



Construction Specifications Canada is an organization representing diverse interests in the construction industry and related professions. It is dedicated to improving the quality and flow of information between these interests, whether in the form of specifications, contract administration or marketing.



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2020 / 2021 Edmonton Chapter Executive		
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FOR FURTHER INFORMATION

Contact any member of the Executive, attend one of our Chapter Meetings, send your name and address to CSC Edmonton Chapter, PO Box 35093 Mid Town PO. Edmonton, AB T5J 0B7, or go to edmonton.csc-dcc.ca for additional contact information.

GOALS OF CSC

Construction Specifications Canada is a multi-disciplinary non-profit association dedicated to the improvement of communication, contract documentation, and technical information in the Construction Industry. CSC is a national Association with Chapters in most major Canadian Cities.

To this end, CSC pursues the study of systems and procedures that will improve the coordination and dissemination of information relevant to the construction process.

We seek to enhance the quality of the design and management aspects of the construction activity through programs of publication, education, and professional development, believing that by so doing, we can contribute best to the efficiency and effectiveness of the construction industry as a whole.

OBJECTIVES OF CSC

To foster the interest of those who are engaged in or who are affected by the compilation or use any forms of specifications for the construction industry.

To publish literature pertaining to the construction industry.

To engage in activities to improve procedures and techniques related to the construction industry.

The opinions and comments expressed by the authors do not necessarily reflect the official views of Construction Specifications Canada. Also, appearance of advertisements and new product or service information does not constitute an endorsement of those featured products or services.

Announcements:

Chair's Message



Andrew Brassington, CSC Edmonton | Chapter Chair

Hello Chapter Members,

I hope you are all well and being safe. With the second wave of COVID-19 upon us, new restrictions prevent us from putting on any in-person events. This may be frustrating to you as a member. We share your frustration. Our Social and Event Committees continue to work on opportunities only to not be able to execute them. We understand these guidelines are there with purpose and we want to work in coordination with them. There are a number of virtual events coming up, including some with other Chapters. Take some time to read through the Specifier or check out the website for more information. Please be safe during the holiday season, and we look forward to seeing you in the new year.

Happy holidays!

Membership in CSC

Joseph Trivellin, CTR



In the construction industry's fast-paced environment, the need for and value of Construction Specifications Canada is greater than ever. CSC brings together individuals from all segments of the construction industry. All who have a vested interest in Canada's largest industry are invited to join CSC. When you join CSC, you become part of the only association that brings together professionals from all aspects of the construction industry.

DESIGN TEAM

CSC offers members of the Design Team the opportunity to meet with other members and exchange information. It also affords you the chance to help improve technology and its management, and the means to improve ways in which your ideals are translated into clear, concise, and complete documentation.

BUILDING TEAM

If you are a member of the Building Team, CSC offers you the opportunity to become involved in formulating specifications. Your valuable input into the programs can help generate time and cost savings, as well as improve performance.

SUPPLY TEAM

The multi-disciplinary composition of CSC allows members of the Supply Team to meet with other members of the construction team. CSC programs in data filing and information retrieval are geared to present convenient and concise information on your products for proper evaluation and specification.

THE STUDENT

If you are a student of architecture, engineering, or construction technology, CSC will provide you with a greater exposure to, and a better understanding of, the construction industry, giving you an excellent opportunity if you plan a career in the construction field.

People and Places – Welcome to our new CSC Edmonton Chapter Members!

Fresh Faces (New Members)

Mr. Mark Emmott, MRICS, PQS, GSC
 Construction Risk Manager
 PCL Construction Management Inc.
 5400 – 99 Street
 Edmonton, AB T6E 3P4
 Tel: 780-405-3371 Fax: 780-733-6001
 Email: memmott@pcl.com
 Website: www.pcl.com
 New Member Sponsor: Mr. Russell Bridgeman

Yes, We've Moved (Contact / Mailing Address Update)

None this month.

Previous Members Re-Joining / Re-Activated

None this month.

CSC Education:



Mike Ewaskiw, CTR

Principles of Construction Documentation

The PCD course is an introductory course that will enable the student to have a better understanding of construction documentation (specifications, drawings, and schedules), products, bidding procedures, and contracts. **It is also a prerequisite to all the other CSC education courses.**

Specifier 1

Specifier 1 is an intermediate level course that will take the individual beyond the concepts previously introduced in the PCD Course. Although some of the same topics are included, the depth of comprehension and explanation exceed that of the PCD course. The Specifier 1 is a prerequisite for the Certified Specification Practitioner (CSP) designation from CSC. Successful completion of the course may be credited toward the experience component requirements for the Registered Specification Writer (RSW) designation.

Technical Representative

The TR course provides a better understanding of contract documents and bidding procedures, product representation, professionalism, and ethics, and will provide a new depth of understanding and explanation of concepts beyond what was previously introduced in the PCD course. The course is designed for the individual involved in the supply section of the construction industry, such as manufacturer representatives, agents, or distributors of products. The student will have successfully completed the PCD course.

Contact Mike for all your education needs.

Mike Ewaskiw, CTR, Manager
 Architectural & Engineering Services
 P: 780-237-7844 E: mewaskiw@stonhard.com

EDUCATION COURSES

Upcoming Classes:

- [Principals of Construction Documentation \(PCD\)](#) – TBD
- [Specifier](#) – TBD
- [Construction Contract Administration \(CCA\)](#) – TBD
- [Technical Representative \(TR\)](#) – TBD

Upcoming Classes Online:

[Principles of Construction Documentation \(PCD\)](#) – TBD
[Technical Representative \(TR\)](#) – TBD

Upcoming Workshops:

[Principles of Construction Documentation \(PCD\) 5 Day Workshop](#) – January 15, 2021 (5 weeks)
[Construction Contract Administration \(CCA\) 5 Day Workshop](#) – January 15, 2021 (5 weeks) /
March 5, 2021 (5 weeks)
[Specifier \(SP\) 7 Day Workshop](#) – February 22, 2021 (7 weeks)
[Technical Representative \(TR\) 5 Day Workshop](#) – February 26, 2021 (5 weeks)

Social Media:

Check us out:



Articles of Interest

5 Red Flags That a Job Might Not Be Worth The Risk

Sourced from: <https://www.constructiondive.com> / Kim Slowey



Most contractors are resilient, riding the ups and downs of the economy and doing whatever it takes to survive. This sometimes includes taking on low-margin or even no-margin projects just to keep the cash flowing and their employees working.

Now that the COVID-19 pandemic has put the construction industry, like many others, into a tailspin, some contractors will be faced with the decision of whether

to take on a job that seems riskier than normal. No construction job is without some uncertainty, but there are some red flags that construction firms should recognize and evaluate, making the choice of whether to accept a borderline project at least a more educated one.

Bad Owner Reputation

Meeting the owner's expectations is key to a successful project, but not all owners act in good faith or have the experience to drive a favorable job outcome.

Mark Himmelstein, attorney and partner in the Newport Beach, California, office of Newmeyer & Dillion LLP, said contractors should perform due diligence before signing onto for a project, particularly if the owner has a less than stellar reputation or is an unknown quantity in the building community.

"You've got to know more about the people you're going to do business with, and so you've got to do some investigation to understand who they are," said attorney Edward Seglias, partner at Cohen Seglias Pallas Greenhall & Furman PC in the mid-Atlantic region.

It is important to confirm, Seglias said, that an owner is not at its "first rodeo." "Do some investigation," he said, "to understand who they are, what they're capable of doing, what their history is so that you can get a comfort level moving forward."

A search for lawsuits between the owner and previous contractors, as well as for mechanics' liens, Himmelstein said, could shed some light on whether the owner gets sued frequently and how a future relationship could unfold.

Unorganized Project

One of the first things to look at, Seglias said, is how well the owner has organized and planned the project. For example, the owner should be able to provide a complete, approved set of drawings along with up-to-date specifications.

"[If] they appear to have either too many inconsistencies or omissions in the information that is provided," he said, "then that might be a reason to say, 'This project isn't for me.'"

An incomplete set of project documents, the attorney added, could be an indicator that the owner is expecting the contractor to fill in the gaps, and "those gaps typically cost money."

Another consideration, Himmelstein said, is the experience and availability of the architect, the

owner's construction manager or other designated decision-maker on the project.

Not only is it important to be able to have ready access to the individual who can deliver timely decisions regarding items like project change orders, submittals or shop drawings, he said, but it's also important that the individual have the necessary experience.

For instance, Himmelstein said, is the point person's experience in custom homebuilding but the project for bid is a 12-story apartment building?

The bottom line, Seglias said, is that contractors don't typically have time to hold the owners' hands and show them the ropes, which is what could happen if the owner and its representatives don't have enough knowledge about how to manage the project.

"That's not the business most general contractors are in," he said. "[Contractors specialize in] executing a plan that's been organized and well-thought out."

Uncertain Financing

Contractors need to make sure that money is available to pay for the project, and that could include hiring someone to do a proper investigation into the owner's finances, Himmelstein said.

"It's certainly worth doing for a project of any magnitude," he said.

If the right to verify financing is not in the contract as it is in standard forms like the American Institute of Architects' A201-2017 General Conditions of the Contract for Construction, then contractors should make sure it is included – and stays there.

It's not uncommon, said attorney Deanna Koestel with Norris McLaughlin in New York, that some owners will try to have the right for contractors to verify financing removed from the contract. Those owners encompass those new to the industry and those who just don't believe the contractor is entitled to the information.

"There's no reason not to provide that information because it does provide the contractor some security that there is a bank or a lender or somebody who is going to ensure that they get paid," she said.

Contractors should keep in mind that in agreements like the A201, they have the right under certain circumstances to not start work or stop work if the owner does not provide proof of adequate financing.

Unfavourable Contract Provisions

When it comes to contracts, Himmelstein said, it's all about understanding the risk.

For example, if the owner makes the contractor responsible for all conditions, known or unknown, visible or not visible, the construction firm must decide whether that's a risk it is willing to take, he said.

An alternative to stepping away from the project in that situation, Seglias said, would be to raise the price or to negotiate unit pricing to compensate for the unknown.

"Any time the owner says, "'You take all the responsibility,' that ought to perk up the antenna of a contractor. It's the developer's project. The developer should be assuming those risks."

No matter if some provisions are part of standard agreements, like the requirement to move forward with extra work without a signed change order, Himmelstein said, contractors shouldn't shy away from trying to negotiate more favorable terms.

Taking Over for Another Contractor

Taking over a project when the original contractor has been terminated or has walked off the project can be tricky, Koestel said.

“It’s really challenging to carve out anything in the contract to protect the general contractor from taking over liability for the entirety of the work,” she said.

The first thing a construction company needs to determine before deciding to take on this type of project is why the first contractor is no longer on the job, Koestel said. For instance, was the separation due to the former contractor not performing sufficiently under the terms of its contract or was it because the owner stopped paying?

If it’s the latter, and the new contractor feels comfortable assuming the risk, she said, it should try to include a contractual provision that allows it to stop work if it’s not paid on time.

Regardless, contractors should be specific in their contracts about what work they are taking on, what work has been completed by the previous firm, and how they will limit warranties and owner indemnification.

In a perfect world, Koestel said, there would be clear stop and start points, like the new contractor coming on board to complete only the interior of the structure, but that rarely happens unless it is planned in advance.

Although all these points should be considered red flags, they’re not necessarily deal-killers unless the contractor and the owner cannot come to mutually agreeable terms.

“If the owner is not willing to [negotiate], he may not find a contractor who’s willing to do the project,” Seglias said. “At some point, economic circumstances ... are going to compel the owner to assume those risks or at least negotiate with the contractor about how to address them should they arise.”

World-Beating Cantilever Lift Succeeds at Dubai’s One Za’abeel

Sourced from: <https://www.globalconstructionreview.com> / Rod Sweet

Engineers are celebrating the success of a record-breaking lift in Dubai that saw the main section of an 8,500-tonne cantilevered steel structure lifted some 100m above a busy, six-lane highway.

In a career-first for those involved, the cantilever was fixed to the two towers, still under construction, comprising developer Ithra Dubai’s One Za’abeel mixed-use scheme.

Called The Link, the 226m cantilever is claimed to be the world’s longest, higher than some skyscrapers if stood on end, and heavier than all the iron in the Eiffel Tower.

It is just 15m shorter than the smaller of the two towers it connects.



Jutting 66m into thin air, it will house restaurants and shops and have an infinity pool on its roof.



The lift took place over 12 days starting with extreme caution on 18 August.

On that day the cantilever was raised a mere 10cm to check for cable stretching and to see how the buildings reacted to the strain.

“The lifting process was incredible,” said Dr. Fadi Jabri, an executive officer for Japanese engineering design firm Nikken Sekkei, which worked on the scheme’s design with WSP, the architect of record.

He said all work on site was halted so engineers could hear the buildings’ reactions.

A week later The Link was lifted another metre for observation, followed three days later by the final 100-metre lift.

The towers were pre-cambered so that when the cantilever was attached they would deflect back to their true vertical position, according to Mace, the UK-headquartered firm that is providing project and programme management.

Developer Ithra Dubai said more than 110 special jacks and heavy-duty strand jacks were used for the operation, which was overseen by an international team of experts.

Slid over the road

With a total area of 470,000 sq m, One Za’abeel comprises two podium-mounted towers – 304m and 241m in height – straddling a traffic artery near the Dubai World Trade Center Exhibition Halls.

The Link was assembled on the towers’ podiums and was slid over the highway in six stages as new sections added to its length. Each slide necessitated the highway’s closure.

The size and complexity of the project led main contractor ALEC Engineering and Contracting LLC to use 4D modelling with Bentley’s Synchro instead of traditional planning techniques.

Ms. Bayan Abdel Rahman, ALEC’s senior 4D planning engineer for the project, told GCR that this approach knocked 70 days off the programme thanks to clash detection and better scenario planning, and had saved \$16m so far by giving clearer visibility into the structure and the schedule.

In one instance, The Link’s construction programme was reconfigured in six segments instead of seven, which removed one sliding operation over the road, cutting 30 days and \$4m off the programme. “Designing the world’s longest-occupied cantilevered building was an ambitious challenge in itself,” said Nikken’s Fadi Jabri. “However, designing an offset cantilever between two towers, 100 metres above a busy highway, was a challenge of ingenuity and imagination none of us had ever faced before.” More on One Za’abeel and 4D modeling here. Top image: The Link was raised just 10cm first to see how the buildings reacted to the strain (Ithra Dubai).

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How Do You Chop 20 Stories Off a Too-Tall Building?

Sourced from: <https://www.curbed.com> / Justin Davidson

The building at 200 Amsterdam pokes above its neighbors (for now)



Now that the 52-story tower at 200 Amsterdam Avenue is almost done, it may soon have to be partly undone, like a construction film running in reverse. If the appeals court that will hear the case starting Wednesday upholds a judge’s ruling that the building is illegally tall, the crews now putting on the final touches will have to start unraveling the top 20 or so floors, breaking freshly installed glass, slicing through new steel beams, and grinding down recently poured concrete. If the never-used bathroom fixtures can’t be salvaged, they may have to be smashed, at considerable risk to the workers. “You break them, and they’re like

razor blades,” says Mel Ruffini, an executive at Tishman Construction. “Glass, you expect to get cut from. Toilet bowls, not so much.” All that wastage has to be expelled and carted away. If the whole shebang were coming down, workers could run a rubble chute through the shaft to the basement, but here there will be actual working elevators in the way, so the chutes will have to be fastened to the still un-scuffed exterior.

The building sits on a bizarre knot of different parcels and figuring out which rules apply has been an oracular exercise even by the standards of New York’s inscrutable zoning code. Complexity favors developers equipped with expensive legal advice, which is how SJP Properties persuaded the Department of Buildings to issue a permit for a 668-foot spear sticking into the flank of the Upper West Side. The narrow, stretched-out tower designed by Elkus Manfredi reaches its kinda-sorta-neo-Art Deco-ish crown via a series of setbacks that make it look like a staircase in the wrong aspect ratio. Any tall building can unleash the usual It’s out of character! versus More housing now! Shout-fest, but this one has turned area residents into self-appointed land-use experts. If you walk up Broadway and overhear someone saying, “gerrymandered lot”, chances are they’re talking about 200 Amsterdam rather than congressional districts.

If the ruling stands, Upper West Siders will witness a slow-motion decapitation from the inside out, which is about as gruesome as it sounds. “Taking down a building is more surgical than erecting one,” says Jay Badame, the President of Construction Management at the engineering firm AECOM. “It’s become an art and a science combined.”

The unbuilding of skyscrapers happens regularly in New York, and even lopping the top off isn’t unprecedented. The same fate befell 108 East 96th Street in 1991, when developers agreed out of court to slice 12 illegal floors off a 31-storey tower while it was still under construction. And truncating 200 Amsterdam is a relatively routine operation when compared to the razing of the 700-foot Union

Carbide Building at 270 Park Avenue, eventually to be replaced by a 1,200-foot headquarters for JP Morgan. In a city too packed for implosion or wrecking balls, disassembling an entire structure is slow and dangerous work, planned by specialized engineers (excising one part, even as residents are moving into the rest, gives the process an extra layer of delicacy). When the building is going up, a crane hoists equipment and materials into place as they're needed, often directly from the back of a flatbed truck. When it's coming down, though, you need someplace to toss all the rubble, and piling the detritus of too many discarded stories on the floor below can get you into structural trouble.

So can yanking out a length of steel without the proper preparation. "As you're deconstructing the building, you're also bracing it, so you don't leave something freestanding that can topple over," says the Department of Buildings first deputy commissioner Gus Sirakis. It's an elaborate puzzle that can involve as much building as breakage: shoring up floors, supporting steel skeletons, erecting scaffolding, installing chutes, and positioning cranes. Sirakis reviews the options for avoiding collapse, sounding like he's planning a military operation. "You can sling a beam to the crane while it's being cut. You might have an iron worker doing the torch cutting but it's not the same as bolting up your spandrel beam in place. You might have to pull exterior frame inward as you cut it. Sometimes you do the demolition with a grappling arm, cut and grip the [structural] member at the same time."

As is often the case, disaster helped write the procedures. In 2007, a fire broke out near the top of the Deutsche Bank building on Liberty Street, which had been irreparably damaged on 9/11 and was being torn down. The firefighters who responded discovered that workers had disabled the sprinkler system and the standpipe, laid wooden platforms over one staircase, and partially demolished another. Two firefighters were killed, and dozens were injured. The city revised its regulations, requiring safety systems to remain functional even as the structure around them dissolves.

As with everything about living in New York, tight quarters make everything more complicated. At 270 Park, there was nowhere to plant a tower crane at ground level, so Tishman, the company running the project, built a temporary structural balcony onto the doomed tower. It's like giving your executioner a piggyback ride so he can reach your throat.

Indonesia's New Capital City Will Be Master-Planned by AECOM, McKinsey & Company, Nikken Sekkei

Sourced From: <https://www.archpaper.com> / Shane Reiner-Roth

After being founded nearly 500 years ago, Jakarta will soon no longer be the capital of Indonesia

Last August, the Indonesian government announced that the city of Jakarta will no longer be a viable capital city in the near future, given increasing flood risks attributable to sea-level rise. Instead, a new capital city for up to seven million people would be constructed on higher ground in East Kalimantan, a province in the neighboring island of Borneo that the country shares with Malaysia and Brunei Darussalam. Former British Prime Minister Tony Blair, founder and CEO of Japanese holding company SoftBank, Masayoshi Son, and the Crown Prince of Abu Dhabi, Sheikh Mohammed bin Zayed Al Nahyan, are all on the overseeing committee for the ambitious project.



Three international organizations – international engineering company AECOM, international consulting firm McKinsey & Company, and Japanese architecture and engineering firm Nikken Sekkei – have recently been selected to develop a master plan for the 988-square-mile property. “[The consulting firms] have experience designing large cities,” said Coordinating Maritime Affairs and Investment Minister Luhut Binsar Pandjaitan, according to The Jakarta Post.

Indonesia’s President Joko Widodo expressed that the development of a new capital city is an opportunity to create a “smart metropolis” that will be energy non-intensive and beneficial to the country’s economic growth. Additionally, Blair told The Jakarta Post that “It’s going to be a project that doesn’t just mean creating a new capital city, but a capital city that is going to be very special in the way that it’s developed with a particular emphasis on it being clean and green and doing the very best for the environment, but also a capital city that will allow the economy of the country as a whole to develop and grow.”

A large portion of the budget, currently estimated to be 466 trillion rupiahs (\$34 billion), will go towards the development of its 21-square-mile downtown, in which the new presidential palace and related government buildings would be sited. A fifth of that budget will be provided by the state, while the government of the United Arab Emirates (UAE) and the United States International Development Finance Corporation (IDFC) have agreed to invest an additional \$22 billion through a sovereign wealth fund.

While the master planning committee develops a scheme for what the ‘smart metropolis’ will entail, exactly, it will have to be designed in a way that benefits the area’s indigenous Dayak tribe and preserves the abundant natural resources. Construction is expected to begin later this year and the new city will accept new residents as early as 2024.

Getting On Track: Urban Transit Projects Roar to Life, Creating Opportunity for Canada’s Construction Sector

Sourced From: <https://www.on-sitemag.com> / Jillian Morgan

Working in tandem along a stretch of highway in Montreal, a pair of launching gantry cranes hoist 50-ton concrete segments into the air off flatbeds below. The gantries slide the prefabricated segments into place, steadily forming a single 30-metre span over the course of two days.

The three-year journey has just started for the cranes, affectionately nicknamed Anne and Marie. With the help of construction crews, the massive yellow beams are building more than a dozen kilometres of elevated track on which the Réseau express métropolitain’s (REM) rail cars will eventually run.

Come 2023, the gantries will have launched more than 4,000 concrete segments, forming 366 spans of elevated track from Technoparc, near the airport, to the city’s western tip of Saint-Anne-de-Bellevue. Crews will cap off the 14.5-kilometre section as the remainder of the 67-kilometre, \$6.3 billion light rail transit project is built.

The use of launching gantries is unprecedented in Quebec’s construction market, which hasn’t embarked on a public transit project of such magnitude in the more than 50 years, since work began on the Montreal Metro.

“We have a lot of diversity of work to do. It’s going to be a pretty rich experience for everybody who’s going to be in touch with this project,” says Jean-Vincent Lacroix, director of media relations for the REM. “It’s pretty rare to have so much different kinds of work and so much different kinds of workers that are on the same project.”

The construction consortium taking on the project, comprised of SNC-Lavalin Group Inc., Dragados Canada, Aecon Group Inc., Pomerleau and EBC Inc., have been operating at full throttle to build the ambitious light rail network since April 2018.

This momentum for transit work isn't confined to the Greater Montreal area.

With some credit owed to the steady flow of infrastructure funding from Ottawa and commuter demand for public transit, projects across Canada have gathered steam, unlocking opportunities for the workers bringing those structures to life, says Marco D'Angelo, president and CEO of the Canadian Urban Transit Association (CUTA).

"It's going to be huge for the Canadian construction industry," he says. "I think there's really an opportunity here for the construction sector to be building transit and I think it means good things in terms of jobs and great things for the economy."

Investing in Transit

Once gathering dust, plans for proposed transit infrastructure and network expansions in cities across Canada have taken major steps forward in recent years thanks to newly available funds.

The federal Liberal's \$190 billion infrastructure plan, underpinned by provincial and municipal investments, is one stream giving some long-sought transit projects a leg up, D'Angelo says.

In July 2019, Prime Minister Justin Trudeau committed \$1.3 billion to expand Montreal's Metro, effectively green lighting the project decades after it was first promised to the city's commuters. On the West Coast, Trudeau pledged \$1.4 billion in 2018 for two "long overdue" projects to extend Vancouver's SkyTrain transit network and construct an LRT system in Surrey, B.C. Construction of Calgary's Green Line LRT and the expansion of two Edmonton LRT networks are among the other projects to secure more than a billion dollars from the federal government over the last few years.

"We're really just starting to see those funds and projects get underway," D'Angelo says. "It's been very helpful for local transit systems to look at the backlog that they have in terms of their capital needs, look forward to a state of expansion."

The long-awaited dole out of funds from the Canada Infrastructure Bank (CIB) – first floated in 2016 – has also helped get more transit projects off the ground, D'Angelo adds.

Designed to attract private sector investment for public infrastructure projects, the crown corporation inked its first deal in August 2018, loaning \$1.3 billion to Caisse de dépôt et placement du Québec, the pension fund manager delivering the REM.

In June, the CIB entered its second agreement, committing \$2 billion to expand Ontario's GO Transit network. President and CEO Pierre Lavallée says the need to bolster public transit is evident coast to coast.

"There are major LRT projects underway in a number of places across the country. Some of them haven't started being built yet, some of them have one phase or two phases of work done, but there's always the next phase," Lavallée says. "I foresee that over the next nine years of our investment period, there will be many more opportunities for us to invest in building new transformational urban transit infrastructure for Canadians."

Gordon Lovegrove, an associate professor at the University of British Columbia School of Engineering, says investing in transit projects offers considerable payback.

"Every buck we invest in transit infrastructure, we're getting three to four to 20 times back," Lovegrove says. "In response to people who say the funds going to transit could go towards improving highways: let's flip that on its head. Let's look at the opportunity benefits of transit – climate change, safety,

aging in place, eco-tourism, travel time... Communities that spend more on public transport free up so much of their economic funds, they have a higher quality of life, bar none.”

In a recent CUTA-commissioned survey, Canadians in Vancouver, Calgary, Winnipeg, Toronto, Montreal and Quebec City were polled on public transit. Just under 90 per cent of respondents called on governments to invest more in public transit that reduces congestion and greenhouse gas emissions.

“The cost of congestion is dictating billions of dollars per year right across the country,” Lovegrove says. “We’re running out of space, and we can’t afford to build our way out of congestion anymore.”

Building for the Future

Mapping out transit networks that can meet commuter demand in swelling Canadian cities requires long-term thinking.

“It’s really an opportunity here to develop transit for the next generation,” D’Angelo says. “Looking down the road to see what the needs of our cities are from 2030 to 2050... Many of our bigger systems are already putting out plans like that.”

Vancouver’s TransLink is one transportation agency plotting out its future. The transit authority launched consultation for its 30-year strategy – Transport 2050 – in May, calling on the public to envision the possibilities for Metro Vancouver’s commuters.

The decades-long plan aims to account for new technologies, shifts in the global economy and the impacts of climate change on transportation. For Colin Earp, national transport leader at KPMG Canada, that generational transformation is already underway.

“When we’re starting to think about what the transit services for the next 40 [or] 50 years looks like, you have to understand how urban centres and rural communities are going to act in the future from a smart perspective,” he says.

The move towards urbanization has had a marked influence on transit development in Canada and globally, according to Earp. Though, there are a number of other factors reshaping transit across the country, he says. Autonomous vehicles, alternative drivetrains and electrification are poised to “critically change” transit, along with intelligent infrastructure and smart cities. Commuters are also more likely to use multiple modes of transport going forward, and transit infrastructure will need to evolve to meet that need.

Delivering those projects will require greater collaboration between the public and private sectors.

“The cost of building transit and big transport projects continues to go up because the scale of the projects [and] the complexity of delivering,” Earp says. “Understanding the whole lifecycle cost means we need to take a much more portfolio view of, ‘What are the outcomes from a public sector [perspective] that we’re looking for?’”

Sustainability plays a key role, too, with many urban transit systems working to lower Canada’s environmental footprint. The fully electric REM, for example, is designed to emit zero greenhouse gases, reducing emissions by 680,000 tonnes over its first 25 years of operation.

“Infrastructure that facilitates climate adaptation and resiliency, building our electric and alternative fuel infrastructure... those are a couple of complementary areas where the construction industry can take the lead as well in creating the conditions for better transit,” D’Angelo says.

Keeping Up the Pace

Throughout Greater Montreal, 34,000 trades workers are expected to mobilize to build the extensive REM.

Altogether, crews will construct 18.2 kilometres of elevated track, 26 stations (eight elevated, 13 ground-level and five underground), 14 park and ride lots, 11 bus stations, two maintenance centres, five bridges spanning 1.6 kilometres and 3.5 kilometres of tunnels.

Project teams will coordinate with 11 municipalities, eight boroughs and six public transit authorities, operating in both industrial environments and dense, urban centres.

“We also have to implement all the electronic components, the communication components,” Lacroix says. “We always try to present it like a brand new system, a collective system... This is one of the main challenges for our team – to build the infrastructure but to really connect with the technical team that is responsible for this new transport system.”

The network’s first trains are expected to get rolling in 2021, with the remaining branches coming into service between 2022 and 2023. Once complete, the fully automated light rail network will be one of the largest of its kind in the world after Vancouver, Singapore and Dubai.

“At the end of the day... if it’s helping to develop here in Quebec and in Montreal an expertise for this kind of major transport system or work site or project, it’s of course a good thing,” Lacroix says.

ASSOCIATION LINKS

- **Alberta Construction Safety Association (ACSA)**
www.acsa-safety.org
- **BuildingSMART Alliance** (North American Chapter of BuildingSMART):
www.buildingsmartalliance.com
- **BuildingSMART International (formerly IA)**
www.buildingsmart.com
- **Biomimicry Guild**
www.biomimicryguild.com
- **Canadian Green Building Council (CaGBC)**
www.cagbc.org
- **CCDC Documents**
www.ccdc.org/home.html
- **Construction Specifications Institute (CSI)**
www.csinet.org
- **International Construction Information Society (ICIS)** www.icis.org
- **OmniClass**
www.omniclass.ca
www.omniclass.org
- **Uniformat**
www.csinet.org/uniformat
- **Institute for BIM in Canada (IBM)**
www.ibr-bim.ca
- **Architecture 2030**
www.architecture2030.org
- **Building Information Modeling (BIM) Forum**
www.insightinfo.com/bimforum
- **Biomimicry Institute**
www.biomimicryinstitute.org
- **Canada BIM Council**
www.canbim.com
- **Canadian Green Building Council (CaGBC) – Alberta Chapter:** www.cagbc/chapters/alberta
- **Construction Specifications Canada (CSC)**
www.csc-dcc.ca
- **buildingSMART Data Dictionary**
bsdd.buildingsmart.org
- **MasterFormat**
(<https://secure.spex.ca/siteadmin/freedocuments/images/1.pdf>)
- **buildingSMART Canada**
www.buildingsmartcanada.ca
- **Ace BIM**
www.acebim.ca

ASSOCIATION LIAISONS

Alberta Association of Architects (AAA)
<http://www.aaa.ab.ca/>

Alberta Painting Contractors Association (APCA)
www.apca.ca

Alberta Wall & Ceiling Association (AWCA)
<http://awca.ca>

Alberta Roofing Contractors Association (ARCA)
<http://www.arcaonline.ca>

Alberta Painting Contractors Association (APCA)
www.apca.ca

Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA)
<http://www.apegga.org/> dward@apegga.org

Association of Science and Engineering Technology Professionals of Alberta (ASET)

info@arcaonline.ca

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

<http://www.ashrae.org/> / ashrae@ashrae.org

The Canadian Wood Council (CWC)

<http://www.cwc.ca>

info@cwc.ca

Portland Cement Association

ConcreteTechnology@cement.org

Interior Designers of Alberta

www.interiordesignalberta.com

<http://www.aset.ab.ca/>

Russ Medvedev, russm@aset.ab.ca

Building Owners and Managers Association (BOMA)

<http://www.bomaedmonton.org/> / edmonton@boma.ca

Consulting Engineers of Alberta (CEA)

<http://www.cea.ca/> info@cea.ca

Edmonton Construction Association


www.edmca.com

contact@edmca.com

Terrazzo, Tile & Marble Association of Canada (TTMAC)

<http://www.ttmac.com/>

association@ttmac.com



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Bulletin Board

Message from the Executive:

We in the Executive are looking for creative-minded individuals who can take on a position and follow through with ideas...if this is YOU, send a message to information@cscdmonton.ca and we will be quick to get back to you!

Open Positions Include:

Newsletter Editor
Chapter Liaison

You don't need to be a member of the Committee to come and participate in our monthly Chapter meetings but watch out if you do! You may find yourself holding a position...maybe even as Chapter Chair...

****Important Update ****

Alberta Infrastructure launched the new Vendor Performance Management (VPM) Program on January 6, 2020. This program supports quality infrastructure projects delivered on time, on budget, and within scope.

To continue providing awareness, updates and information on the VPM Program, Alberta Infrastructure is hosting a series of information sessions with online participation in partnership with Alberta Construction Association, Consulting Architects of Alberta, Alberta Association of Architects, and Consulting Engineers of Alberta.




















The sessions will focus on the following:

- VPM Program Updates
- VPM Program Overview
- Frequently Asked Questions
- VPM Continuous Improvement

The sessions will take place in November and December. To register, visit Infrastructure's Vendor Performance management Program website. (<https://www.alberta.ca/vendor-performance-management-program.aspx>)

For event inquiries, please email infras.vendorperformance@gov.ab.ca.

The Executive

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