

**Remarks by**  
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***(Edited Transcript)***

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Thanks, Andrew (Graham), it's great to be here, and thank you very much for inviting me. I know you're nearing the end of your run as the President and I thank you for your service, because I think the Club and what it does is an amazing thing, and congrats to you.

I am privileged to have this opportunity, thank you. It's a wonderful thing to think about the legacy of people who have been on this stage and held this podium: prime ministers and Nobel laureates. And the only thing you can think of, if you're me, is that they've made a horrible mistake in asking me, or I've made a horrible mistake in accepting. But, one way or the other I am thrilled to be here. I actually think that the kind of self-deprecating humor that I just did is a very Canadian thing, and I'm going to try and change the tone of that today.

Because the truth is I think infrastructure Ontario is one of many examples of situations where we have a homegrown success story that we fail to recognize. Andrew talked about the track record that our agency has, the recognition that it enjoys around the world, and ironically while we're known that way outside our borders, it's in Ontario that we are maybe least known or least recognized.

I'm going to talk a little bit more about the agency that we've built, the foundation for success that we have, and how we think we're well set-up to handle some of the challenges of the future. Because, make no mistake, the opportunity we have and also the challenges that we face in delivering and managing over the long term new infrastructure here in Ontario and across the country is a massive one. It makes a big difference to the economic and social viability of our country.

So with that, let me start with an experiment. Okay, please raise a hand if you have undertaken a home renovation project, big or small. Wow, okay, that's everyone. Keep your hands up please. It is part of the experiment. Okay, now you're going to raise your second hand if it

went perfect. Now I'm going to define perfect for you before we go further. Perfect means, number one, you set a scope for the project and it didn't change one iota. So you didn't later on go to the different, cheaper, countertops or linoleum, you stayed exactly as is. Number two, you set a timeline for it and it stuck to the exact timeline – it finished on time, when you said it was going to, when the contractor first met with you and said, 'we'll be done in twelve weeks.' And number three, you never once revised the budget you set and had to write another cheque or pay any more money. Okay, two hands up. (*Waits for hands to rise*) I can count them on my hands how many two hands are up. You should find those people afterwards and get their tips. They know something that the rest of you don't.

Now, I want to say that in Ontario in the last 15 years we have built infrastructure, social and civil. We have, 66 of those, that are completed construction and in operation, and another 50 or so in some stage of construction or procurement. I will tell you that 19 out of 20 of those, ninety-five percent of those, have finished on or under the original budget and two-thirds of them have finished on or before the original set schedule. And all of them were done without an addendum or changes to scope or compromises on quality. So that's the track record. Imagine your home project multiplied by a thousand in terms of size and complexity and then deliver it that way.

So my goal today is to tell you a little bit about how we've been able to do that. I'm going to talk a bit about the history of Infrastructure Ontario: who we are, why we were created, and the basic principles under which we operate. I will talk about the emerging challenges we face and the environment we find ourselves in now, because it clearly is a time of transition. There are some really big forces at work that make maintaining that track record even more difficult in the future. I want to talk about what we're doing to position ourselves for that and how we're adapting.

## IO'S HISTORY

I said I'd start with who we are and how we got to where we are, so just a few words about that. Infrastructure Ontario as an agency was created over time. It was the amalgamation of a number of things government was doing, but we were all put together in one agency about a decade ago. (In his introduction) Andrew said we were very well known, but I'm not so sure, Andrew. In a snapshot, we do a few important things for the Province. One, we act as the centralized source of project management expertise from procurement through construction when big, new infrastructure is getting built in the province. Second, we help manage and oversee the existing legacy assets of the Province – think of the 1,500 buildings that the Province owns and runs services out of every day, 130,000 acres of land. So we help oversee and manage that ongoing asset base. And the third thing we do is lend money. We loan money to municipalities and other similar types of organizations to fund their infrastructure. So we play a role both in the building of new infrastructure, the maintaining of existing infrastructure, and supporting other colleagues, especially at the municipal level, in building their infrastructure. So that's what we do now, why we exist.

Go back to the turn of the century. In Ontario, just like almost every part of the developed world, we were stuck when it came to building infrastructure. We were stuck for some very fundamental reasons. Governments around the world had proven themselves incapable of building and delivering large infrastructure projects. Think of an energy project in your mind – a major road, a big dig somewhere. Those projects had an incredible legacy, and I don't mean that in the positive sense of the word – a legacy of going multiples over time and over budget. Government had lost the faith of the public, had lost the license to deliver new infrastructure. At the same time, the public sector was doing a really poor job of managing the stuff we did have. It

was really hard to make the ongoing investments to keep an asset in high quality and productive. Governments around the world had a tendency to build stuff, enjoy that part, cut the ribbon, probably take a deep breath because they were three or four years late by the time this was happening, and then abandon the infrastructure and let it start to deteriorate. There was this cycle going on and we had reached a basic point of impasse.

It was in that context 15 years ago or so that we started this concept. And we aren't the only ones – the UK was really at the forefront of this, Australia has done a lot of it, our colleagues in British Columbia have a great track record at it, and many others around the world continue to. But at that time in the early 2000s, a number of jurisdictions realized that our traditional way of building and maintaining infrastructure just wasn't working and it was in that context that Infrastructure Ontario was created. The idea was, 'How can we do this differently and better?' And we came up with a set of principles that we try and apply to everything we do. From those early days, those principles continue on today.

## FUNDAMENTAL PRINCIPLES

The first principle is that government needs to start thinking about how to make performance-based contracts with the private sector. What do I mean by that? In your home renovation example, when you hired the contractor, did you say, 'I want you to deliver me a functioning kitchen, it needs to look and work in the following way, it has the following finishes?'

That's our contract. You're going to deliver that output. Don't come back later and tell me about material cost increases you had to pay, overtime, etc. A performance-based contract focuses on the outcome.

It focuses on what you're actually buying as a service and lets the private sector figure out how to deliver it. We take a performance-based approach to every contract we do, whether that's for the maintenance of our existing portfolio of assets or for the building of new ones. So that's the first principle or fundamental change that agencies like ours tried to institute or bring to public sector contracting.

Second, we tried to bring a more effective thinking around the life cycle of an asset. It's really easy to get focused on the capital cost of building something if you want to get it built well and maintained for the long term. As I said, the best way to do that is to sign a contract that has incentives for the person who's designing it and building it to have a whole life cycle view. That's true about the energy usage of the asset. It's true about the cost to maintain the major components in it. As much as possible, we try and take that life cycle view of assets. We build for best value, not for lowest cost. If someone's bidding to win one of our projects, typically what they're bidding is not just bidding at NPV (net present value). They are bidding to build and maintain the asset over the long term. We do that to give them all of the incentives to design and construct for the long term.

The third principle, really fundamental to both of the first two things I said, is that we've got to have a really clear understanding of, and sharing of, risk between the public and the private sector. What we focus on is that risks should always be borne by the person best suited to carry them. There are some risks that, as government, we are best suited to keep. We would pay an incredible premium if we ever tried to push those on to the private sector. But there are a bunch of risks that the private sector is way better positioned to manage. Our job in doing those performance-based contracts is to be really smart about what are the risks that government is best to keep and maintain and what are the risks that the private sector actually is better suited to bear, and how do we create a contract that shares those effectively. All sorts of

our time and energy is spent figuring out which risks we are best to keep and which risks we are best to transfer.

Fourth, we needed to get much better at doing upfront due diligence and planning. We have expressions for this at IO. One of them is, 'measure twice, cut once.' One of them is, 'go slow to go fast.' What we mean by both of those is that it's not about getting out the door fast. We have to work really hard with our partners in the public sector to remind them that success isn't announcing the project earlier – success is finishing the project as early as possible. It's about the ultimate delivery that matters...go back to my last point. If we want to transfer risks, the best way to do that is to understand them really clearly first. If that means we need to do a little extra due diligence to understand the geotechnical and soil conditions, and understand the baseline conditions of an asset, before we enter into a contract, that's much better. And again I go back to your home building example and I wonder whether, when you started your renovation project, you knew everything you needed before entering into that initial contract with your contractor. That idea of due diligence and planning became central to what we do.

The last thing I'll talk about is how this is changing. Right from the start was this idea that we had to find new ways to bring innovation into the way we build things and how you get the most innovation that drives value for money. A big part of that is by competition and by having bidders actually competing against each other to come up with the best ideas. Think back to my very first point: If you're going to do a performance-based contract that says, 'I'm not buying from you seven tons of concrete and four tons of gravel... I'm buying an outcome, an asset I can use,' then the best way to do that is to say, "Now you figure out how you're going to design it and how you're going to build it. That idea of creating an incentive for the private sector to innovate was the sixth basic principle.

So we started in early 2000s to solve the problem. The problem was that we were stuck – and many jurisdictions like us – where things weren't getting built. We had essentially lost public faith. Fast forward to today and through the principles I've described – these ideas of performance-based contracting, with effective risk management, with a life cycle view of assets, good diligence and planning, and driving innovation, getting the private sector to find solutions to our problems – we've come a long way. I talked about the track record that we have. If you look around the world at mega capital projects, it is quite unprecedented. And, as I said, we have now built and put into operation 66 hospitals, colleges, courts, jails, highways and transit projects across the province. We continue to do many more today. We now manage a diverse portfolio of stuff, brand new that we've just built, and stuff that's 50 years old. And we do it all with those same principles. We're constantly trying to find ways to keep our assets safe and productive and efficient.

We have also built something here in Ontario that we should be really proud of. It's a pleasure to see so many familiar faces here today because we've built something here that also is world-renowned – that is an industry of designers, architects and engineers, construction companies, investors from around our neighbourhood and from around the world who have come to Ontario to do business.

We have built an agency that I'm really proud to lead. A number of my colleagues and teammates are in the room today. We have attracted talent who have a shared sense of purpose, who come to work in the public sector to deliver outcomes and deliver public good, but through a private sector lens. We've attracted an incredible breed of people who have a shared sense of purpose that we're doing something in support of our province and we're bringing the best of what we have learned from the private sector to do that. The third thing that we



should be really proud of is, we've built a market, we've built a common approach, we have a set of meeting documents and an evaluation process that has withstood all sorts of tests and rigour and had lots of external scrutiny. It stands the test of time and is the envy of, and the interest of, many places around the world. To understand how we've done that we've introduced things like having a fairness monitor on all our procurement. There's a whole industry that's grown around adjudicating the fairness of our process and making sure our procurements are run really well. That's an incredible thing and it's something that many jurisdictions do come and learn from us. We should be proud of that.

## CHALLENGES AHEAD

But now, let me talk about looking forward. Because as I said, the challenges only get bigger and we would be not following our own code, our own ethic, or our own reason for being if we were to rest on our laurels. As we always say at our organization, 'we need to be proud but not satisfied.' That's the situation we find ourselves in now. We are proud of how far we've come in the work we've done, but we're also far from satisfied. And when we look at the challenges we face and the challenges that governments at all levels face in making major new investments in transit and social infrastructure, we know we need to do more. For those in the room who are from our industry you know every year or two we publish a pipeline of the upcoming public work that's coming. We are working on that now with government. The amount of work, the scale of what we're doing, continues to be really high, so we owe it to ourselves, we owe it to you all, to keep thinking about how we get even better.

There are a couple of challenges that are in our mind that I'll just share with you. The first is the scale of projects. Projects are getting bigger.

That's a natural function of the stuff we're building. First and foremost, transit systems by their very nature are 'systems.' Transit systems have to work in an integrated way. One of the worst things government can do is buy a vehicle from you (*points to one person in audience*) and a signaling system from you (*points to another person*) and some tract from you (*points to a third person*) and try and put those together. That is what we were explicitly not very good at doing. Systems like that come in an integrated fashion. That means they're big. It means you need to be working at a different scale. We need to be attracting people from other parts of the world. But that size in and of itself creates a new challenge for us relative to what we've been doing for the last 15 years.

The second challenge, technology is playing an incredibly different role in what we build. I have been at IO for six-and-a-half years or something like that and even in my time the change has been unbelievable. What we used to think of hospitals as kind of bricks and mortar projects – you're building a bunch of rooms. Hospitals are incredibly technologically complex assets with systems that need to talk to each other in the building and in the way patient care is delivered. The new hospitals we are building now really try and integrate the built environment with the patient service. We have this example I hear from one of my clients, and I love this story. It's one of the newest hospitals we are building. The team has worked on a whole bunch of care scenarios. A patient goes into cardiac arrest for instance. What does the building need to do to respond? It's things like being able to geo-locate within the building the first responders who need to come and paging them... knowing their location, having elevators go to their floor to pick them up... doors open so that they don't need to badge through them, crash carts are identified with RFID tags and brought to the room... the bed that the patient is in is lowered to the right level of their crash cart – if they have to be zapped – you can tell I'm no doctor. When everyone arrives in the room, the care happens urgently. That

has to do with how we build the asset and integrate the technological environment. That is very different than what some of our industry has been doing and what we've been doing. That's a big challenge. We have to think very differently about it.

The third thing that we spend a lot of time thinking about is how our infrastructure affects communities and affects our stakeholders in new and different ways. Certainly as you build transit there's another level of public interaction. You are not going behind hoarding and saying, 'We'll let you know in three years when the project is done and we'll take the hoarding down and voila.' You are building right through the hearts of communities. That has all sorts of implications for the way we interact in our environment.

The fourth thing is this: I mentioned earlier the principle of life cycle thinking and thinking for the long-term. Well, that's changing too. There are new things we have to think about. The sustainability of the assets we build, their resiliency to climate change, the way they use energy, is becoming ever more important and something we need to price into our projects. There's a whole bunch of externalities that we're trying to think, 'How do we make sure that our projects reflect those?'

## HOW WE ARE ADAPTING

Those are the challenges we face. It has forced us to really adapt our vision of the agency we are and what we need to be. As a team we've spent a lot of time talking about how we continue to adapt to that environment and how we focus on our vision, which is to build partnerships across the public and private sector to modernize Ontario's public assets. How do we become more than just a really good procurement agency and take on that bigger challenge of delivering and maintaining infrastructure in a changing world? I want to

close by telling you about some of the things we are doing right now to adapt to that world.

One: I talked earlier around innovation and getting private-sector innovation. That is going to have to be redoubled in our efforts over the coming years. The Minister of Infrastructure – I report to an independent, private board of non-political people who come from the business world and that board in turn reports to the Minister of Infrastructure. Minister (Monte) McNaughton has been very clear on this idea of innovation and how we need to be tapping into the market. He recently, in March, announced some changes to this effect. How do we do a better job of recognizing in our procurement and making the door as open as possible? I'll give you an example. Right now we are working with Metrolinx on one of their signature projects: RER or GO Expansion. How do you increase the frequency of GO service all over the GTA and run trains rapidly all day, every day? We could say to somebody that we need to add this much track on Lakeshore West and we need to buy 200 more vehicles. We are not going that way. We are trying to really open up innovation in a new way by saying, 'Here are how many people we think need to move between A and B. Please give us a bid that tells how you're going to do that, your choice on technology, your choice on how much to invest in an upfront capital versus the ongoing operations.' In fact, we predict that more of the value of the bids will be in the 30 years of operation than in the capital cost. Bidders are all going to have their own strategies of what kind of vehicle choices they make, where they build track, all of the above. We are trying to change our approach and open it up to new levels of innovation. In doing that, we have to get creative. The best way to think of this is: How much value will we assign to a bidder in that process that I just described who tells us they can reduce transit times from Oakville to Toronto on every journey by four minutes? How do you value that, relative to the person who says they can build it for us for a hundred million less? That's what we have to do if we say we want innovation.

We actually have to learn how to value those things in a smart way and score our bids in a way that puts innovation at the front and puts a value on things like better solutions that improve journey times.

A second evolution we need to make is to move beyond risk transfer, which I described is so core to us, into a more nuanced view of risk management. The best way to manage risk is not to ... pass it back and forth across the table. The best way is to just reduce it. We are doing things now in a very different way around identifying risks early in a project and saying, 'Which of these risks can we get ahead of and take it out of the way?' That could be from a permitting perspective, working with our municipal partners. A big risk in transit projects is getting all the utilities that are under the streetscape out of the way or moved ahead of time. We are doing a lot more work now on risk – identifying which of those we can get ahead of and move. We don't have to get into this tit-for-tat discussion of risk transfer if we take them out of the way in the first place. That's working to great effect in some of our transit projects and something we know we need to do more of.

The third adaptation: I mentioned that a challenge we face is around engaging communities. We are thinking a lot about how we make residents and local business engaged, every step of the way in our projects – both in the construction phase and in the ongoing operation of the asset. We are doing things – baby steps – like holding job fairs in local communities to try and introduce people to the projects that are in their neighborhoods. We are doing meet-up events to allow local businesses that might have a chance to supply to the project to meet. Then there's a larger scale version of that, where we as an industry, working with our government colleagues and with all of you in this room, figure out how we're going to meet longer-term needs. We have talent shortages in skilled trades for instance. This is one that all of us need to be concerned about. We are really starting to think about what

role we need to play in that because it's not going to be enough for us to sit back and wait and hope for the talent to show up to deliver the scale of projects we want.

The fourth thing that we're doing to adapt is thinking about our own talent and skills and what kind of place we need to be. About three-quarters of the people at Infrastructure Ontario come from the private sector, with some private sector experience. What we have done is build this team that can merge common sensibilities from the private sector with policy thinking and act as the bridge for our colleagues and ministries who are actually the owners of these assets. We have got to continue to attract and keep the right people. In our organization we have investment bankers and lawyers and engineers and project managers and environmental specialists and heritage and archaeology specialists. That is the diverse mix of people we need to have to be able to deliver on the challenges we face. We have to keep finding people who are interested in making public service part of their profile, but also bring that kind of deep sense of expertise. That's a huge part of our adaptation.

Fifth is around leveraging data in new ways. We are so early in this – the building industry as a whole, the construction and building services industry, is pretty nascent in the way that it manages and uses data. We are looking at all sorts of ways in our procurements to look at data and trends...and the way we budget...and set up projects in the first place... and in the way we manage our buildings...and getting smarter building systems...more predictive tools that help us manage our assets. We have had a real ethos around tracking our own results. We publish something called our track record report every year. That's how I can quote that 60 of our 66 projects, 95 percent, have been on budget. We publish that and similar documents because we're trying to put as much as possible into the public domain around how we work and what

we do. But there's a lot more we can do using data to be more predictive. That's a big focus of our organization.

And then last, but not least, we are focused on how we take our partnerships to a new level. All that we do is done in partnership. We talk all the time about P3s (and P3 stands for public private partnership). People often forget the third 'p.' They are partnerships governed by an incredibly dense and rich contract. That feels for some people almost like a contradiction, but it's not. What we have to do is get much better and more sophisticated in the way we keep working with partners – our partners in the public sector who have a policy goal and our partners in the private sector who deliver and manage our buildings for us on a daily basis. That sense of partnership has to be core to what we do. It is something that we every day keep trying to reinforce and figure out. How we improve the principles of partnership and leverage those to deliver on and continue the track record of success we've had over the last 15 years.

I want to end by showing you a very short video on that last point about partnership. It is interesting for me to talk in the abstract about building schools and hospitals and highways, but it is interesting to hear from one of our partners. Michelle DiEmanuele is the CEO of Trillium (Hospital Network), someone we have done a lot of work with – a series of projects – and there's more to come. If you know anything of Trillium and their patient base, there is a ton of growth. We continue to work very closely together. I'm going to share some of her thoughts on the relationship we have and what it means to work as partners

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*Video plays*

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All right. So I want to end where I started and just summarize by saying over the last 15 years we have built something here in Ontario that everyone in this room should be really proud of. As the CEO of this

wonderful little agency, I certainly am. We are recognized around the world. We have delegations that come from US states and countries all over the world, and they visit to ask how we have built what we have, how we have built the track record of success that we have, and 'How can we learn from you?' The government has recently announced its intention to pursue, or at least look at, ways that we can play a role outside of our borders in helping other jurisdictions learn from us and leverage the insight and the intellectual property we have built over the last 15 years to their benefit. We think doing so will do two things: it will help those jurisdictions and help address the infrastructure shortage that the world faces, and we hope it will create a real anchor and an opportunity for Ontario-based companies to be able to participate in other markets. They have a homegrown advantage having spent the last decade-plus working here. We have this incredible base to work from and we have an opportunity in front of us. We face really interesting challenges in how we can continue to deliver meaningful social infrastructure and transit and civil infrastructure in ways to the benefit of taxpayers, to the benefit of citizens of Ontario. If we get it right, it sets us up in a way that makes us the envy of other jurisdictions. Infrastructure really is at the heart of vibrant communities. We are excited about that challenge. We know that there's lots of work to do and we look forward to working with all of you here to do it in the years ahead.

Thank you very much.