepped up to provide additional funding to help with operating costs through the Safe Restart Program, but mayors and councils will become increasingly vocal the longer the pandemic drags on.

The likely slow return to normal will reverberate into 2021 for municipalities. Toronto alone estimates the pandemic will cost it \$1.6 billion in 2021. Cities with large transit systems are faced with the tough prospect of maintaining high levels of service on only a fraction of the revenue. Mayors of the bigger cities have made clear that they recognise the failures of the past when infrastructure and

maintenance budgets were raided to cover other costs, but with no ability to run deficits and without support from other levels of government, their hands may be forced.

### Positive Signs

Going into the pandemic Canada already had an extensive and ambitious pipeline of infrastructure projects. Projects were already well advanced, which meant governments could focus their efforts on keeping projects moving forward with the potential to deliver major economic, social, and environmental benefits. As with all infrastructure though it must be built on solid foundations. In the short term that means making sure work is done to limit damage to the infrastructure supply chain by resolving COVID-19 claims and ensuring suppliers are paid quickly, and that municipalities have the budgets to maintain their infrastructure assets and build for a better future for their communities. ♣



**John Allen is a vice president at Global Public Affairs in Toronto.**

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## APPOINTED



Ehren Cory

The Canada Infrastructure Bank (CIB) board of directors announced the appointment of **Ehren Cory** as chief executive officer (CEO).

“I am honoured to be the Chief Executive Officer of the Canada Infrastructure Bank. I am convinced the CIB can be a vital catalyst for innovative investment in Canada. I look forward to working with the talented CIB team and our partners to accelerate projects that create economic and environmental benefits for Canada,” said Cory.

Cory has a strong track record and joins the CIB after leading a successful public sector institution and executing large-scale infrastructure transactions as chief executive officer of Infrastructure Ontario.



Anthony Karakatsanis

The Association of Consulting Engineering Companies – Canada (ACEC) announced that **Anthony Karakatsanis**, president and CEO of the Morrison Hershfield Group has been named chair of the ACEC board of directors for the 2020-2021 term.

The announcement was made at the ACEC annual general meeting of members held virtually on October 27, 2020.

Karakatsanis first joined the ACEC-Canada Board in 2016 and has served on various committees. During his term as ACEC chair, he looks to build upon the excellent work of his predecessor **Lawrence Lukey**, and will continue to promote the important role of consulting engineers in Canadian society. He is committed to ensuring that ACEC remains agile and financially strong so that it can continue to engage with and support its members through the COVID-19 crisis and ensure that the consulting engineering sector has a voice and a role in the subsequent recovery.



Garth Frizzell

The members of the Federation of Canadian Municipalities (FCM) elected a new president and board of directors during its first-ever virtual annual general meeting due to the ongoing COVID-19 pandemic.

City of Prince George Councillor **Garth Frizzell** succeeds long-time Halifax Regional Municipality Councillor

**Bill Karsten** as FCM president. Registered FCM voters also ratified members to FCM’s 75-seat board of directors, and the following FCM Table Officers:

- First vice-president: **Joanne Vanderheyden**, mayor of Strathroy-Caradoc and councillor for Middlesex County, Ont.
- Second vice president: **Darren Hill**, councillor, Saskatoon, Sask.
- Third vice president: **Scott Pearce**, mayor, Canton of Gore, Que.



Dale Clarke

SNC-Lavalin Group Inc. announced the appointment of **Dale Clarke** as president of Infrastructure Services.

Based in Toronto, Clarke will report to **Ian Edwards**, president and CEO, and join the Executive Committee.

In line with SNC-Lavalin’s strategic direction, Clarke will have overall responsibility for continuing to grow the company’s infrastructure services offering, including its infrastructure operation and maintenance, power, grid and industrial solutions, and construction and project management businesses. He will focus on mandates where SNC-Lavalin’s suite of end-to-end capabilities can be leveraged to help clients deliver a pipeline of infrastructure projects in Canada, the United States, and the United Kingdom.

With over 30 years of global experience in engineering and project management, Clarke has worked on domestic and international projects throughout Canada, Africa, and Latin America. He joined SNC-Lavalin in 1996. During his 24-year tenure, he has held several senior and executive roles, including executive vice president of Infrastructure Services since February.



Frank Bruni

EllisDon announces the appointment of **Frank Bruni** to the role of vice president and area manager for South Western Ontario.

Bruni joined EllisDon in 2000 as a project coordinator at the York University Computer Sciences Building in Toronto. During his career, he managed a number of projects in his hometown of Sault Ste. Marie, such as The Sault Area Hospital (P3), Extendicare Canada - Long Term Care Facility, and the International

Canadian Bridge Plaza Modernization project. From 2013 to 2017, he operated in the capacity of construction manager and managed a number of projects in Saskatchewan, before leaving EllisDon to join a private developer.

Bruni re-joined EllisDon early in 2020 working very closely with EllisDon’s PME group in Fort Saskatchewan and its industrial clients to focus on expanding EllisDon’s industrial capability in Ontario.



Dan Huang

**Dan Huang** is the new president of the board of directors of the Canadian Institute of Planners (CIP). Huang is a senior community consultant and principal with Urban Systems Ltd. Based in Victoria, B.C. Huang previously was a director on the board, representing B.C./Yukon, and is a past president of the Planning Institute of British Columbia.



Jenna Schroeder

Joining Huang on the CIP Executive for 2020-2022 are **Jenna Schroeder** (vice president) and **Doug Daniels** (treasurer).



Doug Daniels

Schroeder is a director of regional planning for the Government of Saskatchewan. Daniels is director of regional planning and development in the Ministry of Highways and Infrastructure for the Government of Saskatchewan. ♣

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**Please join us for the 15th annual Canadian Network of Asset Manager's (CNAM) virtual conference being held online between May 10-13, 2021.**

The past year has been challenging in many regards with the onset of COVID-19 and a world pandemic. Many municipalities across the country, and the world over, are struggling to do more with less in terms of asset management.

Connect with us online as we reflect on the past year and set our sights on refocusing and determining the way forward in lieu of the challenges that face us.

**The conference will focus on virtual streams such as:** AM 101, Organization and People, Long Term Sustainable Financial Planning, Climate Change—Adaptation and Mitigation Strategies, Operations and Maintenance—Infrastructure Development, and French Language Content.

Enhance your asset management knowledge and expand your personal network by participating in presentations, workshops, and networking in a virtual environment. It is a unique opportunity to learn from our peers and to navigate the obstacles that lie on the road ahead of us.



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Fatbergs have cost municipalities millions in infrastructure repair costs.

# JUST SAYING IT DOESN'T MAKE IT TRUE

By Todd Latham

The COVID-19 pandemic is a hoax, the U.S. election was stolen, all wipes are flushable, and the earth is flat. Just saying something untrue, even repeatedly, does not make it fact. Unfortunately, there are many who say ‘if I saw it on the internet or on a package, it must be true’ and they find comfort in knowing other people think it is not un-false. These lies somehow land on receptive ears and are assumed correct. Polarizing echo chambers reverberate fake news and myths. We have all seen it play out on social and, unfortunately, mainstream media.

In this context I recently saw a Tweet from CTV News in my feed: “Personal care manufacturer Kimberly-Clark has recalled some of its Cottonelle Flushable Wipes, sold in the U.S. and Canada [...]”. The use of the word “flushable” irked me as I know they are not. I responded: “Hey @cottonelle – your wipes are NOT “flushable”! And @CTVNews – stop perpetuating that myth!”

A bit of background. Since disposable wipes came on the market, they started turning up in sewers and have caused well-documented infrastructure problems that include clogged pumps, blocked screens, buildups in wastewater treatment plants, and sewer blockages and overflows that can impact public health and the environment.

After my Tweet, I received a quick reply from Cottonelle: “Please, know that flushable wipes have been extensively tested to break down immediately after flushing. We’ve tested with plumbers & are the only flushable wipe approved by a wastewater utility as safe to flush. Visit <http://spr.ly/6014G2loy> for more information. Thanks again!” The wastewater utility they identified is the Jacksonville Electric Authority.

Was the water industry wrong about wipes in our wastewater infrastructure? What are the facts? I asked a few experts and this is what one of them said: “Today they do have a better product but it still does not pass the

IWSFG specification.” The International Water Services Flushability Group (IWSFG) is a group of water professionals seeking to provide clear guidance on what should and shouldn’t be flushed down the toilet. But on the flip side, a court case from Australia declared that Cottonelle’s ‘flushable wipes’ meet or exceed the requirements set out in the INDA/EDANA flushability guidelines—but on closer inspection, these guidelines are set by the “Responsible Flushing Alliance”—a group of wipes manufacturers.

It looks like there are conflicting ‘facts’ from two different authorities. I guess the earth is flat in some parts of Saskatchewan. 🍀



**Todd Latham is the founder of ReNew Canada and, regardless of ‘flushability,’ does not use toilets as garbage cans.**



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