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The Honourable Judy A. Sgro

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● (1105)

[*English*]

The Chair (Hon. Judy A. Sgro (Humber River—Black Creek, Lib.)): Welcome, everyone, to meeting number 46 of the Standing Committee on Transport, Infrastructure and Communities of the 42nd Parliament. Pursuant to Standing Order 108(2), the committee is continuing its study of infrastructure and smart communities.

The witnesses today are Travis Peter, director of the Alberta Smart City Alliance, and Cathy Heron, co-founder and councillor. Appearing as individuals, we have Kevin Quigley, from Dalhousie University, and Sehl Mellouli, full professor, Université Laval.

Mr. Quigley, you can start, please. We have about five minutes for your opening remarks.

Mr. Kevin Quigley (Scholarly Director, Dalhousie University, MacEachen Institute for Public Policy and Governance, As an Individual): Good morning, Madam Chair.

Thank you to the committee for inviting me.

I'm before the committee today to talk about infrastructure planning from my position as an academic and researcher focused on infrastructure and risk governance.

Infrastructure spending on transportation, energy, and telecommunications, for example, is not always the sexiest topic, noted John Ivison, but historically these investments have changed our society. Indeed, new technologies offer similar promise. Infrastructure investments in wireless technologies, high-speed commuter trains, and driverless cars, for example, will not just accommodate the needs of future communities—they will shape them.

But this is largely an expression of hope over experience. In fact, many infrastructure projects fall short of expectations. They run late and overbudget. They are incremental, not transformative. The decision-making process is opaque, and policy decisions are not well coordinated. Infrastructure projects are subject to considerable market, popular, and interest group pressures, which influence the outcomes.

Market pressures will emerge due to fluctuations in economic forecasts and competition over available capital and between different technologies. There's also a disparity between large urban areas and everyone else. While some well-populated regions have considerable transportation infrastructure, less populated areas of the country simply don't have the population or means to build the transportation infrastructure they need.

There are also market failures, which governments should address. Climate change and security concerns, for example, cannot be justified in a private sector cost-benefit analysis. There are also popular pressures. How to pay for the infrastructure will raise controversy on the role of user fees and tolls, and on the role of the private sector in managing, financing, and, in some cases, owning the infrastructure.

These aren't strictly market considerations. They are normative ones. People don't like tolls and user fees, and they look with distrust at P3 arrangements, despite the opportunities they might offer. Moreover, there is always popular pressure to create new infrastructure. Maintaining assets gets less attention despite the cost, and retiring assets can be unpopular despite the savings. Regrettably, our political arrangements can limit co-operation between parties, districts, and orders of government.

Here are some suggestions.

First, we need to get better at regional planning: longer term, more nimble, and better coordinated. For example, New Zealand has a 30-year infrastructure plan. Canada has no such plan. Longer-term planning opens up the opportunity for markets and policy entrepreneurialism, seizing opportunities as they present themselves. It also encourages better coordination between the private sector, government agencies, and all orders of government, taking trade, security, and environment into account.

Second, we need better public engagement and education. We need to build communities that people want to live in. Infrastructure investments are not strictly economic investments carried out by large and at-a-distance multinational corporations. There is an aesthetic aspect. We must also be confident that people will use the technologies we are introducing, which may be a challenge in certain demographics. At the same time, people need to understand the trade-offs and choices between hockey rinks and commuter rail.

Third, we need better asset management. This requires better data collection and more research capacity. Here, Canada is falling behind the U.K. and Australia, which have established multidisciplinary research centres of excellence that don't yet exist in Canada. We should support a research network that includes researchers in computer science, urban planning, public economics, trade, security, environment, and so on.

Finally, we also need clear accountability and transparency with respect to the decisions, and reasonable performance measures. This is particularly so due to the high-level distrust of P3s. Interestingly, according to polling data, people trust small and medium-sized enterprises more than they do government and the finance sector. The government should build on this by including SMEs in its planning.

Ivison notes that infrastructure is not the sexiest topic, and I agree. This is what concerns me most: that its failure to capture the popular imagination in today's media culture means that it might be overlooked. In fact, as we know, infrastructure spending can be in the billions, it can take years to plan, and, for good or for ill, we will all have to live with the outcome for generations. It's worth trying to get it right.

Thank you.

The Chair: Thank you very much. We appreciated that.

Ms. Heron.

Ms. Cathy Heron (Councillor, City of St. Albert, and Co-Founder, Alberta Smart City Alliance): Thank you.

Good morning. First I'd like to introduce Travis Peter. He's also presenting with me. We're from the City of St. Albert, and we're representing the Alberta Smart City Alliance. We're both pleased to be here. Thank you for this opportunity to address you on behalf of the alliance. We're really hoping that we can add some value to this topic, and we'll offer some suggestions near the end.

In my opening comments, I would like to discuss Alberta's current context, share a few examples of communities actively engaged in smart city projects, comment on some broad challenges we see, and offer our recommendations for your consideration.

In Alberta today, despite economic conditions, many communities are growing rapidly, and infrastructure continues to be a key priority. A strategic approach may not often be there, but communities are adopting technologies to improve efficiency, to have better services and quality of life, and to make economic development gains. We also see promising academic activity in pure and applied research, and we're very pleased by the recent interest from Alberta's provincial government.

We have communities such as the City of St. Albert, which my colleague and I are proud to call home, that are acting as demonstration sites. St. Albert is a mid-sized community of 65,000 residents but is considered a national smart city leader. The city realized that its future competitiveness was connected with its ability to innovate and therefore developed a unique Smart City Master Plan, with over 70 strategies to guide and align its efforts into the future. In doing so, city officials engaged over 2,000 residents, community groups, and other stakeholders. St. Albert has built a strong foundation for the future, with dozens of completed smart city projects, and it co-founded the Alberta Smart City Alliance, along with academia and industry.

Some of the specific projects that St. Albert and other Alberta communities are pursuing are quite exciting.

For example, St. Albert is working to install intelligent transportation systems to optimize travel through the community, integrate controls and sensor arrays to assess and manage infrastructure in real time, and build and expand its municipal fibre optic network.

The City of Edmonton is also working in some of these areas. In addition to leading Canada in its open government and analytics programs, Edmonton is partnering on regional transit digital payment services and is offering new digital public services and applications.

In a rural context, Parkland County is aggressively expanding broadband connectivity to all parts of its community through wireless tower infrastructure. Even a small community such as Nanton is working with industry to ensure door-to-door fibre optics connectivity.

These and many other examples demonstrate the great potential across Alberta. We have included St. Albert's Smart City Master Plan in our written submission to provide additional context if necessary.

Notwithstanding examples such as these, the Smart City Alliance sees three key challenges for broader adoption from a smart city perspective.

First, we feel that we have a lack of digital infrastructure. We believe that Canada's economy requires borderless and contiguous connectivity, with national attention not only to rural broadband issues but also to urban areas that require significant improvement to ensure global competitiveness. We also cannot afford to be building core infrastructure without future-ready technology components.

Second, we see that smart cities suffer from fragmentation. We believe that collaboration and partnership models in this area are inconsistent, that investment planning and execution are tactical and siloed, and that slow rates of technology adoption can be attributed in part to low understanding or low capacity to advance these projects.

Third, policy and support frameworks are missing. There is currently no national strategy on smart cities. There is a lack of long-term and dedicated funding to support integration and infrastructure, and incentives for regional and shared applications are missing. The interests of the private sector do not always align with those of the public, and we believe that policies could help change that paradigm and recognize the social capital advantages.

To address these challenges, we have identified three recommendations.

First, we believe that amendments to the Canadian digital strategy are required. This strategy should cover all sectors and focus on digital economy readiness, ubiquitous and borderless connectivity, smart cities, and the Internet of things. In doing so, the strategy should also have a sensitivity to the realities of communities of all sizes.

Second, we recommend the incentivization of a regional smart city strategy focused on solving problems rather than just putting the technologies in place.

Finally, we would encourage long-term and dedicated funding for reliable and connected digital networks, technology integration with infrastructure, local test beds, and applied research in the municipal context. These supports, potentially through the expanded national smart cities challenge, in addition to other municipal infrastructure programs, are critical to address the capacity and infrastructure issues we have noted above.

Thank you.

● (1110)

The Chair: Thank you very much.

Mr. Mellouli, go ahead for five minutes, please.

[*Translation*]

Mr. Sehl Mellouli (Full Professor, Université Laval, Faculty of Business Administration, As an Individual): Thank you, Madam Chair, and good morning, everyone.

Today, I will be presenting the findings of some research conducted by Université Laval, but first of all, I would like to thank the committee for this invitation. I'm very pleased to participate in your work.

I will briefly present a study on smart cities that was conducted in some of the cities around the world and in which I participated with a view to understanding the concept and adapting it to the Canadian context.

This study has shown that smart cities revolve around eight key concepts: technology, organization, politics, economy, governance, natural environment, existing infrastructure, as well as people and communities. My presentation will focus on this last aspect.

Today, we have many questions about smart cities. Earlier, we talked about citizen participation or civic engagement by explaining how citizens become co-creators of this infrastructure.

In co-operation with Quebec City and a non-governmental organization, we have tried to see how we can be more responsive to citizens. To this end, we have tried to develop smart tools. This is one area where investing in artificial intelligence would be beneficial. These smart tools are enabling the city to find out and analyze the needs of its citizens. The information is posted on Twitter, Facebook, dedicated platforms or discussion forums. This allows everyone to understand what people want without having to read the documents.

Today, citizen participation is problematic because people don't know whether they have been involved in the process, whether their opinions have been heard, and whether they have been taken into account.

If we are to build a smart city, not only is infrastructure necessary, but we must also place the citizens at the centre of this development. By so doing, people would express themselves and see that their opinions were considered. This would improve social life and also allow our cities to have local and international leadership. Our cities would become examples on the world stage. Their entrepreneurship and leadership would make them attractive.

Canada could take steps to strengthen co-creation with citizens so that the cities meet their needs and expectations. Technological infrastructure should be developed by integrating people of all ages and all social categories. This would require a change in governance. This would result in cities that listen to citizens, not cities that give orders to citizens.

In our research, we have noticed some barriers in this regard, both in Canada and around the world.

There is the issue of the digital divide. In some cities, 30% of people do not use digital platforms. There are also ethical issues with respect to the use of technologies, such as what people call tracking. Other obstacles are linked to a lack of political will. I turn to citizen participation again. So you have to get people involved in the process and some political will is needed to get there.

Measures that the federal government could take include support for the existing IT infrastructure. It must encourage innovation and co-creation while supporting civil society in its efforts to build smart cities that meet the needs of their citizens.

Thank you very much.

● (1115)

[*English*]

The Chair: Thank you very much.

Before we open up the floor, I'd like to acknowledge Marc Miller, the parliamentary secretary to the Minister of Infrastructure, and Karen McCrimmon, parliamentary secretary to the Minister of Transport.

As a visitor today, we have with us Lesley Hogg, who is from Northern Ireland. Lesley is the Clerk of the Northern Ireland Assembly. She is visiting Canada for a few days.

Welcome. We're very happy to have you with us.

Now we'll go to Mr. Rayes.

[*Translation*]

Mr. Alain Rayes (Richmond—Arthabaska, CPC): Thank you, Madam Chair.

My thanks to the witnesses for the time they are devoting to the committee today and their help with its work.

My first question is for you, Madam Heron.

I would first like to congratulate you. I am very happy to have heard what you said. To my knowledge, this is the first time we have heard a witness express such concern about small and medium-sized municipalities.

In this study, we have only heard from representatives of large cities. The situation of the smallest communities is one of my personal concerns. The fact that a municipality of 65,000 people was able to propel itself to the level of smart cities is very interesting, I think. I would like you to tell us more about how you did it in your municipality.

One of the important issues is Internet connectivity. The government has a budget of $500 million for that. I think that's peanuts, given that we are talking about connecting all the regional municipalities in Canada.

What can we do if we don't have access to that connectivity? Do you think municipalities can manage to connect without federal support?

[*English*]

Ms. Cathy Heron: Thank you for that recognition of our size. We're now at 65,000, so we actually consider ourselves mid-sized.

We're fairly urbanized, as we're just outside of Edmonton, but we have developed this master plan very locally. We call ourselves the Alberta Smart City Alliance, and we've recognized a couple of things through the foundation of the alliance. We've recognized that the smaller municipalities of 1,000-odd people, which have only one administrator running the entire municipality, do not have the capacity for some of the interesting technologies that are helping to improve the efficiencies of the larger municipalities. That initial recognition made us understand that we need to do it in partnerships and with collaboration. Through the alliance, we can share our ideas and share our capacity with administrative staff, etc.

We recognize that broadband is a huge focus in Canada in connecting the very small rural communities, but as a mid-sized community, we were also feeling that while the big cities have the capacity and the smaller and rural municipalities are getting a lot of help from the federal government, the mid-sized ones were getting lost in the conversation. We have taken the approach that we're going to work with both the big and the small and, in that way, we're all going to benefit from the final outcome.

We were really happy to hear about the CRTC ruling about providing broadband with download speeds of 50 megabits per second for everyone in Canada. Even though St. Albert is fairly urban, we don't have that in every corner of our municipality, especially in some of our business parks. If we want to remain competitive in our region, we need to be able to attract businesses, and they need that heavy speed—up and down—to be attracted to our community. In many ways, we are struggling to provide that to them. We feel that the federal government needs to recognize the mid-sized cities as well.

● (1120)

[*Translation*]

Mr. Alain Rayes: Has your municipality, which has 65,000 inhabitants, had access to federal programs to carry out its smart city project, or is it a local initiative, carried out by people and organizations that have taken charge?

[*English*]

Ms. Cathy Heron: We have the gas tax, like every other municipality in Canada, but we have not been directing any of that money toward smart city technology. This is really about the grassroots trying to push this forward from our local level.

While I don't like the word “trendy”, smart cities are becoming very elevated in priority in municipal magazines, etc. I've been going to conferences and trying to learn what I can. We did this essentially on our own, without the help of the federal government or even the provincial government. In our alliance, we have had collaboration from IBM, Cisco, and also the University of Alberta. It's really grassroots.

[*Translation*]

Mr. Alain Rayes: Okay.

In my view, there will never be enough money to solve society's problems, particularly in terms of infrastructure. I have a strong feeling that, in large municipalities, population density means that it would be profitable for private companies to invest in digital infrastructure or projects, but that would be impossible in small municipalities. As you rightly said, a municipality of 1,000, 2,000 or 3,000 people has only one or two employees. The same person acts as secretary, treasurer, general manager and the one who supports the municipal council.

Should the government give priority to funding small and medium-sized municipalities in order to build infrastructure in places where the private sector has no interest in doing so?

Should it, at least, support the private sector to generate a certain profit, so that municipalities can access the infrastructure and then develop smart city projects? If not, do you think there should be a bigger project where the best one wins?

In that case, we know how things tend to unfold, given that big cities have resources, are faster, use their contacts and their lobbyists, and get a bigger piece of the pie. As a result, the regions are again left to their own devices.

[*English*]

Ms. Cathy Heron: First of all, I would agree that there's never going to be enough money. Even as a municipality we're being asked to make decisions on where to direct funding, just as the federal government is, so I recognize that.

I think we've talked a lot about how the federal government can support us. One of our recommendations is that if there were to be a dedicated funding stream recognizing smart city initiatives, we would like to see preference given to applications submitted in partnership as a region. St. Albert is part of the capital region, which includes 24 municipalities. We plan together. We have a growth plan together.

The provincial government has started to recognize granting applications that are partnership-based and collaboration-based. If we were looking for money to broaden the fibre optic network in the region, for example, I think it would be beneficial for the federal government to be able to say, “Look at Edmonton, St. Albert, and little Morinville, all working together to get the highway of fibre done as a team instead of individually.” Because—

● (1125)

The Chair: Ms. Heron, I have to interrupt.

Ms. Cathy Heron: That's fine.

The Chair: I try to be generous to my colleagues, but sometimes....

Voices: Oh, oh!

The Chair: Mr. Fraser.

Mr. Sean Fraser (Central Nova, Lib.): Thank you very much.

I think you'll find that my questioning picks up right where Mr. Rayes left off.

Ms. Heron, I also come from an area that's characterized by small towns and rural communities. One of the challenges we have is that we have multiple municipalities. They recently underwent a referendum. They have no interest in amalgamation, but there seems to be an attitude of willingness to co-operate.

Do you have any suggestions as to how municipalities could get together to form a regional strategy for smaller municipalities that would apply across the board?

Ms. Cathy Heron: I mentioned our capital region board. There was actually a ministerial order by the province that we had to work together. That's in the Edmonton region. Further south in Alberta, the Calgary region does not have that same ministerial order, and they have struggled in trying to find that collaboration.

I guess that I almost would want to point to the success of the capital region board. We have developed this growth plan. The board voted unanimously for it. We are talking about doing economic development as a region instead of as individual municipalities, etc., so maybe pointing to successful examples of regional collaboration is the way to go.

Eight years ago, it was mandated by the province. There were a lot of negative feelings about that. There are still some residual feelings there, but the successes and the benefits of belonging to a region far outweigh the local autonomy losses.

Mr. Sean Fraser: With the smaller municipalities that make up a region like this, I find that a lot of them don't necessarily have the capacity individually to do more than what they need to do. That's because a lot of people are doing this part-time, or maybe as a retirement hobby. They're still doing great work, but do you have suggestions for how the federal government potentially could help build the capacity to design a smart city plan for the long term?

Ms. Cathy Heron: I think that even just having this conversation is helpful.

As we mentioned earlier, one of our recommendations is to amend the digital strategy to include a national strategy on smart cities. A lot of this, as was mentioned by one of the previous presenters, is a matter of political will. What I see is that around the table you will have two mayors of different municipalities of the same size, where one is very actively engaged in the regional collaboration aspect and one has their hand up and is not buying into it.

There's a lot of political will that needs to change. I think that needs to come with an understanding of the benefits. They're not just on infrastructure. The benefits are just so broad. There are social capacity benefits as well. Earlier, we talked about digital inclusion. If we're moving at such a fast rate of speed towards a digital world in which there might be online voting and you can pay for your dog licence online and so on, if somebody doesn't have access to that, they're excluded, and they're not participating in our society. We need to make sure they are.

I also think that one of the successes of our master plan was the huge uptake by our residents. We had a committee. There were two city councillors, staff, and residents on the committee, and we engaged with many citizens.

Mr. Sean Fraser: That's a good segue, as I have a question for Mr. Quigley as well.

You discussed during your remarks the need to effect a culture change to get the public to buy into infrastructure as a sexy topic, which quite honestly is not when you're talking about water pipes. How can we get that level of engagement with the public to create a smart city strategy?

Mr. Kevin Quigley: I would suggest the point I raised as one possibility, which I think maybe picks up on the point that Cathy was making as well about how you engage people. I think one of the ways might be to get better data.

There's a really great research centre at Cambridge, which is a smart infrastructure centre, where they're thinking about all the technology that's available for us to use to get better data to show what assets we are using and which ones we are not. If we can get better data, we might be able to actually expose the data that some of the assets and some of the infrastructure we have, we don't need, and they're very costly to maintain.

If we could put that kind of data in front of people and say that we're spending a lot of money maintaining assets we don't need and here's where we're going, and that we could be investing in or repurposing infrastructure for these reasons, I think that might be quite a seductive argument.

● (1130)

[*Translation*]

Mr. Sean Fraser: Mr. Mellouli, thank you for being with us today.

I have the same question that my colleague asked earlier. How can we engage people to develop a smart city strategy that meets their needs?

Mr. Sehl Mellouli: There are two things to consider about citizens' commitment to a smart city.

In terms of the first aspect, let me use the structure of Quebec City as an example. In that city, there are many neighbourhood councils that are listening to citizens. I think it's a space that would make it possible to engage citizens in a smart city strategy. If we want citizens to adopt it, the neighbourhoods must adopt it as well.

The second aspect has to do with the disparities between neighbourhoods within the same city. There are neighbourhoods that are highly connected and others that are not. The widening of the digital gap would be a major problem in the adoption of the smart city concept.

In my view, and based on my experience in Quebec City with some research projects, citizens are truly at the heart of the concerns with smart cities. For them to be at the heart of the concerns, the civil society that supports them must be at the heart of the process. The neighbourhood councils are one of the main components of civil society. They can play an important and major role in circulating information and engaging citizens. Bringing public administration and neighbourhood councils together, and defining frameworks that govern the relationships between the neighbourhood councils and the cities, would help citizens become committed to adopting the concept of smart city. In addition to adopting the smart city concept, I think it is also important—

[*English*]

The Chair: I'm sorry, but I have to interrupt. Possibly you can get some of those comments in with another member's questions.

We'll go to Monsieur Aubin.

[*Translation*]

Mr. Robert Aubin (Trois-Rivières, NDP): Thank you, Madam Chair.

My thanks to the witnesses appearing before us this morning and bringing us a fresh perspective on what we have heard before.

My first questions are for Mr. Mellouli.

Is the study to which you have contributed available? Could the committee consult it?

Mr. Sehl Mellouli: Yes. The study is available. It was published in a scientific journal. I can share it with you. It is a study that has been referenced more than 700 times in the scientific literature.

Mr. Robert Aubin: Thank you.

You talked about the digital divide that is everywhere. You talked about between 20% and 30% of the population. I keep asking myself a question. My mother, who is now deceased, was connected. She was probably among the 70% to 80% of the population who are connected. However, her browsing capability was limited to a few emails and Facebook.

In terms of the digital divide, are there data on the browsing capability of the 70% to 80% of people who are connected?

Mr. Sehl Mellouli: I cannot give you figures on the browsing capability. However, I know there was an experiment on that somewhere in the world. I forgot the name of the city, but I can tell you about the experiment. The idea was to get seniors to surf the Internet through social support. So one, two or three people from a certain community were trained first. They then became catalysts for bringing others of the same age to the Internet.

Mr. Robert Aubin: Okay.

I'm sorry to interrupt you, but six minutes go by so quickly.

If we want 80% of the connected population to be efficient on the Internet, should we wait for one or two generations until we can say that not only is there no digital divide, but also that all connected people are able to use the Internet?

Mr. Sehl Mellouli: Today we are seeing the digital divide. I think that within one or two generations, we will be able to say that there isn't one anymore because young people are already using the tools. However, I think that support on the ground is needed for the 20% of the population who don't use the technology.

● (1135)

Mr. Robert Aubin: In the study you mentioned, you said that there were eight key concepts. Two of them seemed particularly important to me and perhaps they go together. They are politics, and people and communities.

Can we think beyond the usual infrastructure of smart cars, parking apps and public transit, that is, things we are currently seeing? Can we think of a new way of doing politics with a connected government, regardless of whether it is at the municipal, provincial or federal level? Could we think of a revolution in political institutions that would involve a better technological infrastructure?

Mr. Sehl Mellouli: I fully agree with that point. There should be technological communication channels that would allow political institutions to communicate with people and also allow citizens to express themselves in a context where their comments would be taken into consideration by the political community.

If a break is maintained between the policy area and the people, and citizens do not have feedback on what they have said or done, they will lose interest. That is what we are seeing today in many projects.

Mr. Robert Aubin: Thank you.

Since I still have a minute left, I also have a question for Mr. Quigley.

As part of your opening remarks, you said that, unlike other countries, Canada seemed to have no coordination plan. I think you mentioned New Zealand in relation to that.

What does this plan we should be implementing look like? I imagine it should be done fairly quickly. What are we talking about, in terms of years, in the case of other countries?

[*English*]

Mr. Kevin Quigley: The New Zealand plan is a 30-year plan. I think it's a sensible time horizon to have a sort of sense of it. We can focus a lot on the infrastructure, but the fact of the matter is that when we talk about infrastructure we're really talking about the future. What does the future look like? What infrastructure do we have to start building today in anticipation of that future in such a way that we can nudge the future in the direction in which we want to prosper, taking security, environment, trade routes, and all these sorts of things into account?

I think that taking a broad view.... New Zealand's is 30 years, but it's a different form of government there in the sense that it's a smaller country and it's probably easier to do a 30-year time horizon there than it would be for Canada with its federal-provincial dynamics. Nevertheless, a longer term would I think be very helpful.

[*Translation*]

Mr. Robert Aubin: Thank you.

[*English*]

The Chair: You still have 45 seconds.

Mr. Robert Aubin: I'll try another one.

[*Translation*]

Ms. Heron, has this new connection technology led to this experience of political governance at the municipal level in any of the municipalities in your alliance—in St. Albert, for instance?

[*English*]

Ms. Cathy Heron: What other municipalities are using the technologies? Is that your question?

[*Translation*]

Mr. Robert Aubin: No. I want to know which ones are using this technology to change the relationships between the municipal government and citizens.

[*English*]

Ms. Cathy Heron: I'm not exactly aware of specifically how they're engaging with the residents, but I do see the opportunity for the technologies to allow better engagement.

For example, last night, the mayor of Edmonton held a Facebook Live conversation about their LRT expansion. It's a great way for you to sit at home with your feet up on the couch and talk to the mayor of Edmonton. He's very good at getting his residents to feel that they are heard. He does listen to them, and he does this quite frequently. He's using technology to achieve that ultimate goal.

The Chair: Thank you very much.

Mr. Iacono.

[*Translation*]

Mr. Angelo Iacono (Alfred-Pellan, Lib.): Thank you, Madam Chair.

Please note that I'll share my time with my colleague, Mr. Hardie.

I want to thank the witnesses for sharing with us their knowledge on smart cities.

My question is for Mr. Mellouli.

How can we ensure that the technologies and concepts used from one city to another are in harmony?

For example, if I have a self-driving vehicle, how can I ensure that, wherever I travel, the technologies for communicating information to my vehicle are in place and able to communicate with the systems in my car?

Mr. Sehl Mellouli: To do this, Canada should develop an infrastructure that we call the Internet of Things. If I want a self-driving vehicle to travel on Canadian roads, with some data gathered and other data provided, we need to have the necessary infrastructure to make this connection possible. The Internet of Things is one of the major components of this infrastructure. Sensors must be installed everywhere to communicate and provide the necessary data for the car to travel. Without this infrastructure, the self-driving car won't be able to travel from one end of Canada to the other.

● (1140)

Mr. Angelo Iacono: Thank you.

I will ask one last question before turning the floor over to my colleague.

The quick evolution of technology is a challenge when it comes to developing smart cities.

For example, if a city decides to invest in a certain technology today, how can it ensure that it won't be outdated or non-functional in 5, 10 or 20 years?

Mr. Sehl Mellouli: There are two things to consider with this. There is the technological evolution, as well as the evolution of the standards that support these technologies. Today, we are trying as much as possible to standardize the technologies we're using. As you mentioned, if technology becomes obsolete in the next 5 or 10 years and can't be updated, this will become a major challenge.

So we should combine technology because we have to keep up, but also ensure that the technologies we're using are not 100% proprietary, but that they are based on international standards that allow us to evolve over time.

Mr. Angelo Iacono: Thank you.

[*English*]

Mr. Ken Hardie (Fleetwood—Port Kells, Lib.): Thank you, Mr. Iacono.

This is a fascinating discussion.

To my friend Mr. Rayes, if you're interested in a smaller community that has done well, check out Kelowna. They offer the quality of life of a small community, but they've invested heavily in being a smart city and providing that backbone, that structure, that has invited a very healthy cluster of businesses.

This is an open question, but I'll start with you, Mr. Quigley. I think that at the heart of where we're at now is that we're making significant investments in infrastructure. There are a lot of different ways of looking at this. There's the sustainability of our investments in terms of how we actually manage the rollout so that we don't overburden any sector with a huge influx of money and then all of a sudden just leave it there.

More importantly, I guess, what are the fundamentals that we need to have in place, both in terms of basic infrastructure in a community and in terms of the understanding or planning in a community, that make it a good candidate for an infrastructure investment that's going to deliver value for money?

Mr. Kevin Quigley: It's a great question. I'll do my best to throw in some ideas, sir.

I think that one of the themes that's been running through some of the discussion is the public engagement aspect and how we bring the community along with us.

What concerns me about the public engagement piece, notwithstanding the fact that public engagement sounds great, is that there can be a lot of recreational infrastructure that people would like to see in their communities and, frankly, it can make for popular outcomes for everyone. That's I think what we've seen in some of the infrastructure investments. They've gone towards recreation centres and swimming pools.

Actually, creating recreational infrastructure can draw qualified labour into your communities and make them more pleasant places to live; however, I'm not really sure how well equipped the public is to understand the trade-offs between the pool and the commuter train or the driverless car. Therein lies the rub, I think. We need serious engagement and long-term education in explaining to people what opportunities might exist in the infrastructure that we're trying to propose. In a way, I think the infrastructure comes after that education in making that case.

I'm not sure if that's helpful.

Mr. Ken Hardie: It reminds me of an episode of *The Simpsons* where they're talked into building a monorail in their town and it proves to be a huge disaster.

Ms. Heron, I have the same question for you. Based on your experience, are you confident that you are making the right infrastructure decisions in stages that are actually building a smart community versus just decorating a Christmas tree?

Ms. Cathy Heron: Yes, so if there's any money, send it to St. Albert.

Voices: Oh, oh!

Ms. Cathy Heron: In the approach for smart cities, I think you need to remember that.... I'll use St. Albert again as an example. We have a brand. We're "The Botanical Arts City", so the smart city recognition that St. Albert gets is not our brand. We didn't set out to be a smart city. We set out to use smart-city technologies to enable our core values, such as a safe and healthy community, etc. When you're taking on these technologies, they need to be embedded into the thought process of your administration, your council, and your public.

● (1145)

The Chair: Thank you very much.

Mr. Badawey.

Mr. Vance Badawey (Niagara Centre, Lib.): Thank you, Madam Chair.

I have to ask you, Ms. Heron, how's my former CAO, Mr. Cotterill?

Ms. Cathy Heron: Does your former CAO work for the City of St. Albert?

Mr. Vance Badawey: Yes, he did for a while.

Ms. Cathy Heron: I'm sorry, but I didn't know that.

Mr. Vance Badawey: That's okay.

At any rate, I have to preface my comments, Madam Chair, by saying that we're here talking about smart cities and, in my opinion, smart cities go beyond what can be. They deal as well with what is and what was. It's really about ensuring that we deal with that as well.

Going to your comment, Mr. Quigley, it's critical that it begin with engaging our partners: the municipalities, the provinces, and the jurisdictions.

We've heard loud and clear today that collaboration—dismissing the silos—is extremely important. We've heard today about establishing a national strategy that may—or probably will—contain many strategies from individual jurisdictions plugging into a national strategy that then provides a mechanism from the federal and provincial governments to enable individual jurisdictions to move forward with those strategies. We've heard about co-creating and about taking on tech that includes all groups, all demographics. We heard about listening to the citizens, our customers, listening to the people, and listening to our communities.

We're fortunate, quite frankly, in that we have a great many qualified individuals, such as yourselves, who are all on the same page. We're talking from the same song sheet. We're all saying the same thing, including here at the committee, especially those of us who have very similar backgrounds and are coming from our former lives in municipalities as former mayors, councillors, volunteers, partners, and parts of different organizations.

Going beyond what we're all talking about in terms of the same language, what I really want to concentrate on now is next steps. How do we get there? On this side of the table, we really want to park the politics. We want to ensure that we establish a pragmatic agenda that's more of a "team Canada" approach that includes everyone—all parties in the House, all partners such as yourselves—in order to in fact take those next steps. What do you feel those next steps are?

Ms. Cathy Heron: I'll repeat some of what I said in my opening remarks. We really want the Canadian digital strategy to be amended to include smart city stuff. That's broad terminology, "smart city stuff", but it will harmonize the country, I think, in a focus on smart cities.

In response to the question about whether or not there's ever enough funding, when I said probably not, I think there are opportunities as well for the federal government, provincial governments, and maybe even local to incentivize some of this so that the private industry can have tax breaks, etc., to work with the public sector on developing some of these things. It doesn't always have to be about the dollars. If there is any opportunity for the funding, I think it needs to be dedicated. I don't want to take my gas tax money and direct it towards smart technologies and away from some of the core infrastructure. At the same time, if I'm building core infrastructure, we're really missing an opportunity to not integrate some of the technologies today that will make us more efficient into the future.

Mr. Vance Badawey: Again, we're talking from the same song sheet, and hence my opening comments with respect to dealing with what is—namely, our infrastructure deficit, which is, quite frankly, what the gas tax is primarily dedicated to. All municipalities are dedicating the gas tax to roads, water, waste water, roads, transit, and really trying to catch up in that infrastructure deficit, or what was.

So now, what can be with respect to smart cities? Would you agree that it would take individual jurisdictions, albeit local, regional, even provincial to some extent, to establish a smart city community improvement and/or growth strategy that would also include or be driven by to some extent an asset management plan to ensure that your assets are being looked after—repair, maintenance, and replacement—but also to include the future, as in "vision"? I think that's the key word here. Of course, there are also the infrastructure investments that would satisfy the recommendations of that vision from a dedicated funding source, as you state.

Would you also agree that this would be driven by existing strategies, such as the national transportation strategy, such as smart city or infrastructure strategies, or other strategies that our partners may in fact have; and that this would also be driven by our assets, our location, our constant relationship with the U.S. because of close proximity? Would you also agree that they would drive the overall agenda?

Ms. Cathy Heron: I absolutely would agree with that, yes. There are also some regional and local strategies. If you were rolling out anything new, then you might want to recognize not the ad hoc integration of technologies but a very thought-out and well-pursued strategy in each municipality and/or region.

Mr. Vance Badawey: This would then drive a national strategy.

● (1150)

Ms. Cathy Heron: Absolutely.

Mr. Vance Badawey: Now, do you think your first step may in fact be to include the Federation of Canadian Municipalities, possibly at their next conference here in Ottawa—

Ms. Cathy Heron: I'll be here, yes.

Mr. Vance Badawey: —to begin this process, and possibly to dedicate some time with the FCM as a partner, as they always are, to start this discussion nationally and with all the partners?

Ms. Cathy Heron: Absolutely. I think there is already a movement within FCM to get that started. There are resolutions that they will be voting on this June on that subject.

Mr. Vance Badawey: Mr. Quigley, do you have any comments?

Mr. Kevin Quigley: I have a few quick points, and then maybe I'll comment on this issue about city engagement.

Just to reiterate some of my earlier comments, I think you need to start with a plan, a long-term vision of where this is all going. I think you need better regional co-operation, and that goes beyond the city to the regions, the bedroom communities, and the rural communities. You have to move forward together.

I think it requires better asset management, so we need better data, but we also need to look at the assets that we're not using, the assets that we can retire, because they cost a lot of money to track. I can't tell you how many times I've had a discussion with people about old bridges that nobody uses, yet we're maintaining them because it's unpopular to take infrastructure away from people.

Mr. Vance Badawey: Added returns on former investments....

Mr. Kevin Quigley: That's right, but we're constantly building new things and that's very exciting and engaging. The fact of the matter is that retiring or taking something away is unpopular, but I think we need to have those conversations. Better data to show that these bridges aren't being used and we can retire them would be helpful.

Then, of course, we need clear accountability on what the targets are, even interim targets, on what we want to achieve over time, so that we can nudge in the direction that ultimately we want to achieve.

On the issue about the city, I would just caution you, I guess. The thing that concerns me a bit, coming from Nova Scotia, where you have not so many big cities and a lot of regional issues, is that we need better co-operation collectively on some of these issues. If we focus exclusively on the cities, I would be worried about the potential co-operation between the cities and the outlying areas.

Mr. Vance Badawey: That's a good point.

Mr. Kevin Quigley: I think there's a great opportunity for infrastructure sharing. I'm originally from Toronto, and Toronto has to co-operate beyond the 416 area to work. I think other cities could learn from that too.

Mr. Vance Badawey: That's a great point.

Mr. Kevin Quigley: Having a conversation city to city I don't think gets to that issue about the suburbs, the bedroom communities, and the rural communities that depend on these increasing urban areas—

The Chair: Thank you very much, Mr. Quigley.

Mr. Berthold.

[*Translation*]

Mr. Luc Berthold (Mégantic—L'Érable, CPC): Thank you very much, Madam Chair.

First of all, to review, based on what I've been hearing all morning, we are working on a strategy to harmonize government strategies intended to harmonize strategic actions on strategic development plans in Canada. In short, we are in the strategies and in many things.

Currently, we are being made to act concretely, but meanwhile, the train is going through other countries and other communities. The train passes through the major centres. Small municipalities expect concrete actions and more than a strategy. They are waiting for a plan that will take them somewhere in 20 years. So my question is this.

In the remarks each of you made, in terms of the investments in the municipal sector in infrastructure and relations with the citizens that Mr. Mellouli mentioned, none of you mentioned the participation of the government, an entity that, at the moment, is making the most money with the digital sector, that is, private companies and service providers. All of these stakeholders were completely ignored in your remarks this morning.

Ms. Heron, Mr. Quigley, and Mr. Mellouli, do you think private business has a role to play in smart cities, or should we just use public money to quickly deploy these digital infrastructures?

Ms. Heron, perhaps you could be the first one to answer the question.

[*English*]

Ms. Cathy Heron: I'd love to.

When I think of private industry, I know there are companies like IBM and Cisco, but there are also the telecommunication companies. I think that's what you're getting at. We haven't really spoken about the telecommunication companies.

In my opening arguments, I talked about how, quite often, the priorities of the telcos and the municipalities don't quite align. I think the national overarching strategy and policy development will help that alignment. I think there's a lack of recognition by the telcos of the advantages to bridging that last mile of fibre, etc.

One of the advantages of our Smart City Alliance is the fact that we went into this alliance with private industry right beside us, right from the beginning, as well as academia, but IBM and Cisco have been invaluable in providing their insights on how to get the telecommunication companies aligned. We're seeing results through that. That does take investment: either federal money or the incentivization of the telecommunication companies to reach out to the smaller communities, etc., to improve that connectivity. Incentives don't always have to be financial.

● (1155)

[*Translation*]

Mr. Luc Berthold: I'm glad to hear that. Basically, it isn't always up to the government to pay for private businesses to make profits, if there are any profits to be made. When all these people are connected, they will pay for Internet access and all kinds of services.

I'll now turn to Mr. Mellouli.

What is the role of private businesses in this digital divide? Currently, 20% of people aren't connected because they can't afford a cellphone to access all the municipal services we have been praising since the beginning of the meeting.

Mr. Sehl Mellouli: Before I answer your question, I would add one clarification.

The small and medium-sized businesses we have here in Canada can develop expertise that is unique in the world if the cities also become their research laboratory. I could give examples of projects we have undertaken with SMEs here in Quebec City, with Laval University, and whose solutions have been exported abroad.

Regarding the role of private businesses with these 20% of people who are not connected, I believe that, by virtue of their social role, businesses should give back to society, that is, help cities connect these people. So I think the role that these businesses can play in connectivity, namely, the big players in telecommunications, is to work closely with the cities. I know that the City of Quebec and IBM are working together to bridge the digital divide.

Mr. Luc Berthold: I think it's an option we absolutely have to look at. It may not be a question of forcing private businesses to develop access but, at least, making it increasingly feasible to have accessible services at a more affordable price for certain classes of citizens who don't have access to them or are unable to access them.

Mr. Quigley, do you have anything to add?

[*English*]

Mr. Kevin Quigley: Yes, I have a few thoughts on this.

First of all, I welcome your question. I agree with you: I think the private sector plays a huge role. Most of the critical infrastructure in the country is owned and developed by the private sector, of course, so I certainly agree. In fact, a lot of the discussion on infrastructure right now is about maybe developing some sort of public bureaucracy around infrastructure, and I would caution you that this in fact could be an innovation killer. If we're talking about this being urgent, this could really slow it down, so I would say to be careful.

However, when you talk to a lot of industry about what makes for a successful infrastructure project, they will often say that they need the details a bit more specifically on a project basis, and the government needs to get out of the way at a certain point so they can get the project done without a lot of interference in order for them to meet their timelines.

I think the government can play a role in terms of bringing different players together and having that visionary piece and the regional approach. That's very hard for private industry to do: to bring all the required players together to have the big conversation.

There is a role for both here, I think, but the innovation side, I think, should really tip towards the industry on this.

The Chair: Thank you very much. That finishes this first hour.

Thank you, witnesses, for sharing your thoughts and ideas with us. We very much appreciate it.

I'm going to suspend for a moment so we can bring in our other witnesses.

● (1155)

(Pause)

● (1205)

The Chair: We're going to call the meeting back to order and ask the witnesses to take their seats.

So we don't lose any time, we're going to start now in advance of the teleconferencing, which is in the process of being set up

Kevin Miller is the director of public policy at ChargePoint.

Thank you very much for being here today. We'll give you the floor for about five minutes of opening comments.

Mr. Kevin Miller (Director of Public Policy, ChargePoint): Thank you, Madam Chair, and, through you, to the members of the Standing Committee on Transport, Infrastructure and Communities.

As director of public policy in Canada for ChargePoint, I appreciate the opportunity to address the committee on the need to include transportation electrification as a pillar of any smart city initiative.

ChargePoint is the world's largest and most open network of electric vehicle—or EV—charging stations, with more than 32,000 charging spots throughout our network. While we are based in Silicon Valley, California, we are committed to increasing access to clean transportation wherever and however people travel.

Here in Canada, ChargePoint's dedicated sales and support staff have deployed more than 1,200 charging spots across virtually all of the provinces. That is increasing weekly through partnerships with public and private charging station site hosts. A recent example of this is the deployment of over 20 charging spots at Toronto's Pearson airport, in conjunction with the EV chargers Ontario provincial grant program.

ChargePoint does not own the majority of the charging stations in our network. Instead, our business model is similar to that of Uber, which operates a network of independently owned vehicles, or that of Airbnb, which does not own any of its properties. We sell equipment to charging station site hosts, as well as the software that supports the management, pricing, and customer interface of our stations.

Site hosts can include individuals and families in personal charging, multi-unit dwellings, workplaces, parking lots and garages, and a wide range of commercial locations, as well as federal, provincial, and municipal governments. We are proud to note that ChargePoint was recognized by the United Nations with a Momentum for Change award at the COP21 conference in Paris. We were selected for our innovative and scalable approach to tackling climate change.

All of ChargePoint's charging stations are “smart”—or networked—stations. Smart charging is beneficial and creates significant value to drivers, site hosts, fleet operators, the electricity grid, and other stakeholders, which I'll address in a moment.

It's important for the committee members to know that research into charging behaviour has found that nearly all charging takes place at home and at work, which is supplemented by a very small amount of public charging. EV charging largely takes place when you arrive at, not on your way to, a destination. Around 60% or more of all EV charging takes place at home, and that charging profile can be influenced through residential time-of-use electricity rates. Price structures that drive charging behaviour to take place at times that are beneficial for the electricity grid can create a downward pressure on electricity rates for all ratepayers, not just for EV drivers.

The workplace is a critical section of the market. A study conducted by the United States Department of Energy found that workers are 6 to 20 times more likely to purchase an electric vehicle if workplace charging is available.

Private businesses can maximize the utilization of a given charging station in a way that aligns with and bolsters their business model. For example, a retail location could offer free charging for an hour or two to bring in new customers, and then charge a fee to incentivize behaviour such as turning over the asset. Along highways, faster charging on EV corridors is a range booster, which reduces range anxiety and allows for longer-distance travel.

Transportation electrification is a key pillar that supports the sustainable and scalable implementation of municipal planning efforts. It can attract top talent to spur the growth of new businesses and jobs. It can decrease transportation costs, which will increase citizens' disposable income and reduce stress on municipal budgets by decreasing fuel, operation, and maintenance costs. It can also lead to reductions in travel time and increase the ease of getting around town.

Smart, clean, and cost-effective mobility goes hand in hand with smart infrastructure. Smart mobility and smart charging are inextricably tied. In terms of how the Government of Canada can implement smart mobility initiatives, collaboration between the public and private sectors should ensure that private site hosts have skin in the game and should encourage a healthy and competitive market that incentivizes the outcomes, rather than one single approach to overcoming challenges. A range of policy initiatives can be implemented, such as updating regulations at Measurement Canada to allow for smart networked stations to be used for measuring and incentivizing charging use without the unnecessary costs of installing redundant electricity meters.

Residential and commercial building codes should be future-proofed to make them EV-ready, which will reduce barriers for future tenants to deploy EV charging infrastructure without appreciably increasing construction costs. One of the primary barriers to deploying transportation electrification charging stations is the cost of the installation, which often outpaces the cost of the equipment itself. Taking steps today to allow for future transportation electrification decisions to be made will avoid the unnecessary costs of retrofitting sites that are not EV-ready.

● (1210)

Experimentation with new technologies such as autonomous vehicles should be encouraged, as should revisiting data-sharing, privacy, and protection policies to meet our evolving needs. Some of these policy changes can be implemented directly, and some could be identified through establishing a range of smart city policy options through a model system.

Every Canadian city is going to have its own approach. There isn't a one-size-fits-all method for getting to a smarter city. However, for cities implementing smart mobility, it's imperative that the technologies that are selected today are future-proof and will last for the next 10 years.

Thank you for the opportunity to testify today. ChargePoint firmly believes that any smart city initiative should include transportation electrification as a key pillar to address multiple intersecting policy issue areas. We look forward to serving as a resource to the committee as you continue to investigate and expand on the range of ways in which municipalities can create a smarter city infrastructure.

The Chair: Thank you very much, Mr. Miller.

We now have Mayor Vicki-May Hamm, from the Ville de Magog, by telephone. We'll check our technology to see how well everybody is connecting.

Mrs. Kelly Block (Carlton Trail—Eagle Creek, CPC): We'll see how smart we are.

The Chair: Yes, we'll see how smart we all are.

Mr. Hutchison, the president of i-Canada, is stuck in traffic in Toronto and will join us by teleconference as soon as he can. Somehow that just seems ideal for the kind of work we're doing.

Madam Hamm.

[*Translation*]

Ms. Vicki-May Hamm (Mayor, Ville de Magog): Yes.

[*English*]

The Chair: Welcome to our committee. We're very glad that you've taken a few minutes to be with us today. We'll give you five minutes to give us your opening comments, and then you'll be available for questions.

Go ahead, Mayor Hamm.

[*Translation*]

Ms. Vicki-May Hamm: Thank you very much, Madam Chair. I'd like to thank the committee for this invitation.

First of all, I have to tell you that there's an echo in the sound, a kind of feedback. I don't know if you can hear me well. I missed the start of the discussions because I had no sound.

My name is Vicki-May Hamm. I'm the mayor of Magog and the acting reeve of the MRC of Memphrémagog. I'm addressing you today as the chair of the smart cities committee of the Union of Municipalities of Quebec. I am also on the board of directors and the executive committee of the Union of Municipalities of Quebec.

Quebec recently talked about deploying a digital strategy. For us, tomorrow's digital society will affect businesses, schools and departments alike. There is a major transformation happening, and it obviously affects municipalities as well.

The smart city is not an infrastructure issue, although the infrastructure is also important—I will talk about it later. There are still several regions in Quebec that do not have high-speed Internet, which remains a concern. The smart city is not about infrastructure.

It is about providing better service to citizens, being closer to citizens, being more transparent and sharing governance with citizens through information technology. A smart city improves services and contributes to the economic development of the regions. We are great believers in that. I have experienced this personally in Magog. All aspects of a smart city, be it economic development, applications and new equipment to improve services to citizens, have also enabled us to be a more attractive city for businesses in the regions and to encourage them to set up in our region.

The smart cities committee of the Union of Municipalities of Quebec has already done a good job in conducting a comparative assessment of 35 cities around the world in partnership with the CEFRIO. We are currently developing a self-diagnostic tool to allow all municipalities that wish to do so to become smarter in this digital transformation.

This tool will be a web-based application that will enable us to make a diagnosis in each of our municipalities on the six facets of the smart city: people, economy, environment, governance, lifestyle and mobility, a topic that is of concern to this committee.

We are going to draw inspiration from what other cities are doing. We started the initiative with three training sessions through web conferences, which began last week. This will allow us to present the self-diagnostic tool at the next annual meeting.

The municipal community wants the other two levels of government—the provincial and federal—to do their part to support the development of smart cities. In terms of concrete action, there is digital coverage, which is vital to the economy of the regions. All municipalities must have access to high-speed Internet worthy of the name. Still, it would be necessary to define what high speed is, because experts contradict themselves on this. There is much talk about opening up access to data. Several countries of the European Union, notably France, are making a lot of innovations thanks to this aspect. It is a model that could be followed here.

Approximately one in two provincial governments and one in three government agencies have begun to take action in this regard, and municipalities are following suit. This data allow us to be more transparent, to offer better services to citizens, but above all to contribute to economic development and innovation in our regions.

A CROP poll conducted this week indicates that 68% of Quebeckers want their city to be smarter. They consider that we are the smartest when it comes to public transit. All the first smart city initiatives were initially aimed at tackling a problem of mobility in urban areas. Now we are taking a much broader view, and we are including security, water supply, infrastructure and proximity to citizens. All these digital tools will allow us to have a prosperous economy, especially in the regions.

I know you have access to simultaneous interpretation. I may have spoken too quickly but, basically, that was our point of view.

● (1215)

In terms of open data, we can follow suit in many areas. This may be socio-economic or in the areas of public health, employment or transport. There are many possibilities in this regard.

I would be pleased to answer your questions.

[*English*]

The Chair: Thank you very much, Mayor Hamm. We appreciate your comments.

The next presenter is Bill Hutchison, the president of i-Canada.

Welcome. It's ironic that you were stuck in traffic while you were coming to talk to us about smart cities, so I'm sure you will have added comments for us this morning. Please take about five minutes for your opening remarks and then be available for questions from committee members, Mr. Hutchison.

I'll turn the floor over to you for five minutes.

Mr. Bill Hutchison (Co-Founder and Chair, i-Canada): Thank you, Madam Chair, and I have to tell you that I think I took the wrong turn and I'm in your riding near Richmond Hill.

It's my pleasure to be here today. Thank you.

This is my 23rd year of direct involvement in digitally driven urban transformation, commonly called “smart cities”. I'm here today as the co-founder and chair of i-Canada, a national not-for-profit consortium of cities, towns, and rural districts in Canada, all striving and sharing information on becoming some of the world's leading smart or intelligent cities. Our council of governors has 68 members who are mayors or CEOs of institutions in business.

It was in 1994 that Singapore was an intelligent island, we had Smart Valley in Silicon Valley, and I was the co-founder and vice-chair of Smart Toronto. I had just completed four years as chair of the steering committee and then board chair of CANARIE, which at the time was Canada's very new, very high-speed national communications infrastructure connecting our universities, education, and research communities. Today, CANARIE continues as one of the world's most advanced high-performance national broadband systems.

I say all that just to say that I've been in broadband communications pioneering for many years.

I'd like to make four points today.

First, I'm using “smart cities” as a generic term to include smart, intelligent, sustainable, and resilient, to use just a few of the many words that are being spread around in describing tomorrow's transformed communities.

My second point is that smart cities are not just an engineering program or project. I say this as an experienced engineer from McGill. They are equally a social project, including culture, entertainment, social and digital inclusion, community collaboration, and citizen convenience. This is also a major export opportunity, in which the U.K. government believes they can capture $100 billion in exports. We haven't even addressed this nationally yet.

If I may suggest this, communications need to be included every time any of you say the word “infrastructure”, as most Canadians, including many politicians, think only of roads, bridges, transit, etc., when talking about infrastructure. We in Canada are woefully behind the world in our communications, and I hate to tell you, but in order to do it right and become a leader, the bill is $60 billion of capital costs. I don't say this easily, but a billion or two billion here and there is not going to make us a world leader.

The good news is that this capital cost can be recovered in five years, because this would produce an annual saving of $15 billion in our national health care costs alone with world-class communications. By the way, the global standard now, the new standard for broadband in many cities—these are large cities—is a billion bits per second, or what commonly called a gigabit per second. This is at a time when our CRTC has just raised our standard from 5 million—not a billion—to 25 million bits per second. They've been talking more about rural, and that's okay, but we have to get with the program.

My third point is that at the federal level our government is becoming interested in smart cities five years after the U.K. and the European Economic Community, and four years after the U.S. national government. The good news is that we can learn from other countries while creating our own innovative initiatives, but this transformation is a long journey in the whole smart city thing, and we can still win many benefits because we have many pearls of excellence in Canada in the smart city world. We just had two announced as finalists—out of seven—in the annual Intelligent Community Forum's Intelligent Community of the Year selection. Now we need to string them together to create a necklace of excellence and place Canada in our deserved place among the world leaders in our future communities.

Merci.

● (1220)

The Chair: Thank you, Mr. Hutchison.

Mr. Rayes, you have six minutes.

[*Translation*]

Mr. Alain Rayes: Thank you, Madam Chair.

I would like to thank the witnesses for appearing before us.

My first question is for you, Ms. Hamm.

I want to point out to the people here that I know Ms. Hamm very well, since I worked with her for a long time at the Union of Municipalities of Quebec.

Ms. Hamm, could you please mention a few concrete actions that are being taken in municipalities the same size as yours, which is considered a medium-sized municipality, and which are in line with the development of a smart city?

Ms. Vicki-May Hamm: Right. Thank you for the question.

There are several examples of this. Using a medium-sized municipality as an example is relevant because, as I said, unlike large municipalities where there are often transportation problems, this is not what matters to the medium-sized municipalities.

For example, in our region, we have announced the deployment of smart weather stations in the area so we can know the real-time status of our roads and intervene better. That is one concrete example. This information exists, but we will now get it more precisely, in layman's terms and translated into a platform that will give people on the ground—our employees—the right tools in real time so they can do their jobs better.

There are examples like this everywhere. There was a smart lighting pilot project in Shawinigan. Obviously, Mr. Angers would be in a better position to tell you about it. Initiatives like these are pretty much everywhere. There are citizen platforms and different ways of consulting citizens. For example, in my region, we have also developed an application to encourage buying locally. We really want to encourage the municipalities to proceed on the basis of what they are, their strategic planning and their DNA, if I can put it that way. The idea is not to copy or buy the neighbour's recipe. From there, we want to use innovation and technology to keep moving forward.

● (1225)

Mr. Alain Rayes: Okay. Thank you.

Before I forget, I want to add, before asking my other question, that you mentioned a study on 35 communities around the world. Can this study be found in a report? Is there a document that includes everything you analyzed?

Ms. Vicki-May Hamm: Yes. Certainly. The Union des municipalités du Québec could provide it.

We conducted a benchmarking analysis by caucus size. As you know, at the Union des municipalités du Québec, we're organized into skilled caucuses. Since small municipalities have different realities, we conducted a benchmarking analysis so that each municipality could find similar examples of its reality around the world. This resulted in an analysis framework of six factors, which will become a self-diagnostic tool for municipalities.

We would be pleased to provide the information.

Mr. Alain Rayes: Okay. Thank you.

I see the clerk nodding to indicate that the analysts will take care of obtaining the document.

I want you to speak a bit more about the open data issue. You provided examples for different levels of government, or at least for Quebec. One intergovernmental organization out of two or three makes the data available.

Why is certain data currently not available? Is it a regulation or legislation issue? Is it the result of the culture of organizations, which aren't very interested in sharing the information?

Ms. Vicki-May Hamm: I think it's a bit of everything. There's the culture and there's certainly resistance because we're talking about organizations that have historically protected the data and that manage access to information legislation. They like to maintain control of the data. They have concerns. There is indeed a culture issue and certain legislation needs to be changed, but there must also be some reflection.

We can draw inspiration from what has been done in Europe. We also need to consider how to make the data available, because the process must be standardized. We can't just make our data accessible. The data must also be usable. Other countries have had bad experiences. It wasn't catastrophic, but the data wasn't usable. There's also the data standardization issue. The Quebec government has launched a good initiative, the Données Québec site. It's new, and there isn't much data available yet. I think we're heading in that direction, but carefully.

Mr. Alain Rayes: One last question comes to mind.

What has the federal government done, what is it currently doing and what can it do in the future to help you develop the concept of a smart city at the Union des municipalités du Québec or as the mayor of Magog?

In addition, if you had to make a recommendation that the committee could include in its report to help you improve your work, make your job easier and continue to develop, what would the recommendation be?

Ms. Vicki-May Hamm: To my knowledge, the help we've received came from different programs aimed at connecting the communities. I don't know about anything else.

Unfortunately, even today, many regions don't have access to high-speed Internet. They can't develop at the same rate as the other municipalities. This seems to be the top request, and it's made often. This is the subject that has come up the most since I entered politics. I hope that, at some point, everyone will be properly connected. There's also the issue of open data on the federal government side.

I think the federal government could help us enormously with those two things.

● (1230)

Mr. Alain Rayes: Thank you, Ms. Hamm.

Ms. Vicki-May Hamm: Thank you, Mr. Rayes.

[*English*]

The Chair: Thank you very much.

Mr. Fraser.

[*Translation*]

Mr. Sean Fraser: Thank you, Madam Chair.

I also want to ask Ms. Hamm a question.

You mentioned that infrastructure investments can help attract new residents. What kinds of investments make the biggest difference? This is very important for Nova Scotia.

Ms. Vicki-May Hamm: I want to make sure that I understood the question. Is the question for me?

Mr. Sean Fraser: Yes.

Ms. Vicki-May Hamm: Can you repeat your question since I didn't understand it?

Mr. Sean Fraser: Can I ask my questions in English?

Ms. Vicki-May Hamm: Yes, no problem. I'll answer you in French, but I understand English very well.

[*English*]

Mr. Sean Fraser: You've mentioned that infrastructure investments can help attract new residents. This is one of the biggest issues for my province.

What kinds of investments do you think make the biggest difference in helping to attract new residents?

[*Translation*]

Ms. Vicki-May Hamm: The first thing is to have access to infrastructure. For example, at home, the fibre-optic network was launched. This helped attract businesses when we had an aging population issue, as is the case in many regions of Quebec. This helped attract information technology businesses to our area, and people who wanted to telework. They can now do so.

This meant that, as we saw with the last statistics, there was labour force growth and not only aging population growth. This type of infrastructure makes a big difference.

[*English*]

Mr. Sean Fraser: Thanks very much.

Shifting gears to you, Mr. Hutchison, you used the example of the savings in health care if we were to make investments in certain communications infrastructure. How do you think the federal government can best target its investments to achieve social or economic savings?

Mr. Bill Hutchison: That's a great question. Thank you.

First, we need to have a decent level of broadband. For a federal program, it's important to have large cities, small cities, and remote and rural communities in it.

In Nova Scotia, for example, with i-Canada we've been creating i-Valley in the Annapolis valley. Ten quite small cities, led by Berwick, got together, have signed off, and are going to create a intelligent region.

Let me just say—this comes back to an earlier question about something that the federal government might do—that one of the programs the United States has introduced is the smart gigabit cities clusters program, called the “Smart Gigabit Communities” program. You may know that they've spent a lot of money in Columbus, Ohio —$40 million—to create an automated vehicle place, but the cluster idea is to encourage cities to come together as clusters and communities, small communities.

The government is giving them a couple of things in terms of using the research and education networks like CANARIE—you have one in Nova Scotia—and giving them access to that to create a high-speed broadband capability in certain districts such as Main Street or or start-up districts. They get the clusters together. In the States, they have 15 cities—not San Francisco or New York, but Kansas City and smaller ones. They give them some support, but then they say to all of them that got together that each of them has to develop two new broadband applications, and they have to agree to share those new applications with, in their case, the other 14 communities.

All of a sudden, you're getting some new applications. It could be in health care or in other areas, but you're spreading the wealth, if you like, or the program, to include a lot of communities. Now i-Canada is working on this, and we've created an area that we call the "Rising Communities Caucus", and these are the smaller communities. That's what i-Valley in the Annapolis Valley is. Health care is only just one big area. There are a lot of other savings.

Six years ago, I was in Västerås, Sweden. A kid broke his arm, or thought he did. From his home, they clicked on the Red Cross icon on their TV. Up came a nurse. The nurse told him to step by the camera and to do this and that with his arm. She said that she didn't think it was broken but she would get the doctor. Imagine having this sort of diagnostics from the home, compared to jamming up the emergency sections and everything.

On the cluster idea, in addition, the Government of Canada has announced the smart cities challenge. They are going to do as the U. S. did, which meant $40 million for that one city. I think this cluster idea can help a lot of cities and create new applications.

● (1235)

Mr. Sean Fraser: I'm always a bit nervous when we start talking about these innovative ideas, in that in an effort to own the innovation, the government likes to run it. Is there a way to keep it in the hands of the private sector and the communities that are going to be doing the innovation?

Mr. Bill Hutchison: Yes. In particular, the U.K. government and even the one in the States are funding it, but these communities got together and created their own board of directors. It's somebody that the government is funding, but they're doing their own thing.

One point I like to make is that sometimes in Canada we tend to like to give a lot of money to high-tech companies—sometimes in Waterloo because it looks like a safe place to do it—but I would recommend the U.K.'s approach. They are giving the money to the cities and getting a twofer; they claim they are getting two for one. They want the cities to create demonstrator projects to have 1,000 to 2,000 people using it—not 300, and not a pilot—and they know the money is going to go to the companies, which then are well positioned to capture the export market.

The government has set a goal of trying to capture 10% of the smart cities export market. That market today is $1 trillion a year, and that's $100 billion. That's bigger than the European trade thing we're doing and bigger than what we're talking to Mr. Trump about. It's a big export market, and we're not addressing it. I wanted to throw that into the record as well.

The Chair: Thank you very much.

Monsieur Aubin.

[*Translation*]

Mr. Robert Aubin: Thank you, Madam Chair.

[*English*]

I want to tell Mr. Fraser that his French was perfect. Maybe our problem is that we don't have a "smart" phone line.

Voices: Oh, oh!

[*Translation*]

Mr. Sean Fraser: Thank you, Mr. Aubin.

Mr. Robert Aubin: My first question is for Mr. Miller.

It's nice to speak with a representative of a Californian company on this winter day in Canada. We appreciate it.

On a more serious note, the technology you're proposing may not be adapted for a country as large as Canada with our climate. You said earlier that 80% of the charging is done at home. I'm a typical example of someone who must travel 400 kilometres to work twice a week. Few electric vehicle models allow for this level of independence, which means we're required to stop at a charging station.

How much time do we need to charge an electric vehicle using your technology? What do you mean by "smart charging stations"?

[*English*]

Mr. Kevin Miller: To answer your questions in the reverse order, a smart charging station is one that is connected. ChargePoint has data on every one of the 21.5 million charges that have ever been delivered on our network. We understand charging behaviour and can use that data to inform our decisions to help shape and incentivize transportation behaviours.

It's also possible to create price signals to drive charging behaviour to take place at times during the day that are most beneficial to the grid. You can use that data and take advantage of that data, and the site host, which could be a private entity or a public entity, can empower other agencies to gain access to that data. It's an open process.

A smart, intelligent, connected network station is one that leverages the power of the data and creates opportunities to apply widespread benefits.

Yes, a small percentage of charging takes place in public, but it is a critical percentage. Long-distance travel needs to be facilitated. Corridor charging through higher-powered charging infrastructure is key. ChargePoint recently announced, at the consumer electronic show in January, a scalable infrastructure that can grow over time as battery size in vehicles increases—

[*Translation*]

Mr. Robert Aubin: I'll stop you there because I don't have much time.

Are the climate problems solved? Isn't the Canadian winter a problem for you?

[*English*]

Mr. Kevin Miller: We are rated by Underwriters' Laboratories of Canada to operate in cold temperatures. We also have retractable cord technology to keep the cords off the ground. Also, then, as the wireless charging technology increases to make that faster, it will no longer be a problem.

In the deserts of Arizona or the far reaches of Quebec's furthest north, it's not a problem.

[*Translation*]

Mr. Robert Aubin: Thank you.

My next question is for Ms. Hamm.

I imagine that if I'd responded to your survey and asked myself whether I wanted my city to be smarter, I would have probably answered yes like most people.

Does the survey enable you to dig deeper and tell us whether people's understanding or expectations of a smart city align with their needs? Are people talking about the same thing when they say they want their city to be smart?

Ms. Vicki-May Hamm: A few years ago, people didn't really have a concept of a smart city. As far as I know, the CROP poll helped confirm that people now understand the concept.

I provided the transportation example earlier because the sector came up often in the poll. People also mentioned other needs, such as security, infrastructure, real-time information and the chance to give their opinions. People not only want to be informed, they also want to participate in decision making.

● (1240)

Mr. Robert Aubin: This leads me to my next question.

The criteria you presented as self-diagnostic tools included residents, governance, the environment, the economy and open data. With regard to open data, the principle is well understood. However, in any of the municipalities in the Union des municipalités du Québec, is a new form of governance for smart cities really being tested?

Ms. Vicki-May Hamm: Do you mean as a result of open data?

Mr. Robert Aubin: I think these are two different concepts. Open data implies that people can find data online to get a sense of a certain subject. However, governance involves the relationship between people and their municipality or government. Are there experiences along this line, such as a new way to consult people or make decisions?

Ms. Vicki-May Hamm: Yes.

There aren't any in Magog at this time, but some municipalities have participatory budget concepts. People participate in developing part of a budget. They must then submit projects to the council. It's true, and you're absolutely right. These are two different concepts. Open data goes well beyond providing information to people. The goal is to provide real-time information using all the existing tools. The data also enables businesses to use the tools, to innovate and to create jobs and wealth in our area.

Mr. Robert Aubin: Thank you.

Mr. Hutchison, you said that Canada could take advantage of being behind by learning from the experiences of the countries currently ahead of us. If you have one or two mistakes to point out, mistakes that shouldn't be made in the coming years, what would they be?

[*English*]

Mr. Bill Hutchison: In terms of mistakes, I don't think you want to be too prescriptive. For example, India is now trying to create a hundred smart cities, and of course they are sometimes masters of bureaucracy. They have tried to manage this thing centrally and have created one czar for smart cities, an absolute standard, and all the rest of it. That's not working too well.

We all know that our cities are all different. They have different capabilities and different goals. Some have more tourism goals, and some have other goals. I think that's important. When the government created the CANARIE initiative, I was the chair of it, but it was a federal government program. They really were a facilitator, but we created a public/private sector committee to oversee everything and then—

The Chair: I'm sorry, Mr. Hutchinson.

Maybe you could get that point in with another questioner.

Mr. Iacono.

[*Translation*]

Mr. Angelo Iacono: Thank you, Madam Chair.

I want to thank the witnesses for being here today.

My question is for Ms. Hamm.

Do all municipalities in the country need to become smart cities? If not, do major cities in particular need to become smart?

Ms. Vicki-May Hamm: I think this applies to all municipalities in the country. When I give conferences, I often say that a city doesn't become smart overnight. It needs to move in that direction. As I said earlier, we need to start with our DNA and use technology to do a better job. This concerns all municipalities.

Mr. Angelo Iacono: Thank you.

Earlier you briefly mentioned the help you received from the federal government. My question is as follows.

What role should the federal government play to help municipalities that want to become smart cities?

Ms. Vicki-May Hamm: As I told Mr. Rayes, digital coverage and open data are important. Obviously, it would be very good if programs could help, support and encourage cities. It would also be good if all the levels of government could set an example by getting on board.

● (1245)

Mr. Angelo Iacono: Thank you.

I have another question to ask you.

Before making a major investment in smart infrastructure, should the federal government establish a national strategy so that investments target the sectors where the benefits in terms of cost, sustainability and effectiveness are the most guaranteed?

Ms. Vicki-May Hamm: That's a good question, but I can't answer it. I would need to do some investigating.

Mr. Angelo Iacono: You can send us your answer in writing. We would be pleased to receive it.

Ms. Vicki-May Hamm: Okay. That's fine.

Mr. Angelo Iacono: Thank you.

I want to ask Mr. Miller a question now.

[*English*]

You were talking about charging stations with respect to data. I'm curious to know how you address the privacy issue that is linked to the collection of vast amounts of data.

Mr. Kevin Miller: For any data, as I mentioned in my comments, privacy policies should be revisited consistently to make sure they are meeting the needs of the public. Anonymizing data to ensure that personal information is not released while still being able to take advantage of insights gleaned from charging-use driver behaviour is critical to ensure that transportation policies you implement at a municipal level create value for planning and scalable and sustainable growth.

Mr. Angelo Iacono: Have you received any challenge from anybody whose data has been collected? Has this topic ever been of concern to the American people?

Mr. Kevin Miller: I think data privacy is always an issue to be concerned about to make sure that we're doing our best as industry to protect data. Participating in providing personal information is not required to use our stations. In sharing that information, again, it creates the opportunity to glean insights and to be able to secure take-aways and create policies that leverage the value of understanding widespread driving patterns.

Mr. Angelo Iacono: Mr. Hutchison, do you have any comments on the privacy question?

Mr. Bill Hutchison: I think there are privacy issues as we go along, but they can be managed effectively. Unfortunately, like it is for all new technologies and approaches, there is a downside, and we've seen some of that. Cars have a downside—we kill a lot of people on the highways—and we have to be learning as we go. It's a very important area.

I could answer one other question, though, that was raised earlier. This has to do with what governments could do; do we create a plan or whatever? The U.K. did a marvellous job. They created a smart cities forum to do the planning. It's a public-private forum. There are two cabinet ministers co-chairing it and then there are leaders in all the other sectors too. They came up with a great program, and I think it would fit Canada.

Mr. Angelo Iacono: Thank you, Mr. Hutchison.

With respect to digital technology, what is your read on cyber-attacks? What should we be concerned with? What should the federal government be concerned with? I'll leave those questions to be answered by both of you.

Go ahead, Mr. Miller.

Mr. Kevin Miller: Broadly speaking, I think that may not be specifically answerable solely by looking at transportation electrification. The questions about ensuring that your infrastructure is resilient to those types of attacks is something that I can of course understand would be a top priority for the federal government.

ChargePoint does work actively with utility partners to ensure the data we leverage meets their stringent standards. It's important to make sure those relationships and those actors are secure in the way the data is handled. We currently do that in an efficient manner that meets those utility needs.

Mr. Angelo Iacono: Thank you, Mr. Miller.

The Chair: Thank you very much. I'm afraid your time is up.

Mr. Badawey.

Mr. Vance Badawey: Thank you, Madam Chair.

I have to start my comments by welcoming Ms. Hamm.

Ms. Hamm, I'm the former mayor of the City of Port Colborne. For almost two decades now, we've enjoyed a great relationship with the City of Magog. Welcome. It's great to have you on board.

I have a quick question, Ms. Hamm, with respect to your population. You're a city of about 26,000 people, about 25,300, and you cover an area of about 144 square kilometres in comparison to a community such as Surrey, which has about 470,000 people and covers about 316 square kilometres.

Here's where I'm going with this. In terms of a national infrastructure and/or smart city strategy, as was discussed earlier, where do you see a lot of your priorities fitting in an overall strategy?

Ms. Hamm.

● (1250)

[*Translation*]

Ms. Vicki-May Hamm: Sorry, but as a result of technical problems, I didn't completely understand your question.

I believe you asked me how our actions could fit into a national strategy?

[*English*]

Mr. Vance Badawey: That's correct.

[*Translation*]

Ms. Vicki-May Hamm: If I understood the question, the efforts being made at all levels and the consistency being demonstrated ensure that this could fit into a national strategy.

Alone, at home, I don't have the power. The Union des municipalités du Québec is pushing the issue. Both the provincial government and federal government have showed openness. There's a desire to work toward this goal.

I hope I understood your question. I'm sorry, but I'm missing portions as a result of the telephone line.

[*English*]

Mr. Vance Badawey: What I'm getting at is that there are obviously cities of small sizes and cities of larger sizes throughout the nation that are looking at putting a national strategy together, with the federal government becoming an enabler for all of them to then be a part of or take advantage of a strategy. How can a smaller city, such as Magog, put in place priorities to be included in an overall strategy?

[*Translation*]

Ms. Vicki-May Hamm: This relates to your previous question on major cities. That's what I understood.

For example, when we attend the annual meetings of the Fédération québécoise des municipalités, which includes the smallest municipalities, the first thing we're asked about is the digital infrastructure.

In the national strategy, we need to start by ensuring that all people have access to this essential service. It's fundamental. Afterward, the cities can launch their own initiatives. The initiatives will be different depending on whether it's Magog, the village of Austin, Quebec City or Montreal. However, all the initiatives will be based on a national strategy, an infrastructure and a coverage provided to everyone.

[*English*]

Mr. Vance Badawey: Thank you.

Mr. Hutchison, I know that you've been involved in a lot of different municipalities throughout the nation. In particular, one of those that I have taken an interest in discussing with one of my colleagues in the House, former mayor Dianne Watts, is Surrey. She boasts a lot about how much they've done with respect to establishing a smart city in her neck of the woods. I've read with interest about a lot of what they've accomplished. To accomplish that across the nation would be a heavy advantage for many cities, especially those that are trying to catch up with respect to their infrastructure.

Although municipalities know what their priorities are, can you comment on how we get there? As a federal government and in becoming an enabler, what are our next steps?

Mr. Bill Hutchison: Who are you asking?

Mr. Vance Badawey: You.

Mr. Bill Hutchison: Oh good. Thank you.

Let me just say, as Member Watts would know, that Surrey is a member of i-Canada, and so is Edmonton—it just became one of the top seven—but there are also west Parry Sound and all kinds of small communities. My point is that the federal government shouldn't try to be too prescriptive. In other words, don't try to develop “the federal strategy”. I hate to keep referring to other governments, because policy people like to do their own thing, and I know that.

Mr. Vance Badawey: That's fair enough.

Mr. Bill Hutchison: Don't be prescriptive. Create a national thing, fund cities—small cities and big ones—and have competitions. They will decide what they need. Small cities try to hold on to their young people so that they don't go to Surrey and big cities. That's the difference. Big cities have other social issues and that sort of thing, but there are strategies for them all.

With regard to west Parry Sound, by the way, prior to the last election, number one on the hit parade for the next council and the next mayor was that they wanted their smart city strategy. This was after they had been doing their planning.

Mr. Vance Badawey: One of the things I notice is that you're right when you say that municipalities have different priorities. It could be local and high-value jobs, balancing the tax base, economic diversification, resiliency, etc. There's no doubt that it would have to be funnelled up to the federal strategy. We get that.

For my last question, earlier you mentioned $15 billion a year in savings after an investment of $60 billion. Would you have some backup on that?

● (1255)

Mr. Bill Hutchison: Yes, and not only from me. Quite a number of others have been doing very detailed studies on it. I did just that one example about Sweden, but we could follow up and get you some examples.

Mr. Vance Badawey: That would be wonderful. If you can pass it on to the committee, we'd truly appreciate that.

Mr. Bill Hutchison: Thank you.

The Chair: Thank you very much.

Ms. Block.

Mrs. Kelly Block: Thank you very much, Madam Chair.

I want to say how interesting this study has been. I'm a member who represents a rural riding in Saskatchewan. It's roughly half the size of the province of Nova Scotia and has approximately 66 communities in it, with the largest cities having around 11,000 people. Those cities are very close to the largest city in the province, that being Saskatoon. Nonetheless, I recognize that there cannot be a one-size-fits-all approach when developing a smart cities strategy.

There's one thing that I think was mentioned today and that I want to pick up on. Mr. Miller, I think you mentioned it. I don't know if you spoke to it too much, but it was about the whole notion of the sharing economy. I guess part of a smart city concept is the better usage of assets like parking, vehicles, accommodation, and other things. I'm wondering what role, if any, there is in the development of a smart city concept for the sharing economy.

Mr. Kevin Miller: That's a great question.

I think there is a central argument to be made to include shared-value investments. The technologies around transportation electrification used to be disparate, but now they're starting to come closer together. There used to be different charging standards for buses than there were for light-duty vehicles. At the end of last year, we saw buses starting to use the same ones, so you can start to envision charging hubs.

For the record, I think we have at least four charging spots in Saskatchewan in our network.

We have the opportunity to create charging hubs that can charge municipal school bus fleets or public bus fleets overnight and then open those up to ride-sharing or ride-hailing fleets during the day, and to local delivery trucks for medium- and heavy-duty use. You can start to see that making an investment in one area doesn't have to serve just that one vertical anymore. There is a lot more access to use that same infrastructure.

By leveraging smart and connected stations, you can create different access and privacy policies to make sure that only the public fleet is accessing it during certain times to make sure it's a secure facility, but then you can open it up at other times to allow for sharing-economy usage.

Mrs. Kelly Block: I have one question on top of that.

In terms of the regulating of the sharing economy, is there too much regulating happening or not enough? Where do you see that fitting with the sharing economy?

Mr. Kevin Miller: In the same way that we need smart infrastructure, we need smart regulation. There is always a role to ensure that some of the privacy concerns and security concerns that come up are implemented, but it's often a question of what outcome you are trying to incentivize.

If what we want to do is incentivize charging behaviour, is the only way to do that to use a separate stand-alone meter or can you use what is within a charging station itself that can already do that? Where can we tweak and revisit regulations in order to minimize costs that are unnecessary, reduce burdens on municipal budgets, and increase access to new technologies for a wider audience?

Mrs. Kelly Block: Thank you.

The Chair: Thank you. Our time is up.

Mr. Rayes, if you can ask a question and have it answered within one minute, please go ahead.

[*Translation*]

Mr. Alain Rayes: Thank you, Madam Chair.

I'll ask Ms. Hamm my question and I'll try to be brief.

We know how complicated calls for bids can be in municipalities. There are many constraints involved, and cost is the first criterion used in most cases to determine the winning company. More and more often, there's a desire to include a criterion for environmental standards in calls for bids. It's a real conundrum.

What would you say if, for example, the federal government implemented a smart technology standard in the calls for bids to take into account a project's shortcomings over the longer term and not simply cost? It could be worthwhile.

● (1300)

[*English*]

The Chair: I think I may have to ask—

[*Translation*]

Ms. Vicki-May Hamm: It would be a very good avenue to explore.

[*English*]

The Chair: All right, Mayor Hamm, go ahead.

[*Translation*]

Ms. Vicki-May Hamm: As you said, Mr. Rayes, there's also more and more of a points system in our calls for bids. In the calls for bids, we try to not only obtain the best price, but also to find the company that shares our values, such as our sustainable development values. We've even held discussions recently on buying locally. That would be another thing to consider. We think the new regulations for local governments will give us more flexibility during calls for bids.

[*English*]

The Chair: Mayor Hamm—

[*Translation*]

Ms. Vicki-May Hamm: An effective technological innovation criterion would be very good.

[*English*]

The Chair: I guess I'll call you Vicki as well.

Voices: Oh, oh!

The Chair: For any of our witnesses, I think you had some great questions today, and if you want to submit further information to the clerk, we would be very happy to have additional comments from you.

Before I let the witnesses go, I have a question for the opposition.

Do you have any additional witnesses for the study for next Tuesday? The clerk does have some.

[*Translation*]

Mr. Luc Berthold: Madam Chair, I was just speaking about this with my colleague. If it works, we'll submit the names today very shortly.

[*English*]

The Chair: That's wonderful.

[*Translation*]

Mr. Alain Rayes: I can confirm that we're able to propose someone who will be ready to speak.

[*English*]

The Chair: That's terrific. Thank you very much.

Again, thank you to all our witnesses.

The meeting is adjourned.